STATISTICAL ANALYSIS PLAN

A Phase 1b study to assess the safety, tolerability and antimalarial activity of MMV533 against Plasmodium falciparum 3D7 blood stage infection in healthy volunteers

Protocol No.: MMV_MMV533_20_01

Product Code: MMV533 for oral administration

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SAP APPROVAL

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ABBREVIATIONS

ADaM	Analysis Data Model
AE	Adverse Event
AESI	Adverse Event of Special Interest
ALP	Alkaline phosphatase
ALT	Alanine Aminotransferase
APR28	Adequate Parasitological Response Rate at Day 28
APR28 CSoff	Adequate parasitological response at day 28 clinical symptoms off
APR28 CSon	Adequate parasitological response at day 28 clinical symptoms
APTT	Activated partial thromboplastin time
AST	Aspartate Aminotransferase
ATC	Anatomical Therapeutic Chemical
AUC_{last}	Area under the curve from time 0 to last measurable concentration
AUC_{inf}	Area under the curve from time 0 to infinity
β-HCG	β-Human Chorionic Gonadotropin
BDI	Beck Depression Inventory
BMI	Body Mass Index
CDISC	Clinical Data Interchange Standards Consortium
CI	Confidence Interval
CK	Creatine Kinase
CL/F	Apparent Oral Clearance
C_{max}	Maximum plasma concentration observed
COVID-19	Corona virus disease 2019
CRA	Clinical Research Associate
CRF	Case Report Form
CSR	Clinical Study Report
CTCAE	Common Terminology Criteria for Adverse Events
DBP	Diastolic Blood Pressure
DTS	Data Transfer Specification
ECG	Electrocardiography
eCRF	Electronic Case Report Form
EDC	Electronic Data capture
EOS	End of Study
ETF CSoff	Early treatment failure clinical symptoms off
ETF CSon	Early treatment failure clinical symptoms on
FAS	Full Analysis Set
FSH	Follicular Stimulating Hormone
G6PD	Glucose-6-phosphatase
GGT	Gamma Glutamyl Transpeptidase
HBsAg	Hepatitis B Surface Antigen
HEENT	Head, Eyes, Ears, Nose, Throat
HIV	Human Immunodefiniciency Virus
HR	Heart Rate
IBSM	Induced Blood Stage Malaria
IC50	Investigational Medicinal Product
IMP	Investigational Medicinal Product
INR	International Normalized Ratio
LCF28	Late clinical failure at day 28
LDH	Lactate Dehydrogenase
LOQ	Limit of Quantification
LPF28 CSoff	Late parasitological failure at day 28 clinical symptoms off
LPF28 CSon	Late parasitological failure at day 28 clinical symptoms on
MedDRA	Medical Dictionary for Regulatory Activities
MIC	Minimum Inhibitory Concentration
MPC90	Minimal Parasiticidal Concentration
ND	Non-Detect
PC	Pharmacokinetics Concentration
PCSA	Potential Clinically Significant Abnormality

PD	Pharmacodynamics
PK	Pharmacokinetics
PKPD	Pharmacokinetic-pharmacodynamic
PN	Preferred Name
PRR_{48}	Parasite Reduction Ratio Over 48 hours
PT	Preferred Term
$Pt_{1/2}$	Parasite Clearance Half-Life
QIMRB	QIMR Berghofer Medical Research Institute
qPCR	Quantitative Polymerase Chain Reaction
QPID	Queensland Paediatric Infectious Diseases
qRT-PCR	Quantitative Reverse Transcriptase Polymerase Chain Reaction
QTcB	Corrected QT interval with Bazett's Formula
QTcF	Corrected QT interval with Fridericia's Formula
SAE	Serious Adverse Event
SAP	Statistical Analysis Plan
SAS	Statistical Analysis System
SBP	Systolic Blood Pressure
SBQ	Swiss BioQuant Central
SD	Standard Deviation
SDTM	Study Data Tabulation Model
SE	Standard Error
SOC	System Organ Class
SOP	Standard Operating Procedure
SRC	Safety Review Committee
SSR	Southern Star Research
$t_{1/2}$	Half-Life
TEAE	Treatment Emergent Adverse Event
T_{max}	Time to Reach Maximum Plasma Concentration
VIS	Volunteer Infection Study
Vz/F	Apparent Volume of Distribution after Extravascular Administration
WOCBP	Women of Child Bearing Potential
WHODrug	World Health Organization Drug Dictionary

1. INTRODUCTION

The following Statistical Analysis Plan (SAP) provides the outline for the statistical analysis of the data from the MMV_MMV533_20_01 study.

The planned analyses identified in this SAP may be included in clinical study reports (CSRs), regulatory submissions, or future manuscripts. In addition, post hoc exploratory analyses not necessarily identified in this SAP may be performed to further examine study data. Any post hoc, or unplanned, exploratory analyses performed will be clearly identified as such in the final CSR.

Any significant changes from planned analyses will also be described in the final CSR.

2. PROJECT OVERVIEW

2.1 Study Design

The study is a Phase 1b, open label, adaptive study using the Induced Blood Stage Malaria (IBSM) model to characterise the antimalarial activity of a single oral dose of the IMP MMV533 using pharmacokinetic and pharmacodynamic parameters and to further assess the safety and tolerability of MMV533.

The study will be conducted in healthy malaria naive adult volunteers infected with Plasmodium falciparum 3D7, in one cohort of approximately 12 volunteers (all receiving active treatment). From an operational perspective, the full cohort may be conducted in subgroups of up to 6 volunteers. Volunteers will be enrolled within a 28 day screening period to ensure volunteers meet all the inclusion criteria and none of the exclusion criteria.

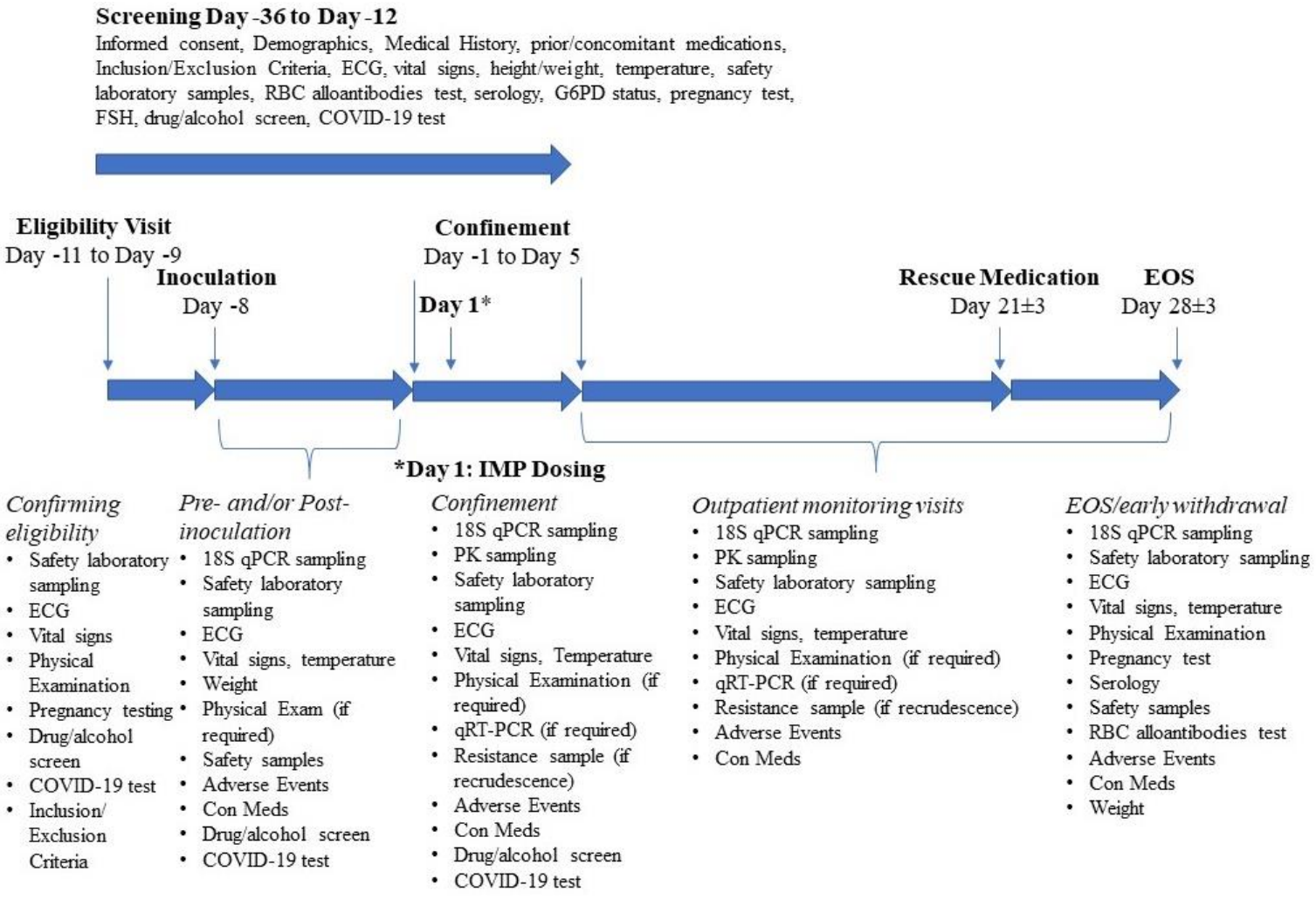
On Day -8 (8 days prior to IMP administration), volunteers will attend the clinical unit to be inoculated with the malaria challenge agent containing approximately 2,800 viable human erythrocytes infected with P. falciparum 3D7 parasites. Parasitaemia will be monitored on an outpatient basis daily on Day -4, and then twice daily on Day -3, Day -2 and until admission to the clinical unit on Day -1 for eligibility check and confinement.

Volunteers will be administered IMP on Day 1 and will have safety monitoring and blood sampling for parasitaemia monitoring and PK analysis on an inpatient basis for at least 108 hours post-IMP administration. Volunteers will be discharged from the clinical unit after review of ECG, vital signs, clinical and laboratory tests safety data by the Principal Investigator or delegate, and will then attend the clinical unit on an outpatient basis regularly for continued safety monitoring and blood sampling for parasitaemia monitoring and PK analysis.

Volunteers will be administered mandatory malaria rescue medication (Malarone as first-line treatment) at Day 21±3, or earlier if there is failure to clear parasites or recrudescence (both defined in the study protocol) and/or at the discretion of the Principal Investigator or delegate. End of study (EOS) will be on Day 28±3. To be considered completed, volunteers must have had at least two consecutive negative malaria18S qPCR results (including EOS result) and must have completed their course of anti-malarial rescue medication. Please refer to flow chart 2.2 below for the schedule of activities.

In the event of recrudescence, blood samples will be collected prior to rescue treatment to culture parasites for drug resistance testing.

2.2 Schema


Screening Day -36 to Day -12
Informed consent, Demographics, Medical History, prior/concomitant medications, Inclusion/Exclusion Criteria, ECG, vital signs, height/weight, temperature, safety laboratory samples, RBC alloantibodies test, serology, G6PD status, pregnancy test, FSH, drug/alcohol screen, COVID-19 test
Eligibility Visit
Day -11 to Day -9
Inoculation
Day -8
Confinement
Day -1 to Day 5
Day 1*
Rescue Medication
Day 21±3
EOS
Day 28±3
*Day 1: IMP Dosing
Confirming eligibility
• Safety laboratory sampling
• ECG
• Vital signs
• Physical Examination
• Pregnancy testing
• Drug/alcohol screen
• COVID-19 test
• Inclusion/ Exclusion Criteria
Pre- and/or Post-inoculation
• 18S qPCR sampling
• Safety laboratory sampling
• ECG
• Vital signs, temperature
• Weight
• Physical Exam (if required)
• Safety samples
• Adverse Events
• Con Meds
• Drug/alcohol screen
• COVID-19 test
Confinement
• 18S qPCR sampling
• PK sampling
• Safety laboratory sampling
• ECG
• Vital signs, Temperature
• Physical Examination (if required)
• qRT-PCR (if required)
• Resistance sample (if recrudescence)
• Adverse Events
• Con Meds
• Drug/alcohol screen
• COVID-19 test
Outpatient monitoring visits
• 18S qPCR sampling
• PK sampling
• Safety laboratory sampling
• ECG
• Vital signs, temperature
• Physical Examination (if required)
• qRT-PCR (if required)
• Resistance sample (if recrudescence)
• Adverse Events
• Con Meds
EOS/early withdrawal
• 18S qPCR sampling
• Safety laboratory sampling
• ECG
• Vital signs, temperature
• Physical Examination
• Pregnancy test
• Serology
• Safety samples
• RBC alloantibodies test
• Adverse Events
• Con Meds
• Weight

2.3 Objectives

2.3.1 Primary Objective

- To characterize the activity of single oral doses of MMV533 on clearance of *Plasmodium falciparum* 3D7 blood stage parasites from the blood in an IBSM model

2.3.2 Secondary Objective(s)

- To characterize the safety and tolerability of single oral doses of MMV533 administered after IBSM challenge
- To characterize the pharmacokinetic (PK) parameters of single oral doses of MMV533 after IBSM challenge (parent drug and metabolites)
- To determine the relationship between MMV533 PK and asexual blood-stage parasitaemia in an IBSM model

2.3.3 Exploratory Objective(s)

- To investigate drug resistance of *P. falciparum 3D7* in volunteers experiencing recrudescence after MMV533 administration
- To determine if gametocytes appear in the blood of volunteers infected with *P. falciparum 3D7* after MMV533 administration

2.4 Endpoints

2.4.1 Primary Endpoint(s)

- Parasite reduction ratio over 48 hours (PRR_{48})
- Parasite clearance half-life ($Pt_{½}$)
- Lag phase
- Number of volunteers whose parasitaemia levels fall below limit of quantification (LOQ) following treatment with IMP
- Number of volunteers with recrudescence of parasitaemia.
- Time to recrudescence

2.4.2 Secondary Endpoint(s)

2.4.2.1 *Safety*

- Assessment of AEs/TEAEs; two phases will be defined: one corresponding to the inoculation phase (ie, 8 days before IMP administration), and one corresponding to treatment phase (i.e. 28 days after IMP administration)
- Clinical laboratory evaluations including haematology, biochemistry, coagulation, urinalysis.
- Vital signs (body temperature, blood pressure and heart rate supine),
- 12-lead ECG (automatic reading): RR, HR, PR, QRS, QT, QTc measured by on site-device.

2.4.2.2 *Pharmacokinetics of MMV533 and metabolites*

- Plasma parameters: at least C_{max}, t_{max}, AUC_{last}, AUC_{inf}, $AUC_{0\text{-}168}$, $\%AUC_{extrap}$, $t_{½}$, Lambda-z, CL/F (parent only), Vz/F (parent only); plasma ratios (metabolite to parent drug) of C_{max}, AUC_{last} and AUC_{inf}.

2.4.2.3 *Pharmacokinetics-Pharmacodynamics*

- The PK/PD relationship between MMV533 plasma concentrations and blood stage asexual parasitaemia will be determined

- Other key parameters will be derived from the PKPD model including minimum inhibitory concentration (MIC), the minimal parasiticidal concentration (MPC90), and the parasite reduction rate in 48 h (PRR_{48}).

2.4.3 Exploratory Endpoint(s)

- Perform in vitro drug sensitivity testing determining the 50% inhibitory concentrations (IC50) and the percentage surviving parasites
- Presence or absence of gametocytaemia (i.e, binary qualitative assessment) following a single dose of MMV533

2.5 Sample Size

Up to approximately 12 volunteers (all receiving MMV533). The sample size of the study is based on experience from previous Phase 1 IBSM trials (refer to the Blood stage *Plasmodium falciparum* challenge agent *P. falciparum 3D7* Investigator's Brochure).

2.6 Treatment Assignment and Randomisation

The study is open label and is not randomised. The cohort will be composed of up to 6 dose levels with a minimum of 2 volunteers per dose level. Details will be provided in the Pharmacy Manual.

All volunteers will be administered IMP on Day 1, eight days after inoculation with the malaria challenge agent when parasitaemia of majority of volunteers are expected to be between approximately 5,000 - 25,000 parasites/mL (unless rescue medication is administered). If parasitaemia levels and/or symptoms monitored after inoculation suggest that unacceptable levels of parasites/mL and/or malaria symptoms could be achieved/observed on Day 1, the Principal Investigator or delegate may decide to administer IMP or rescue medication before Day 1. Such a decision will not be considered a protocol deviation for obvious safety reasons and will be recorded in the source documentation.

2.6.1 Replacement of Withdrawn/Discontinued Volunteers

Volunteers who have signed the informed consent form but have not received the trial intervention (i.e., inoculation with the malaria challenge agent) may be replaced.

The replacement of volunteers who have received any trial intervention (inoculation with the malaria challenge agent only or inoculation and IMP) and withdraw or are withdrawn or discontinued from the trial, must be discussed between the Principal Investigator and the Sponsor.

If more than two discontinuations due to non-safety related reasons occur, additional volunteers may be recruited to replace the discontinued volunteers on agreement with the study Sponsor.

3. STATISTICAL CONSIDERATIONS

Data analysis will be performed according to the Sponsor's representative Standard Operating Procedures (SOPs).

The general analytical approach for all endpoints will be descriptive in nature. All summaries will present the data by cohort group as well as by all volunteers combined.

Unless otherwise stated, the following statistical approaches will be taken:

Continuous variables:	Descriptive statistics will include the number of non-missing values, mean, standard deviation (SD), median, minimum, and maximum. The minimum and maximum values will be presented to the same number of decimal places as recorded in the raw data; mean, median, and SD will be presented to one more decimal place than the raw data.
Categorical variables:	Descriptive statistics will include frequency counts and percentages per category. Percentages will be rounded to one decimal place, with the denominator being the number of volunteers in the relevant population with non-missing data.
Imputation:	No missing data will be imputed.
Confidence intervals (CIs):	CIs will be two-sided and will use 95% confidence levels. Any analyses requiring significance testing will use a two-sided test at the 5% significance level.
Unscheduled Visits	Unscheduled visits will be excluded from summary tables.
Early termination visit	Assessments conducted at Early Termination will be excluded from visit-based summary tables.

3.1 Data Capture

3.1.1 Database

The primary method of data collection is via the study database, developed within the chosen Electronic Data Capture (EDC) platform, IBM Clinical Development. The database has been designed based on the final protocol, the system/core configuration, electronic Case Report Form (eCRF) specifications and/or mock eCRF and consistency check specifications.

Data will be entered directly into the EDC system. Site-collected data will be entered directly from source notes at the site and will be verified by Clinical Research Associates (CRAs) to ensure data integrity.

Refer to the Data Management Plan for further details.

3.1.2 Third Party Data

3.1.2.1 *Safety Laboratory*

Central safety laboratory data will be received from SydPath Clinical Trials as specified in the Data Transfer Specification. At minimum a single transfer will be delivered prior to database lock and reconciled against CRF data. Following successful reconciliation and resolution of any data issues, the data will be incorporated into the End of Study analysis.

No unit conversion of laboratory data will be performed.

3.1.2.2 *PK Laboratory (SBQ, Switzerland) / Pharmakinetic*

PK samples will be analysed by Swiss BioQuant Central (SBQ) and PK parameters will be derived by Pharmakinetic. Final PK assay data will be transferred to SSR, as specified in the SBQ DTS, for incorporation into the PC SDTM.

PK analysis then will be performed by Pharmakinetic where PK parameters will be derived following receipt of a merge file as agreed in the BioA data transfer specification.

3.1.2.3 *PD Laboratory (Queensland Paediatric Infectious Diseases (QPID)) / Queensland Institute of Medical Research (QIMR))*

PD samples (i.e. parasitemia levels) will be analysed by QPID and the PD parameters will be calculated by QIMR (See Section 10 for PD parameters calculation). Final PD assay data will be transferred to SSR, as specified in the QIMR DTS, for incorporation into the Microbiology Specimens (MB) SDTM.

3.1.2.4 *PK/PD Analysis*

PK/PD analysis will be performed by MMV, Pharmacometrics. SSR will be required to provide the PK concentration data, parasitemia, as well as any CRF datasets required to perform the PKPD analyses (e.g. demographics, drug administration data).

3.2 Statistical Programming

3.2.1 Programming Specifications

Programming specifications will be prepared to detail the SAS programming of CDISC (SDTM and ADaM) datasets and listings, tables and figures.

3.2.2 Baseline

Baseline will be defined as the last scheduled observation prior to the first IMP administration.

3.2.3 Change from Baseline

Change from Baseline will be calculated as:

$$Change\ from\ baseline = (postbaseline\ value) - baseline\ value$$

3.2.4 Study Day

Study Day will be derived as the number of days relative to date of first administration of study drug, where the day of first administration = 1

Study Day will be calculated as:

$$Study\ Day = (Assessment\ Date - First\ Study\ Drug\ Administration\ Date) + 1$$

3.2.5 CDISC

Study data (including CRF data and data transfers received from third parties) will be mapped to Clinical Data Interchange Standards Consortium (CDISC) compliant datasets, including Study Data Tabulation Model (SDTM) and Analysis Data Model (ADaM).

Reviewer guides and define files are NOT required.

3.2.6 Listings, Tables and Figures

Listings, tables and figures will be delivered as individual .rtf files in accordance with the mock listings, tables and figures.

Data listings will present all data, with volunteers grouped by cohort.

3.2.7 Treatment Groups

Tabulations will summarise data by the following cohort groups:

- MMV 533 (20 mg)
- MMV 533 (35 mg)
- MMV 533 (100 mg)
- MMV 533 (160 mg)
- Overall

4. ANALYSIS SETS

In the first instance, two (2) analysis sets will be used for the analyses: Full Analyses Set (FAS), and Safety Set.
The number of volunteers in each analysis set will be summarised, with a corresponding listing.

4.1 Analysis Set Descriptions

4.1.1 Full Analysis Set

The Full Analysis Set (FAS) will consist of all enrolled volunteers. The FAS will be used to assess all volunteer disposition, baseline, demographic and protocol deviation data.

4.1.2 Safety Set

The Safety Set will include all enrolled volunteers who received at least one dose (full or partial) of IMP. The Safety Set will be used to assess all safety data.

4.1.3 PK Analysis Set

The PK Analysis Set will consist of those participants in the safety set who have sufficient blood samples taken for at least one of the PK variables to be calculated and who experienced no protocol deviations with relevant impact on PK data. The PK Analysis Set will be used for the PK analyses. Should an adverse event, for example, vomiting within 4 hours of IMP dosing occur and be deemed detrimental to the data quality, additional subsets may be invoked, and those subjects be omitted from the summary statistics. This will be confirmed with the sponsor if applicable.

4.1.4 PD Analysis Set

The PD Analysis Set will include all volunteers inoculated with the malaria challenge agent and who develop parasitaemia detectable by qPCR, received at least one dose of IMP, and have no protocol deviations or other circumstances that would exclude them from the PD analysis.

4.1.5 PK/PD Analysis Set

The PK/PD Analysis Set will include all volunteers from the PK set and all volunteers from the PD set for the VIS study in the disposition summary. While performing the PK/PD analysis, it will also contain all volunteers from the FIH study MMV_MMV533_19_01_FIH with at least one PK concentration.

4.1.6 Inoculation Set

The Inoculation Set will include all volunteers inoculated with the P. falciparum challenge agent.

5. PROTOCOL DEVIATIONS

Analysis Set: FAS
All protocol deviations will be listed. A protocol deviation summary table will present the total number of protocol deviations as well as the number of volunteers who reported at least one protocol deviation, broken down by deviation type, relationship to COVID-19, and type.

5.1.1 Definition of variables

- Date deviation detected
- Date of deviation
- Deviation classification
    - Minor
    - Major

- Deviation related to COVID-19
  - Yes
  - No
- Deviation type
  - Informed consent
  - Eligibility
  - Visit not done
  - Visit performed out of window
  - Study procedure not done
  - Study procedure done out of window
  - Safety reporting
  - Investigational product
  - Privacy and data protection
  - Concomitant medication
  - Other
- Deviation description
- Action taken
- Outcome

6. VOLUNTEER DISPOSITION

Analysis Set: FAS

6.1 Disposition

A listing of volunteer disposition will be presented:

- Date of informed consent
- Date of inoculation
- Date of IMP administration
- Date of rescue medication administration
- Did the volunteer complete the study?
- Date of completion / early withdrawal
- Primary reason for early withdrawal (including instances where early termination was related to COVID-19)

Detailed early withdrawal information will also be listed in a separate listing.
If there are any deaths reported, a separate death listing will be prepared.
The number and percentage of volunteers entering and discontinuing the study will be summarised by cohort and overall along with the reason for discontinuation. The volunteer disposition summary table will include:

- Number of volunteers signed informed consent
- Number of volunteers who received IMP
- Number of volunteers who completed the full study
- Number of volunteers withdrawn from the study early
- Reason for early withdrawal

6.2 Clinical Trial Unit Admission, Confinement and Discharge

All admission, confinement and discharge data will be listed

7. DEMOGRAPHIC AND BASELINE INFORMATION

Analysis Set: FAS

7.1 Demographics

Demographic data will be listed for all enrolled volunteers and summarised by cohort and overall. Data includes:

- Age
- Sex
- Women of Child-bearing potential
- Post-menopausal
- Race
- Ethnicity
- Weight (kg)
- Height (m)
- BMI (kg/m^2)

7.2 Medical History

All medical history data will be listed, grouped by volunteers.

Medical history will be coded using the Medical Dictionary for Regulatory Activities (MedDRA) and summarised by system organ class (SOC) and preferred term (PT).

7.3 Prior Medications

Prior medications are defined as any medication that is started before first inoculation with the malaria challenge agent, regardless of when it ended. If a medication has a missing or partial missing start/end date or time and it cannot be determined whether it was taken before IMP or concomitantly, it will be considered as prior and concomitant. Medications will be coded using WHODrug Global.

Prior medications will be summarised by Anatomical Therapeutic Class (ATC) and preferred name (PN) and will also be listed. The summary tables will show the number and percentage of volunteers taking each medication by ATC and PN.

7.4 Eligibility

Eligibility will be listed for all enrolled volunteers.

7.5 Drug Screen

Drug screen data will be listed for all volunteers.

7.6 Alcohol Screen

Alcohol screening data will be listed for all volunteers.

7.7 SARS-CoV-2

Any positive SARS-CoV2 results will be listed.

7.8 Beck Depression Inventory

Beck Depression Inventory (BDI-II) data will be listed for all volunteers, including answers to the individual questions as well as the total scores, which are auto-calculated within the CRF.

8. TREATMENT EXPOSURE

Analysis Set: Safety Set

8.1 Study Drug Administration

Volunteer exposure to the protocol-specified treatments (IMP, malaria challenge agent and rescue medications) will be listed and summarised by cohort and overall.

9. PHARMACOKINETIC NON COMPARTMENTAL ANALYSIS (PK NCA)

Analysis Set: PK Analysis Set (see section 4)

MMV533 (& metabolites - MMV022 and MMV023) PK parameters will be derived by PharmaKinetic Ltd. PK parameters will be calculated using non-compartmental methods from plasma concentration-time data and will be summarized using descriptive statistics.

9.1 Parameters calculated

- C_{max}: Maximum plasma concentration observed
- t_{max}: Time to reach maximum plasma concentration
- AUC_{last}: Area under the curve from time 0 to last measurable concentration
- $AUC_{0\text{-}168}$: Area under the curve from time 0 to 168 hour
- AUC_{inf}: Area under the curve from time 0 to infinity
- $\%AUC_{extrap}$: Percentage of AUC(0–inf) extrapolated beyond the last measurable concentration
- $t_{½}$: Half-life
- Lambda-z: Slope of the apparent elimination phase
- CL/F: Apparent Oral Clearance after extravascular administration (parent only)
- V_z/F: Apparent volume of distribution after extravascular administration (parent only)
- plasma ratios (metabolite to parent drug) of
    - C_{max}
    - AUC_{last}
    - $AUC_{inf.}$

9.2 Methodology

9.2.1 Source of data

Plasma concentration of MMV533 and its metabolites, treatment and blood sampling information will be recorded and merged to produce PK concentration data for analysis.

9.2.2 Imputation of Non-Numerical or Negative Values

The imputation of non-numerical or negative values reported in the input data set will be performed as follows:

- Predose sample times will be entered as zero
- Values that are below the limit of quantification (BLQ) obtained prior to the C_{max} will be entered as zero
- Values that are BLQ after the C_{max} will be treated as missing
- Pharmacokinetically plausible concentration value(s) below LLOQ at time points between two measurable concentration values are replaced by the LLOQ/2 value, flagged and included in the PK evaluation.
- Should partial AUCs be required then values that are BLQ after C_{max} may be imputed as zero for these partial areas if lambda-z cannot be determined
- Values that are quantifiable after at least 2 consecutive BLQ values after C_{max} will be treated as missing for the calculation of PK parameters
- Actual time from dose administration will be used for parameter estimation except for the pre-(first) dose data point which will be set to the nominal time of 0 hour. Data with missing time information will be discarded.
- Values that are reported as “No Result” or “No Sample” etc. will be treated as missing

9.2.3 Rules for Pharmacokinetic Parameter Estimation using WinNonlin

Plasma concentration vs time profiles of MMV533 and metabolites will be generated for each volunteer. Pharmacokinetic parameters will be estimated using standard Phoenix WinNonlin methods, details of which may be found in the documentation accompanying the WinNonlin software package. The following constraints will apply:

Parameter Estimation	Constraint
Trapezoidal Method	Linear trapezoidal linear/log interpolation method
Number of Points used for Lambda-z	At least 3, not including C_{max}
Minimum Requirements for AUC	At least 3 consecutive quantifiable concentrations
Dose	Actual dose
Sampling times	Actual sampling times

Where possible, the elimination rate constant (lambda-z) will be calculated for all volunteers. The value of lambda-z will be determined by the slope of the regression line of the natural log transformed concentrations vs time.

The choice of data points for determination of lambda-z will be applied by the Phoenix software as a default method, the pharmacokineticist who may adjust the selection to provide a more appropriate fit and records of this will be documented in the software data.

9.2.4 PK NCA Parameters Quality

The following flags/footnotes may be applied to the pharmacokinetic parameters:

Flag	Footnote
a	Rsq of regression was <0.8
b	Period used for regression analysis was less than 2-fold the calculated half-life
c	Extrapolated portion of $AUC_{0\text{-}inf}$ >20%
d	Insufficient post-C_{max} data points for estimation of lambda-z
e	Entire profile BLQ, no pharmacokinetic parameters could be calculated
f	Regression could not be fitted

In the event that a reliable lambda-z cannot be determined, or the extrapolated portion of $AUC_{0\text{-}inf}$ is >20%, then the parameter estimates derived using lambda-z and/or $AUC_{0\text{-}inf}$ may be deemed unreliable and excluded from the summary statistics. Additional flags may be applied based on emerging data.

9.2.5 Definition of Pharmacokinetic NCA Parameters

The following pharmacokinetic parameters for MMV533 and metabolites in plasma will be estimated where possible and appropriate for each volunteer and treatment.

The following pharmacokinetic parameters will be determined for each volunteer, analyte and study regimen as applicable.

Table 1 Pharmacokinetic Parameters and Reporting Specifications

CDISC Term	Parameter	Definition	DP or SF	No. of DP/SF
TMAX	T_{max}	Time of maximum observed concentration	DP	2
CMAX	C_{max}	Maximum observed concentration	SF	3
AUCLST	AUC_{last}	Area under the curve from 0 time to the last measurable concentration	SF	3
AUC168	AUC_{0-168}	Area under the curve from 0 time to 168 hours post dose	SF	3
AUCIFO	AUC_{0-inf}	Area under the curve from 0 time extrapolated to infinity	SF	3
AUCPEO	$\%AUC_{extrap}$	Percentage of AUC(0–inf) extrapolated beyond the last measurable concentration	DP	2
LAMZHL	$t_{1/2}$	Apparent elimination half-life	DP	2
LAMZ	Lambda-z	Slope of the apparent elimination phase	DP	4
CLFO	CL/F	Total body clearance after extravascular administration (estimated for parent only)	SF	3
VZFO	V_z/F	Apparent volume of distribution based on the terminal phase after extravascular administration (estimated for parent only)	SF	3
MPCMAX	$C_{max,metab}/C_{max,parent}$	plasma ratio (metabolite to parent drug)	SF	3
MPAUCLST	$AUC_{last,metab}/AUC_{last,parent}$	plasma ratio (metabolite to parent drug)	SF	3
MPAUCIFO	$AUC_{inf,metab}/AUC_{inf,parent}$	plasma ratio (metabolite to parent drug)	SF	3

DP=decimal places
SF=significant figures

9.3 Bioanalytical Concentrations and PK NCA Parameters Data Reporting

All bioanalytical data will be listed and summarised according to the actual sampling timepoint.

All pharmacokinetic NCA parameters generated will be listed and summarised. Where pharmacokinetic data fails to meet the defined criteria in Section 9.2.4 (PK NCA Parameters Quality) the affected results will be excluded from the descriptive statistics will be flagged as per exclusion reason.

9.4 Bioanalytical and PK NCA Parameters Listings

All bioanalytical and pharmacokinetic NCA parameters generated will be listed in individual tables according to the analyte and treatment. In addition, the sum of the moiety data will also be listed in individual tables according to treatment. The data listings will be generated as defined by the PK Concentration population.

9.5 Bioanalytical and Pharmacokinetic Summary Tables

Bioanalytical and PK NCA parameters summary tables will be performed by SSR.

Summary statistics (i.e., mean, median, SD, CV%, minimum, maximum, n, geometric mean, geometric SD and geometric CV%) will be calculated for PK results for each time point, parameter and treatment.

All summary statistics (i.e., mean, median, SD, CV%, minimum, maximum and n) will be presented for all PK NCA parameters for plasma by treatment. Also, geometric mean, geometric SD and geometric CV% will be presented for all PK parameters (except T_{max}) by treatment. The T_{max} summary statistics will be provided as n, minimum, median, and maximum only.

All the data summary tables will be generated as defined by the PK Analysis Set. Additional summary tables might be produced if required and requested.

9.6 Bioanalytical and Pharmacokinetic Figures

All arithmetical mean plasma concentration vs. time curves will be produced by treatment on both linear/linear and log_{10}/linear scales.

All spaghetti plots of individual plasma concentrations against actual sampling times after dosing for each treatment will be produced on both a linear/linear and log_{10}/linear scale. Each volunteer's concentration profile will be represented on these plots with a different symbol and a legend will be included on the plots to define the symbols used.

9.7 Pharmacokinetic Software

The estimation of pharmacokinetic parameters by non-compartmental analysis methods will be performed using Phoenix WinNonlin software (v8.3 or a more recent version, Certara USA, Inc., USA).

SAS® Version 9.4 or higher (SAS Institute, Cary, North Carolina, USA) will be used to analyze all PK concentration related statistical analysis.

10. PHARMACODYNAMICS (PD)

Analysis Set: PD Analysis Set (see section 4)

10.1 Parameters

- Parasite reduction ratio over 48 hours (PRR48)
- Parasite clearance half-life (Pt½)
- Lag phase
- Number of volunteers whose parasitaemia levels fall below limit of quantification (LOQ) following treatment with IMP
- Number of volunteers with recrudescence of parasitaemia.
- Time to recrudescence
- Presence or absence of gametocytaemia (i.e. binary qualitative assessment) following a single dose of MMV533
- Total parasitaemia (measured by qPCR 18s)
- Female gametocytemia (measured by RT-PCR pfs25)

10.2 Responsibility

The statistical analysis on the following endpoints will be performed by QIMR:

- Parasite reduction ratio over 48 hours (PRR_{48})
- Parasite clearance half-life (Pt½)
- Lag phase
- Number of volunteers whose parasitaemia levels fall below limit of quantification (LOQ) following treatment with IMP
- Number of volunteers with recrudescence.
- Time to recrudescence
- Presence or absence of gametocytaemia (i.e. binary qualitative assessment) following a single dose of MMV533

Where the following endpoints will be performed by Southern Star Research:

- Total parasitaemia (measured by qPCR 18s)
- Female gametocytemia (measured by RT-PCR pfs25)

10.3 Source of Data

All parasitaemia data will be generated by the Queensland Paediatric Infectious Diseases (QPID) laboratory and captured electronically using MARS (18S qPCR parasitaemia data). Quantitative parasite life-stage data (i.e. gametocytemia and ring-stage parasites) will be generated by the QPID laboratory and transferred electronically to QIMR Berghofer.

10.4 Data Handling

Handling of replicates

The data will be recorded as triplicate parasitaemia and duplicate gametocytaemia values for each subject at each timepoint. The replicate data will be summarised by calculating the geometric mean of the parasitaemia and parasite life-stage data (i.e. gametocytemia and ring-stage parasites) transcript values per subject and timepoint, and will be log10 transformed for statistical analyses.

Handling of missing data

Missing parasitaemia or gametocytaemia data will not be imputed. For any replicates that were non-detects (ND), the value will be substituted with 1 parasite/mL prior to calculating the

geometric mean for parasitemia quantified from qPCR 18s, or as the LOD/2 of the assay for parasite life-stage data (i.e. gametocytemia and ring-stage parasites).

10.5 Parasite Clearance Kinetics and Recrudescence

The Parasite Reduction Ratio (PRR) and corresponding parasite clearance half-life ($Pt_{1/2}$) of asexual parasites is derived from the clearance rate of parasitaemia quantified using the *Pf*18s qPCR assay after administration of IMP. The analysis of PD response to investigational antimalarial therapy consists of:

- calculating the optimal parasite clearance rate (slope coefficient from the log-linear decay regression of qPCR data) for each individual, then,
- estimating dose specific parasite clearance rate and 95% confidence interval (CI) by calculating the weighted average slope estimate and corresponding standard error (SE) using an inverse-variance method.

The data used for all model selection and fitting calculations is comprised of the log10 transformed geometric mean of parasitaemia per timepoint per subject up to the first timepoint all parasitaemia replicates are ND. If during initial parasite clearance there are no samples ND for a subject, the last timepoint included in the analyses will be three timepoints after the minimum observed parasitemia value. All subsequent timepoints are set to 'missing' regardless of whether parasitaemia values increased afterwards due to potential recrudescence. Sensitivity analyses may be performed using other thresholds to determine parasite clearance, for example, but not limited to, the lower limit of quantification (LOQ) (i.e. the lower limit of the reportable range) of 32 parasites/mL or limit of detection of 111 parasites/mL [2], to assess robustness of PRR estimates.

The PRR per 48 hours, PRR_{48}, for asexual parasite will be estimated using the slope of the optimal fit of the log-linear relationship of the parasitaemia decay over time from IMP administration for each individual, as detailed in CTM QIMR SOP 41 and Marquart et al. [3].

Table 2 Symbols and definitions of terms used in parasite clearance analysis (Part 1)

Symbol	Definition
$PRR_{48,i}$	Individual specific Parasite Reduction Ratio per 48 h
$PRR_{48,D}$	Dose specific Parasite Reduction Ratio per 48 h
$\beta_{1,i}$	Slope coefficient of log10 parasitaemia vs. time profile for individual i
$SE_{\beta_{1,i}}$	SE corresponding to $\beta_{1,i}$ for individual i
$\bar{\beta}_{1,D}$	Dose specific average slope estimate
$SE(\bar{\beta}_{1,D})$	Weighted SE of dose specific average slope estimate
PCt½	Parasite clearance half-life

Regression Modelling to Determine Optimal Fit

A regression modelling approach to remove potential lag and/or tail phases of the parasitaemia decay profile will be used to determine the optimal log-linear decay regression. The algorithm considers removing parasitaemia data points in an iterative process from both ends of the parasitaemia curve, i.e. a combination of right censoring (removing values from the tail phase) and left censoring (removing values from the lag phase), and uses model selection techniques to find the optimal log-linear regression.

The algorithm to obtain the log-linear decay for each subject is based on the log-linear regression detailed in Equation (1), where Time is the number of hours since administration of antimalarial treatment ($Time = 1, \dots, m$), and β_0 and β_1 are the intercept and slope estimates, respectively.

$$\log_{10} Parasitemia = \beta_0 + \beta_1 Time \quad (1)$$

Based on the parasitaemia data for each subject, the iterative algorithm to determine the optimal log-linear decay for each subject is summarised in Table 3 Iteration process to determine the optimal log-linear decay curve. The iterative algorithm is continued until a minimum of four observations are available.
The optimal log-linear regression model for a subject is deemed an appropriate fit if the overall model p-value < 0.001.

Table 3 Iteration process to determine the optimal log-linear decay curve

Step 1: For each subject, fit the full model - fit a linear regression (as defined by Equation 1) to all m parasitaemia values of subject i
Step 2: Fit two models:
(a) Fit linear regression model to $m-1$ parasitaemia values, removing the first observation.
(b) Fit linear regression model to $m-1$ parasitaemia values, removing the last observation.
Step 3: Determine the best model of Step 2(a) and Step 2(b), defined as the model corresponding to the minimum overall model p-value.
Step 4: Of the best model defined in Step 3, repeat Step 2 and Step 3 in an iterative process until a minimum of four observations.
Step 5: Of the $m-3$ best models selected per iteration (including the full model (Step 1)), the optimal model was defined by the minimum overall model p-value.

Estimating Subject Specific PRR
The slope and corresponding SE estimate of the optimal linear regression model is used to calculate the subject specific PRR48 estimate and corresponding 95% confidence interval (95% CI), as shown in Equation (2) and (3), respectively.

$$PRR_{48,i} = 10^{-48 \times \beta_{1,i}} \quad (2)$$

$$95\%\ \text{CI: } 10^{-48\left(\beta_{1,i} \pm 1.96 \times SE(\beta_{1,i})\right)} \quad (3)$$

where $\beta_{1,i}$ and $SE_{\beta(1,i)}$ are the slope and corresponding standard error of the slope parameter of the optimal linear regression model, respectively.

Estimating Dose Specific PRR ($PRR_{48,D}$)
Of the s subjects with appropriate overall fit (p<0.001), the average PRR_{48} and corresponding 95% CI for each cohort is estimated by using the inverse variance method to calculate the

weighted average linear regression slope ($\overline{\beta_1}$) and corresponding SE. The weighted average slope for s subjects in the dose with appropriate overall fit is given by Equation (4):

$$\overline{\beta_1} = \frac{\sum_{i=1}^{s}(w_i \times \beta_{1,i})}{\sum_{i=1}^{n} w_i}, \; i = 1, \ldots, s \qquad (4)$$

where the weight is the inverse of the squared standard error, $w_i = \frac{1}{SE(\beta_{1,i})^2}$. The standard error of $\overline{\beta_1}$ is estimated as, $SE(\overline{\beta_1}) = \sqrt{\frac{1}{\sum_{i=1}^{s} w_i}}$.

Therefore the dose specific PRR ($PRR_{48,D}$) and corresponding 95% confidence interval is estimated as shown in Equation (5) and (6), respectively:

$$PRR_{48,D} = 10^{-48 \times \overline{\beta_1}} \qquad (5)$$

$$95\%\ CI:\ 10^{-48 \times \left(\overline{\beta_1} \pm 1.96 \times SE(\overline{\beta_1})\right)} \qquad (6)$$

PRR_{48} estimates will also be reported as log10(PRR_{48}).

Parasite Clearance Half Life

The parasite clearance half–life (Pt½) will be derived from the optimal decay rate. The relationship between PRR_{48} and parasite clearance half-life (Pt½) is a simple transformation of the PRR_{48} as shown in Equation (7):

$$Pt_{½} = log_{10}(2) \times \left(\frac{48\ hours}{log_{10}(PRR_{48,i})}\right) = \frac{\log_{10}(2)}{-\beta_{1,i}} \qquad (7)$$

where $PRR_{48,i}$ is the parasitaemia ratio estimated over a 48-hour interval that is subsequently transformed into a per hour clearance rate.

Lag Phase

The lag phase will be reported as the first Time included in the optimal log-linear decay curve (i.e. first non-left-censored timepoint), where Time is the number of hours since IMP administration. The lag phase will be reported in hours.

Comparison of Dose Specific PRR_{48}

Comparisons of dose-specific PRRs may be performed. To determine whether there are differences between dose specific PRRs, an omnibus test for between group differences will be used. The test is used to assess whether there are differences in the weighted mean slope of the J doses, using the test statistic shown in Equation (8),

$$Q_B = \sum_{j=1}^{J} w_{j\cdot}\left(\bar{\beta}_{j\cdot} - \bar{\beta}_{\cdot\cdot}\right)^2 \sim \chi^2_{J-1} \qquad j = 1, \ldots, J \qquad (8)$$

The weight for the j^{th} dose is denoted by $w_{j\cdot} = \sum_{i=1}^{s_j} w_{ij}$ for subject i with appropriate overall fit in dose j. The $\bar{\beta}_{j\cdot}$ is the weighted average slope for dose j as defined in Equation (9), and $\bar{\beta}_{\cdot\cdot}$ is the weighted grand mean given by:

$$\bar{\beta}_{\cdot\cdot} = \frac{\sum_{j=1}^{J} w_{j\cdot}\bar{\beta}_{j\cdot}}{\sum_{j=1}^{J} w_{j\cdot}} \qquad (9)$$

Post-hoc pair-wise comparisons can be calculated using the test statistic $Z_G = \frac{G}{\sqrt{v_G}}$, where G is the contrast ($G = c_1\bar{\beta}_1. + \cdots + c_J\bar{\beta}_J$) and v_G is the variance of the contrast ($v_G = \frac{c_1^2}{w_1.} + \ldots + \frac{c_J^2}{w_J.}$). The p-value of the L pair-wise comparisons can be calculated using the Scheffe method, by comparing Z_G^2 to a chi-squared distribution with $L - 1$ degrees of freedom.

Characterising recrudescence

The following parasite clearance and recrudescence characteristics will be summarized:

- The number of volunteers and percentage of subjects in each dose group whose parasitaemia levels quantified using the *Pf*18s qPCR assay fall below the LOQ of 32 parasites/mL, following treatment with IMP will be reported.
- The number and percentage of subjects in each dose group who experience recrudescence following IMP administration and prior to scheduled Riamet® treatment period (Day 28±3) will be reported.
- The time to recrudescence will be reported for subjects who experience recrudescence in each dose group.

Initial parasite clearance is defined as a participant(s) parasitaemia, quantified by 18s qPCR, falling to non-detectable (ND) levels post IMP administration and pre administration of definitive antimalarial rescue medication. Therefore, the time of initial parasite clearance is the time-point of the first measurement post-IMP administration and pre administration of definitive antimalarial rescue medication where parasites are ND.

Failure of initial parasite clearance is defined for a participant(s) when parasites do not fall to ND levels post IMP administration and pre administration of definitive antimalarial rescue medication. Note that in such cases, rescue medication will be administered as per the study protocol.

Recrudescence can only be defined for a participant(s) for whom initial parasite clearance occurred. In other words, a participant(s) defined as failure of initial parasite clearance cannot also be defined as a recrudescence. Time to recrudescence is then defined as having occurred:

- At the time-point that most closely precedes the time-point at which ≥5,000 blood stage parasites/mL is reached, and where parasites ≥LOQ (32 parasites/mL) or if parasites are not ≥LOQ, the time-point where parasites are ≥ the minimum recorded value for that participant. If no time-point preceding the time-point of ≥5,000 blood stage parasites/mL exists where parasites are ≥ their minimum value following IPC, use the first time-point at which ≥5,000 blood stage parasites/mL is reached for the time of recrudescence.

10.6 Parasite life-stage analysis

Parasite life-stage data including ring-stage parasites, male gametocytes and female gametocytes will be quantified using qRT-PCR targeting *sbp1*, *pfs*25, and *pfMGET*, respectively. Parasite life-stage data (pfs25, pfMGET and sbp1 qRT-PCR) will be presented for each assay per timepoint as the number and percentage of individuals within a dose group that have any detectable gametocytaemia or ring stage parasites after IMP administration.

10.7 Software

Data manipulation and data analyses for all pharmacodynamic data to be analyzed by QIMR will be performed using R (version 4.1.0 or higher).

Data manipulation and data analyses for all pharmacodynamic data to be analyzed by SSR will be performed using SAS® Version 9.4 or higher (SAS Institute, Cary, North Carolina, USA).

10.8 Presentation of results

Individual values for total parasitemia (18S qPCR) and parasite life cycle stages (*pfs25*, *pfMGET* and *sbp1* qRT-PCR) with nominal timepoints will be plotted and actual sampling times will be presented in data listings for all subjects. Non-detects (ND) will be flagged. The data will be presented as the geometric mean of triplicate (total parasitaemia data) or duplicate (parasite life- stage data) values for each subject at each timepoint.
A full report on the pharmacodynamic data analysis provided by QIMRB will be included in the appendices of the CSR.

11. PHARMACOKINETICS/PHARMACODYNAMICS MODELLING

Analysis Set: PK/PD Analysis Set (see section 4)

11.1 Overview

Two stage approach:

1. Estimate the PK parameters by fitting a PK model and relevant covariates to the individual PK concentrations
2. Estimate the PD parameters by fitting a PKPD model to the asexual parasitemia observations using the individual PK parameters as regressors

11.2 Sources of data

The PK/PD dataset will contain the individual information on the size of the inoculum, date and time of its administration; doses of MMV533 administered with date and time of administration; plasma PK concentrations of MMV533 and its metabolites (MMV022 and MMV023) with date and time of blood sampling; triplicate total parasitemia counts by 18S qPCR with date and time of blood sampling; gametocytemia counts by qRT-PCR pfs25; ring stage counts if relevant; and typical covariates such as age, height, sex and race.

The PK/PD dataset will contain the data from the current VIS study MMV_MMV533_20_01 and from the past MMV_MMV533_19_01_FIH study.

The PK/PD dataset for MMV_MMV533_20_01 will be prepared by SSR in the MMV format from the database. The PK/PD dataset for MMV_MMV533_19_01_FIH will be prepared by ClinBay.

11.3 Data handling

11.3.1 Master PK/PD dataset

Data from study *MMV_MMV533_20_01_VIS* will contain information on the individual *MMV533* doses, *MMV533* PK concentrations, the triplicated parasitemia levels, gametocyte data and typical covariates such as age, height, weight, sex and race. Data from study MMV_MMV533_19_01_FIH will be added so as to increase the number of individuals with PK profiles.

A master dataset will be assembled formatted according to the MMV dataset standard. (cf., *"MS_IQdataset_V4_20210219.docx"*). Plasma concentration will be in ug/mL, total parasite levels in counts/mL, and doses in mg. Gametocyte data is in copies/uL.

Parasite data after the first administration of rescue medication is flagged by setting the IGNORE column to *"Rescued"*. The time in hours is relative to the (first) *MMV533* administration time. Gametocyte data will be converted to parasite counts following the instructions in *"Analyzing RNA data by K.Collins Nov2017.docx"*. Total counts of parasites were flagged to be ignored (by setting the column IGNORE to "gametocytes") if counts of gametocytes exceeded 10% of total counts.

A general analysis dataset will then be created from the master dataset. The general dataset will contain the following observations: *MMV533* plasma concentrations, total parasite count, as well as counts of gametocytes. In addition, dosing records for P. falciparum inoculation, *MMV533* administration and rescue medication administration will be defined.

The following covariates will be included as additional columns in the general dataset

- DOSELEVEL: the dose amount

- DOSEMULT: the number of doses
- WT0: body weight (kg)
- AGE: age (years)
- SEX: sex (male or female)
- Infection status (for all volunteers from *MMV_MMV533_20_01_VIS* infection status will be positive; For all volunteers from MMV_MMV533_19_01_FIH infection status will be negative.)
- PLbase: The model baseline parasitemia value – the geometric mean of parasite counts at time of first *MMV533* dose.

11.3.2 PK modelling dataset

Observations below the lower limit of quantification (LLOQ) will be censored by setting the CENS column for these observation records to 1 and setting the corresponding dependent variable (DV) column to the LLOQ (→ M3 method). Observation records with missing values and records with missing times will be ignored. Records flagged to be ignored will be removed from the dataset. Observations not analyzed in the PK modelling (i.e., all parasite count records) will be removed. Consequently, the PK modelling NLME dataset will contain only MMV533 dosing records and MMV533 plasma concentration records.

11.3.3 PD modelling dataset

Observations below the LLOQ will be censored by setting the CENS column for these observation records to 1 and the corresponding DV value to the LLOQ, i.e., 10 p/mL (→ M3 method). Total and viable counts of parasites for which counts of gametocytes exceeded 10% of total counts are flagged to be ignored (by setting the column IGNORE to "gametocytes"). Observation records with missing values and records with missing times will be ignored. Records flagged to be ignored will be removed from the dataset. Observations not analysed in the PD modelling analysis (i.e., concentration records) will be removed. Consequently, the PD modeling NLME dataset will contain only *MMV533* dosing records and total parasite counts.

The total and viable parasite counts will be log-transformed for the PD modelling and estimated individual PK model parameters will be added to the dataset as regressors.

11.4 Methods

Population models of the PK and PD will be developed in a step-wise manner.

1. A population PK model will be developed to obtain individual PK parameter estimates based on which the individual PK profiles are described well.
2. A parasite growth model (parasite growth rate and deviation of parasitemia at inoculation from parasitemia at treatment administration) will be estimated from the total parasite counts before treatment administration. Estimation of typical and individual PD parameters will be performed with IQRtools SysFit. Other appropriate growth models, e.g. an oscillatory model, will be tested if advisable.
3. The PKPD model will be build using the individual PK parameter estimates and individual growth model parameter estimates as regression parameters. Estimation of typical and individual PD parameters will first be performed with IQRtools SysFit to investigate model identifiability and second with Monolix to additionally estimate IIV.

Estimations will be done using gradient-based SysFit algorithm in IQRtools or SAEM algorithm in Monolix. Other appropriate methods may be used if advisable.

Inter-individual variability (IIV) is implemented for normally distributed parameters using the following equation with Θ_0 as population average parameter, Θ_i as individual parameter, and η_i as random effect that is distributed normally around zero ($\eta_i \sim N(0, \omega^2)$).

$$\Theta_i = \Theta_0 + \eta_i$$

The following equation is used for log-normally distributed parameters.

$$\ln(\Theta_i) = \ln(\Theta_0) + \eta_i$$

Continuous covariates on log-normally distributed parameters will be implemented as follows.

$$\Theta_i = \Theta_0 \cdot \frac{COV_i}{COV_{median}}^{\beta} \cdot \eta_i$$

Θ_i represents the individual parameter, Θ_0 the population mean value, COV_i the individual covariate value, COV_{median}, the population median covariate value, β the covariate coefficient, and η_i the individual random effect.

Categorical covariates on log-normally distributed parameters will be implemented as follows.

$$\Theta_i = \Theta_0 \cdot \Sigma_j\left(e^{\beta_j \cdot COV_{ij}}\right) \cdot \eta_i$$

The individual covariate values COV_ij are 1 if subject i belongs to the j_{th} category of the covatiate and 0 otherwise. $beta_j$ is the covariate value for the j_{th} category. For one category, i.e. the reference, $beta_j$ is 0.

For the NLME modeling with Monolix, the log-likelihood and the Fisher information matrix will be approximated by linearization. The number of iterations in the burn-in and the accumulation phase will be 500 and 200 respectively, but might be adjusted if required based on inspection of parameter estimate and objective function traces along estimation iterations. Individual parameters will be determined as conditional modes.

For PD modelling with IQRtools SysFit implementation a non-linear fixed-effects modelling approach is employed. Typical and individual parameters are both treated as fixed effects. The parameterization of individual parameters and covariates is fully consistent with the NLME parameterization above. The variances ω^2 of NLME random effects are accounted for by quadratic priors,

added to the log-likelihood function, where the values for ω^2 are fixed and the η parameters are estimated. The profile-likelihood method [RAU09, KAS19] is used to compute confidence intervals of the parameters estimated with the SysFit approach.

11.4.1.1 *Model evaluation*

Assessment of model adequacy and decisions about increasing model complexity will be driven by the data and guided by goodness-of-fit criteria, including

1. visual inspection of diagnostic scatter plots (observed vs. predicted concentration, residual/weighted residual vs. predicted concentration or time and histograms of individual random effects, for example),
2. successful convergence of the minimization routine with at least 2 significant digits in parameter estimates,
3. plausibility of parameter estimates,
4. precision of parameter estimates,
5. correlation between model parameter estimation errors<0.95, and
6. the Bayesian information criterion (BIC), given the minimum objective function value and number of estimated parameters.

For the nonlinear fixed effects models, additional diagnostic plots will be produced:

7. objective function values across multiple fits from randomised initial guesses, and
8. profile likelihood plots

All parameter estimates will be reported with a measure of estimation uncertainty, such as the relative standard error of the estimates. The individual PK fits will be used to evaluate the adequacy to use the individual PK parameter estimates as regression parameters for PD modeling.

The adequacy of simulation with the selected models will be evaluated by visual predictive checks (VPCs). VPCs for each dose level will be performed by simulation of the study 200 times taking parameter estimation uncertainty into account. 95%-confidence intervals for the 5th percentile, the median, and the 95th percentile will be derived and compared to the corresponding values based on the data.

11.4.2 Building a PK model

The PK of *MMV533* will be modeled using compartmental models describing the absorption after oral administration, distribution between central and peripheral compartments, and the elimination from the central compartment. The visual data analysis will guide the selection of models that will be tested (e.g., with respect to number of compartments, linear or saturable elimination, absorption kinetics and error model). Covariates will be included if appropriate. Estimations will be done using SAEM algorithm in Monolix. Other appropriate methods may be used if advisable.

FIH data from *MMV_MMV533_19_01* has previously indicated that *MMV533* PK is adequately described by a two-compartment model with zero order absorption parameterized in terms of *CL, Vc, Q1, Vp1* and *TK0*. Therefore, this structural model will initially be used to model *MMV533* PK using the PK modeling dataset. If required to adequately describe *MMV533* PK, structural models with greater numbers of compartments and different absorption models (eg first-order rate, lag) will be fitted.

An exploratory investigation of covariate-parameter relationships will be undertaken during the PK modelling step. The covariate WT0 on the clearance and volume parameters will be included to allow predictions in children. Since the body weight distribution may be narrow, the exponents will be fixed to 0.75 and 1 respectively on clearances and volumes of distribution. Other covariates of interest may include AGE, SEX, Infection status and PLbase – however, depending on the population make-up of these covariates, some may not be included. In the event that the distributions of WT0 and AGE are very narrow, a reference value for the population may be used instead of individual volunteer covariates.

Covariate modeling will be undertaken in the following steps:

- Pre-defined covariate-parameter relationships will be identified based on exploratory analysis and mechanistic plausibility – in particular, WT0 on clearance and volume PK parameters (central and peripheral compartments, if appropriate).
- A full model will be constructed, avoiding simultaneous inclusion of covariates with correlation coefficients >0.5.
- Population parameters will be estimated (both fixed effects [covariate coefficients and structural model parameters] and random effects).
- An exploratory assessment of any remaining trends will be conducted by graphical inspection of all covariate effects (plots of MAP Bayes estimates of individual random effects and/or WRES from the full model vs. covariates).
- Inferences about clinical relevance of parameters will be based on the resulting parameter estimates of the full model and measures of estimation precision (asymptotic standard errors, bootstrap 95% confidence intervals or log-likelihood profile).
- No hypothesis testing will be conducted.

- This approach enables the direct assessment of clinical relevance of covariate effects and also provides some explanation for the apparent absence of a covariate effect (true lack of an effect vs. lack of information about that effect).

Based on diagnostics plot (if shrinkage is not too high (>30%)) the estimation of random effect covariance matrix will be considered. Additionally, it will be attempted to estimate the full random effect covariance matrix. In order to assess the identifiability of the correlations between random effects, parameter estimations will be repeated from randomly chosen initial guesses for the fixed effect parameters that are estimated. All resulting parameters, including the correlation estimates for the random effects will be compared.

11.4.3 Building a PKPD model

PD model development will be done using gradient based algorithms in IQRTools SysFit. The selected model will then be estimated with SAEM in Monolix to allow for estimation of IIV. Other appropriate methods may be used if advisable. As a general concept the changes in living parasite P are modeled as the effect of a net exponential growth rate GR and a killing or clearance rate $Kill$ due to *MMV533*. The initial parasitemia P_{base} at time t_0 will be derived from the mean parasitemia which was observed at treatment administration and a parameter $PLerr$ to allow for population and individual deviations. The equations are expressed in the log-scale such as:

$$\begin{aligned} \frac{dPL}{dt} &= GR - Kill \\ PL(t_0) &= PL_{base} + PLerr \end{aligned}$$

where $PL = \ln(P)$ is the log-transformed parasite counts.

Three different models describing the relationship of *MMV533* plasma concentration on the killing rate will be tested.

11.4.4 Simulations in patients

Simulations will be performed using the final PKPD model from this analysis.

Simulations will be performed for single dose regimen of a range of *MMV533* doses from 20mg to the maximum feasible dose. For each dose level, 200 trials with 625 subjects will be performed. Dose levels, number of trials and number of subjects may be adjusted if advisable. For each trial a new set of population parameters will be sampled from the uncertainty distribution and individual parameters will be sampled from the IIV. The covariates age, body weight and baseline parasitemia will be sampled from a clinical dataset of real patients, specifically an established dataset of African Children patients.

The baseline parasitemia in patients are typically 1000 fold higher than in challenge volunteers and in the range of 10^4 p/uL

11.5 PKPD endpoints

- PKPD equations comprising the final structural model
- Primary PK and PD parameters: estimated values with 90% confidence interval
- Secondary PD parameters from simulations in volunteers: APR28Csoff and APR28Cson (value and 90% confidence interval), parasite clearance time (median and 90% confidence interval) as a function of MMV533 dose.

The following parameters will be calculated (median and 95%CI):

- C_{max}: maximum MMV533 plasma concentration

- AUC: Area under the MMV533 plasma concentration curve
- PRR48: Parasite reduction ratio after 48h
- Parasite clearance time: time to reach the microscopic LOD (10 p/uL)
- ETF CSoff: Early treatment failure clinical symptoms off; Parasitemia on day 2 higher than on day 0, irrespective of axillary temperature, or, parasitemia on day 3, or, parasitemia on day 3 >= 25% of cound on day 0.
- ETF CSon: Early treatment failure clinical symptoms on; Parasitemia on day 2 higher than on day 0, irrespective of axillary temperature, or, parasitemia on day 3 >= 25% of cound on day 0.
- LCF28: Late clinical failure at day 28: Parasitemia above LLOQ on any day between day 4 and day 28 in volunteers who did not previously meet any of the criteria of ETC CSon.
- LPF28 CSoff: Late parasitological failure at day 28 clinical symptoms off: Parasitemia above LLOQ on any day between day 7 and day 28 with axillary temperature < 37.5°C in volunteers who did not previously meet any of the criteria of ETF CSoff.
- LPF28 CSon: Late parasitological failure at day 28 clinical symptoms on: Parasitemia above LLOQ on any day between day 7 and day 28 with axillary temperature < 37.5°C in volunteers who did not previously meet any of the criteria of ETF CSon or LCF28.
- APR28 CSoff: Adequate parasitological response at day 28 clinical symptoms off; Absence of parasitemia on day 28 irrespective of axillary temperature, in volunteers who did not previously meet any of the criteria of ETF CSoff or LPF28 CSoff.
- APR28 CSon: Adequate parasitological response at day 28 clinical symptoms on; Absence of parasitemia on day 28 irrespective of axillary temperature, in volunteers who did not previously meet any of the criteria of ETF CSon or LCF28 or LPF28 CSon.

The following secondary efficacy parameters will also be calculated:

The minimum inhibitory concentration (MIC), the minimal parasiticidal concentration (MPC90), and the parasite reduction rate in 48 h (PRR_{48}) are derived from the PD models. The MIC is defined as the concentration when parasite clearance by the drug equals the parasite growth, i.e., the drug concentration at the time at which the minimum parasite concentration is observed. It is calculated with the following equation in case of the Emax model.

$$MIC = EC_{50}\left(\frac{GR}{E_{max} + GR}\right)^{1/Hill}$$

For the other models, the calculation is only valid at steady-state. However, an apparent MIC is determined by simulations as the concentration C_c at the time when the predicted parasite counts are at the minimum.

The MPC90 is defined as the concentration at which the clearance effect is at 90% of the maximum. It is calculated as follows for the Emax model.

$$MPC_{90} = EC_{50} \cdot 9^{1/Hill}$$

For the other models, the calculation is only valid at steady-state. However, an apparent MPC90 is determined by simulations as the blood concentration C_c at the time when the predicted clearance effect is at 90% of the maximum during the drug elimination phase.

The PRR_{48} is defines as the parasite clearance achieved within 48 hours, usually given as the reduction of values on log10 transformed scale. The maximum capacity of parasite clearance in 48 hours is determined as follows assuming that concentrations are maintained well above the MPC90 for this time span.

$$PRR_{48} = 48h\frac{E_{max} - GR}{\ln(10)}$$

11.6 Software

All data processing, analysis, model setup and modeling result analysis including goodness-of-fit plots will be performed in R 3.6.3 and IQRtools package 1.8.0 or above.
NLME modelling will be performed with Monolix 2019R1 using Stochastic Approximation Expectation Maximization (SAEM) for parameter estimation. For PD modelling where typically the variance of random-effects cannot be estimated from the data, the IQRtools SysFit approach will be used to estimate typical and individual PD parameters.
All analyses will be done in a working directory containing all data files, scripts, and outputs of the analysis. A library of functions related to the analysis of PKPD studies of anti-malarials may be used that is available at https://github.com/MedicinesForMalariaVenture/MMVmalaria.

12. SAFETY

Safety and tolerability will be assessed by clinical review of the following parameters:

- AEs (including SAEs and AESIs)
- Vital signs
- 12-lead ECG
- Haematology, chemistry, urinalysis
- Physical examination
- Malaria clinical score

All descriptive statistics for most safety parameters will be evaluated using the Safety Set except AEs where AE will be evaluated using the FAS and Safety Set.

12.1 Adverse Events

Analysis Set: FAS/Safety Set

12.1.1 Definition of variables

- Inoculum Emergent Adverse Event (IEAE)
    - An IEAE is defined as an AE that commences on, or after, the administration of the challenge agent for the inoculation up to the end-of-study (EOS) visit (inclusive). AEs without an onset date or time will be defined as inoculum emergent except if an incomplete date (e.g., month and year) clearly indicates that the event started prior to the administration of the inoculation challenge agent, or if the AE stop date indicates that the event stopped prior to the administration of the inoculation challenge agent. Evaluation on IEAE will be based on the FAS.
- Treatment Emergent Adverse Event (TEAE)
    - A TEAE is defined as an AE that commences on, or after, the first administration of IMP up to the end-of-study (EOS) visit (inclusive). AEs without an onset date or time will be defined as treatment emergent except if an incomplete date (e.g., month and year) clearly indicates that the event started prior to first administration of IMP, or if the AE stop date indicates that the event stopped prior to the first administration of IMP. Evaluation on TEAE will be based on the Safety Set.
- Adverse Events of Special Interest (AESI)
    - Adverse Events of Special Interest (AESIs) may be serious or non-serious and are defined by the Sponsor as being of specific scientific and/or medical concern to the Sponsor's product or program. Evaluation on AESI will be based on both Safety Set and FAS depending on if it is treatment emergent or inoculum emergent adverse events.

12.1.2 Parameters

- Event Term
- Dates and times of onset and resolution
- Severity (CTCAE Grades 1 to 5)
- Outcome (Not Recovered / Not Resolved; Recovered / Resolved; Recovered / Resolved with Sequelae; Recovering / Resolving; Fatal; Unknown)
- Relationship of AE to Investigational medicinal product (Not Related, Related)
- Relationship of AE to rescue medication (Not Related, Related)
- Relationship of AE to malaria challenge agent (Not Related, Related)
- Relationship of AE to study procedures (Not Related, Related)
- Action taken with Investigational medicinal product (No action taken; Rescue medication administered instead of IMP; Not applicable)

- Other actions taken (including withdrawal from the study)
- Seriousness (and Serious Adverse Event (SAE) criteria)
- AESI status (Yes/No)
- Relatedness to COVID-19 (Yes/No)

Derived parameters:

- Duration in hours
- Time in days of onset relative to first IMP administration

12.1.3 Biostatistical methods

Safety analyses will also be done specifically for AEs that commence during the inoculation period, defined as the time from the inoculum injection (Day-8) to the day before the IMP administration (Day -1) visit (included). AEs with partial start dates will be considered as not having commenced during the inoculation period.

Adverse events (AE) will be coded according to the Medical Dictionary for Regulatory Activities (MedDRA) version 24.1 – Sep 2021 and grouped by system organ class (SOC) and preferred terms (PT). Their severity will be graded according to NCI-CTCAE v5.0 27 Nov 2017.

12.1.3.1 *Listings*

All AE data will be listed for each volunteer, including severity, relationship to IMP, relationship to study procedures, relationship to rescue mediation, relationship to malaria challenge agent, outcome and actions taken. In addition, listings of AEs leading to discontinuation of the study, SAEs and deaths, will be provided as applicable.

12.1.3.2 *Tables*

The main AE summaries will be restricted to Inoculum Emergent Adverse events (IEAE) and Treatment Emergent Adverse Events (TEAEs).

All reported IEAEs/TEAEs, including SAEs and AESIs, will be mapped to standard MedDRA coding terms and grouped by SOC and PT.

An **overview summary table** of AEs will be provided by cohort and overall including:

- Number of events and number of volunteers reporting at least one of the following:
    - IEAE/TEAE
    - Serious IEAE/TEAE
    - Malaria Challenge Agent Related IEAEs
    - IMP Related TEAE
    - IMP Related Serious IEAE/TEAE
- Number of volunteers with at least one IEAE/TEAE by maximum severity
- Number of IEAE/TEAE by relationship to IMP
- Number of IEAE/TEAE by relationship to rescue medications
- Number of volunteers withdrawn from the study due to a IEAE/TEAE
- Number of IEAE during inoculation period by relationship to the malaria challenge agent
- Number of deaths

A duplicate overview summary table will also be presented specifically for the AESIs.

The number of events, as well as the number and percentage of volunteers experiencing an IEAE/TEAE, will be summarised for each SOC and PT by treatment arm and overall for the following categories of events:

- All IEAEs/TEAEs
- IEAEs/TEAEs by severity

- Malaria challenge agent related IEAEs
- IMP related TEAEs
- Malaria challenge agent related IEAEs by severity
- IMP related TEAEs by severity
- Inoculum/Treatment Emergent SAEs
- IEAEs/TEAEs leading to study withdrawal
- IEAEs/TEAEs of Special Interest (AESIs)

For the summaries of TEAEs, volunteers who experience the same AE (in terms of the MedDRA preferred term) more than once will only be counted once.

12.2 Concomitant Medication

Medications used in this study will be coded using WHODrug Global version B3 Sep 2021 – Added Context.

Concomitant medications are defined as medications continued or newly received at or after administration of IMP, through to the End of Study visit.

If a medication has a missing or partial missing start/end date or time and it cannot be determined whether it was taken before initial treatment or concomitantly, it will be considered as prior and concomitant.

Concomitant medications will be summarised by ATC and PN. The summary tables will show the number and percentage of volunteers taking each medication by ATC and PN.

For the summaries of prior and concomitant medications, volunteers who take the same medication (in terms of the ATC and PN) more than once will only be counted once for that medication.

Use of rescue medications will be analysed as part of the treatment exposure analysis (Section 8.1).

12.3 Laboratory

12.3.1 Parameters

12.3.1.1 *Haematology*

- Basophils (absolute)
- Eosinophils (absolute)
- Haematocrit
- Haemoglobin
- Lymphocytes (absolute)
- Monocytes (absolute)
- Neutrophils (absolute)
- Platelet count
- Red blood cell count
- White blood cell count

12.3.1.2 *Biochemistry*

- Alanine Aminotransferase (ALT)
- Albumin
- Alkaline phosphatase (ALP)
- Aspartate Aminotransferase (AST)
- Bicarbonate
- Bilirubin (direct)
- Bilirubin (total)
- Calcium
- Calculated eGFR (CKD-EPI)
- C-Reactive protein
- Chloride
- Cholesterol Total
- Creatinine
- Creatine kinase
- Gamma Glutamyl Transpeptidase (GGT)
- Glucose (random and fasting)
- Glucose-6-phosphatase (G6PD)
- Lactate dehydrogenase (LDH)
- LDL
- HDL
- Phosphate
- Potassium
- Protein Total
- Sodium
- Triglyceride
- Troponin T/high sensitivity
- Urea
- Uric Acid

Pregnancy Test and FSH

- β-Human Chorionic Gonadotropin (β-HCG) (women of child bearing potential only)
- Follicular Stimulating Hormone (FSH) (post-menopausal women only)

12.3.1.3 *Urinalysis*

Dipstick Testing	***Quantitative Assessments***	***Urine Chemistry***
• Red blood cells • Glucose • Ketone • White blood cells • Protein • pH	• Red blood cells • White blood cells	• Glucose • Protein

Pregnancy Test

- β-Human Chorionic Gonadotropin (β-HCG) (women of child bearing potential only)

12.3.1.4 *Coagulation*

- International Normalized Ratio (INR)
- Activated Partial Thromboplastin Time (APTT)

12.3.1.5 *Serology*

- Hepatitis B surface antigen (HB sAG)
- Hepatitis C antibodies
- Red blood cell antibodies
- Anti-hepatitis B core antibodies (anti-HBc Ab)
- Human Immunodefiniciency Virus (HIV) Ag/Ab 1/2 (anti-HIV1 and anti-HIV2 Ab)

12.3.2 Biostatistical methods

12.3.2.1 *Listings*

All laboratory parameters and change from baseline values will be presented in data listings. Values outside the laboratory reference range will be listed with flags if considered low or high (where applicable) and if considered to be clinically significant by the investigator.

Pregnancy test data will be listed only, for all women of child bearing potential (WOCBP). FSH data will be listed only, for all post-menopausal women.

Coagulation data as well as qualitative and quantitative urinalysis data will be listed only.

12.3.2.2 *Tables*

Haematology, biochemistry and continuous dipstick urinalysis laboratory data will be summarised for each scheduled visit, including observed values, absolute change from each baseline.

Categorical dipstick urinalysis results will be summarised for each scheduled visit using frequency tabulations.

Laboratory abnormalities will be presented as cross-tabulations of the abnormality at each post-baseline analysis visit versus the baseline abnormality. Numbers of subjects with treatment-emergent abnormalities will also be shown.

In addition, the liver function tests, namely AST, ALT, and total bilirubin, are used to assess possible drug-induced liver toxicity. The proportion of volunteers with Potential Clinically Significant Abnormality (PCSA) values at any postbaseline visit will summarized. The highest value of PCSA and time to the highest PCSA reading during inoculation period and since IMP administration will also be summarized. Any of the following event will be considered as a PCSA:

- ALT: >3 x Upper Limit of Normal (ULN); >5 x ULN; >8 x ULN
- AST: >3 x Upper Limit of Normal (ULN); >5 x ULN; >8 x ULN
- ALT or AST >3 x ULN;
- Total bilirubin >2 x ULN;
- ALT or AST >3 x ULN and total bilirubin >2 x ULN at the same time point, together with a conjugated bilirubin fraction (direct bilirubin / total bilirubin) > 35% (Potential Hy's law cases).

12.4 Vital Signs

12.4.1 Parameters

- Systolic Blood Pressure (SBP) (mmHg)
- Diastolic Blood Pressure (DBP) (mmHg)
- Heart Rate (beats/minute)

- Temperature (°C)

12.4.2 Biostatistical methods

All vital signs data will be listed for all volunteers. Any values outside of the protocol defined inclusionary/exclusionary ranges (Table 4) will be flagged, with clinical significance status presented for out of range results.

Table 4: Vital Signs Normal Ranges

Parameter	Range
Systolic blood pressure	90-140 mmHg
Diastolic blood pressure	40-90 mmHg
Heart rate	40-100 bpm
Temperature	>37.5°C a.m. >37.7°C p.m.

Vital sign parameters will be summarised by presenting summary statistics for observed values and change from baseline values for each scheduled visit.

12.5 Body Measurements

12.5.1 Definition of variables

- Height (Screening Only)
- Weight
- Body mass index (BMI)

12.5.2 Biostatistical methods

Body measurement data will be listed for all volunteers and visits including height, weight and Body Mass Index (BMI) which is auto-calculated within the CRF.

Observed values, as well as changes from each baseline, will be summarised descriptively for weight and BMI by visit.

12.6 Physical Examination

12.6.1 Parameters

- General appearance
- HEENT (Head, Eyes, Ears, Nose, Throat)
- Lymphatic
- Respiratory
- Skin
- Neurological/Reflexes
- Cardiovascular
- Musculoskeletal

12.6.2 Biostatistical methods

Physical examination findings will be listed for all volunteers and visits

12.7 12-lead ECG

12.7.1 Parameters

- RR interval (msec)
- Heart rate (beats/minute)
- PR interval (msec)
- QRS interval (msec)

- QT interval (msec)
- QTc interval (msec)
- QTcB interval (msec)
- QTcF interval (msec)
- Overall ECG assessment (Normal, Abnormal)
- ECG abnormality (as appropriate)
- Clinical Significance

12.7.2 Biostatistical methods

ECG parameters will be listed for all volunteers and visits. Triplicate ECGs will be presented in listings for individual readings as well as the mean for each triplicate. The triplicate means will be used for the summary table. Any value outside of the reference range (Table 5) will be flagged.

Table 5: ECG Reference Range

Parameter	Range
PR interval	≤ 220 msec
QRS interval	50-120 msec
QTcB/QTcF	≤ 450 msec

Observed values, as well as changes from each baseline, will be summarised descriptively for all ECG parameters by visit. An additional table will present the frequencies of volunteers who fulfill the following criteria at least once, considering all scheduled and non-scheduled visit data:

- QTcF prolongation >30 msec
- QTcB prolongation >30 msec
- QTcF prolongation >60 msec
- QTcB prolongation >60 msec
- QTcF >450 msec
- QTcB >450 msec
- QTcF >480 msec
- QTcB >480 msec

12.8 Malaria Clinical Score

Malaria clinical score data will be listed for all volunteers, including the individual scores for each of the 14 signs/symptoms as well as the total score. The total of all the scores obtained on the 14 symptoms will also be presented, per timepoint.

The number (and percentage) of volunteers scoring each symptom (0=absent; 1=mild; 2=moderate; 3=severe) will be tabulated per treatment and per protocol defined timepoint. In addition, the total malaria clinical score will be treated as a continuous outcome and summarised per treatment and over timepoint, as well as a change from baseline, using descriptive statistics.

The highest score as well as the time to the highest score observed will be tabulated and summarized using descriptive statistics.

12.9 Software

SAS® Version 9.4 or higher (SAS Institute, Cary, North Carolina, USA) will be used to analyze all Safety related statistical analysis.

13. EXPLORATORY PARAMETERS

Analysis Set: PD

13.1 Parameters

- in vitro drug sensitivity testing to determine the 50% inhibitory concentrations (IC50) and the percentage surviving parasites, if recrudescence occurs
- Presence or absence of gametocytaemia following a single dose of MMV533

13.2 Biostatistical methods

Please refer to Section 10.6 for the detail of analysis method.

13.3 Software

Data manipulation and data analyses for all pharmacodynamic data to be analyzed by QIMR will be performed using R (version 4.1.0 or higher).

14. CHANGES TO THE PLANNED ANALYSIS

Any deviation will be documented in the clinical study report.

15. INTERIM AND FINAL ANALYSIS

This trial has no formal interim analysis.

16. REFERENCES

1) MMV_MMV533_20_01Clinical Study Protocol, v3.0, 17 February 2022
2) Wang CYT, Ballard EL, Pava Z Marquart L, Gaydon J, Murphy SC, Whiley D, O'Rourke P, McCarthy JS (2021) Analytical validation of a real-time hydrolysis probe PCR assay for quantifying Plasmodium falciparum parasites in experimentally infected human adults, Malaria Journal, 20(181).
3) Marquart L, Baker M, O'Rourke P, McCarthy JS (2015) Evaluating the pharmacodynamic effect of antimalarial drugs in clinical trials by quantitative PCR, Antimicrobrial Agents and Chemotherapy,59, 4249–5

APPENDIX

Planned listings

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Notes:

- For summary table, the column header in each table will be displayed as below:
  - MMV 533 (20 mg)
  - MMV 533 (35 mg)
  - MMV 533 (100 mg)
  - MMV 533 (160 mg)
  - Overall
- Column widths and text-wrapping may be altered in final output to best present the data.
- Footnotes may be added/amended as required
- Where a count is 0, the percentage will not be shown (e.g. 0(0.0%) will be displayed as 0).
- Percentages will be rounded to one decimal place, with the denominator being the number of volunteers in the relevant population with non-missing data, unless otherwise specified.
- If it is not possible to fit all groups on one page in some of the summary tables, the summary tables will be split across multiple pages.
- If there is no data for a particular table (for example, SAEs, etc.), populate the table with “No Serious Treatment Emergent Adverse Events reported.”
- Unscheduled visits and Early termination visits will be excluded from visit-based summary tables unless otherwise indicated
- Refer to Statistical Deliverables document for output numbering

Table XX - Analysis Populations
Protocol: MMV_MMV533_20_01
Population: All Screened Volunteers

Dose Group	Full Analysis Set N (%)	Safety Set N (%)	PK Analysis Set N (%)	PD Analysis Set N (%)	PK/PD Analysis Set N(%)*	Inoculation Set N(%)
MMV 533 (10 mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
MMV 533 (xx mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
MMV 533 (xx mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
MMV 533 (xx mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
MMV 533 (xx mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
MMV 533 (200 mg)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
Total	X	X	X	X	X	X

Source: Listing X
Percentages based on the number of volunteers in the relevant population set.
* The PK/PD Analysis Set includes all volunteers from the PK set and all volunteers from the PD set from the VIS study only.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Study Volunteer and Disposition
Protocol: MMV_MMV533_20_01
Population: All Screened Set

n(%)	Treatment	Treatment	Treatment
Signed Inform Consent	X	X	X
Received IMP	X (XX.X%)	X (XX.X%)	X (XX.X%)
Completed Study	X (XX.X%)	X (XX.X%)	X (XX.X%)
Early Withdrawal	X (XX.X%)	X (XX.X%)	X (XX.X%)
Primary Reason for Study Discontinuation			
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
Percentages based on the number of volunteers in the Full Analysis Set.

Programming Note: If there are no early discontinuations, remove the “Primary Reason” section.
If there is at least one early discontinuation, only include rows where there is at least one value > 0

Database Export Date: YYYY-MM-DD
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Table XX - Demographics and Baseline Characteristics
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

		Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Age (years)*					
		n	X	X	X
		Mean	X.X	X.X	X.X
		Median	X.X	X.X	X.X
		SD	X.X	X.X	X.X
		Minimum	X	X	X
		Maximum	X	X	X
Race					
	White	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
	……	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
	Other	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
Sex n(%)					
	Female	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
	Male	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
Child-Bearing Potential					
	Yes	n (%)***	X (XX.X%)	X (XX.X%)	X (XX.X%)
	No	n (%)***	X (XX.X%)	X (XX.X%)	X (XX.X%)
Post-menopausal					
	Yes	n (%)***	X (XX.X%)	X (XX.X%)	X (XX.X%)
	No	n (%)***	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing XX
SD: Standard Deviation
* At Screening Visit
** Percentages based on the number of volunteers in the relevant population with non-missing data
*** Percentages based on the number of female volunteers in the relevant population with non-missing data

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Demographics and Baseline Characteristics
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

		Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Ethnicity					
	Hispanic or Latino	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
	Not Hispanic or Latino	n (%)**	X (XX.X%)	X (XX.X%)	X (XX.X%)
Height (cm)*					
		n	X	X	X
		Mean	X.X	X.X	X.X
		Median	X.X	X.X	X.X
		SD	X.X	X.X	X.X
		Minimum	X	X	X
		Maximum	X	X	X
Weight (kg)*					
		n	X	X	X
		Mean	X.X	X.X	X.X
		Median	X.X	X.X	X.X
		SD	X.X	X.X	X.X
		Minimum	X	X	X
		Maximum	X	X	X
BMI (kg/m^2)*					
		n	X	X	X
		Mean	X.X	X.X	X.X
		Median	X.X	X.X	X.X
		SD	X.X	X.X	X.X
		Minimum	X	X	X
		Maximum	X	X	X

Source: Listing XX
SD: Standard Deviation
* At Screening Visit
** Percentages based on the number of volunteers in the relevant population with non-missing data
*** Percentages based on the number of female volunteers in the relevant population with non-missing data

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Summary of Prior Medications
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Anatomical Therapeutic Chemical (ATC) Level 3 Preferred Name (PN)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Number of volunteers reporting at least one prior medication	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of prior medications reported	X	X	X
ATC1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN2	X (XX.X%)	X (XX.X%)	X (XX.X%)
….			
PNx	X (XX.X%)	X (XX.X%)	X (XX.X%)
ATC2	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN2	X (XX.X%)	X (XX.X%)	X (XX.X%)
….			
PNx	X (XX.X%)	X (XX.X%)	X (XX.X%)
……..			

Source: Listing X
Medications were coded to preferred name and ATC class using WHO DD version 20YY:MM (ATC Class Level 3)
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Protocol Deviations
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Number of volunteers with at least one protocol deviation	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of protocol deviations*	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of volunteers with at least one minor protocol deviation	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of volunteers with at least one major protocol deviation	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of protocol deviations	X	X	X
Number of minor protocol deviations	X	X	X
Number of major protocol deviations	X	X	X
Deviations by category			
XXXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)
XXXXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
Percentages based on the number of volunteers in the relevant population.
*Percentages based on the total number of protocol deviations.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - IMP Administration
Protocol: MMV_MMV533_20_01
Population: Safety Set

	Treatment (N=X)	Treatment (N=X)
IMP Total Dose (mg)		
n	X	X
Mean	X.X	X.X
Median	X.X	X.X
SD	X.X	X.X
Minimum	X	X
Maximum	X	X
Malaria Challenge Total Volume (mL)		
n	X	X
Mean	X.X	X.X
Median	X.X	X.X
SD	X.X	X.X
Minimum	X	X
Maximum	X	X
Rescue Medication Total Dose (mg)		
n	X	X
Mean	X.X	X.X
Median	X.X	X.X
SD	X.X	X.X
Minimum	X	X
Maximum	X	X

Source: Listing X
SD: Standard Deviation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Summary of Pharmacokinetic Concentration
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Matrix: Plasma

Programming Note: Include plasma MMV533 and metabolites - MMV022 and MMV023. Start a new page with different matrix.

		Concentration (unit)			
Treatment	Statistic	Predose	0.5 h	1 h	…..
Treatment	Geometric Mean	X.X	X.X	X.X	
	Geometric SD	X.X	X.X	X.X	
	Geometric CV	X.X	X.X	X.X	
	Arithmetic Mean	X.X	X.X	X.X	
	Arithmetic SD	X.X	X.X	X.X	
	Arithmetic CV	X.X	X.X	X.X	
	Median	X.X	X.X	X.X	
	Minimum	X.X	X.X	X.X	
	Maximum	X.X	X.X	X.X	
	n	X	X	X	
	……				

Programming Note: Include all scheduled PK samples.

Source: Listing XX
SD: Standard Deviation; CV: Coefficient of variation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Summary of Pharmacokinetic Parameters
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Matrix: Plasma

Programming Note: Include plasma MMV533 and metabolites - MMV022 and MMV023. Start a new page with different matrix.

Parameter	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
C_{max} (unit)	Geometric Mean	X.X	X.X	X.X
	Geometric SD	X.X	X.X	X.X
	Geometric CV	X.X	X.X	X.X
	Arithmetic Mean	X.X	X.X	X.X
	Arithmetic SD	X.X	X.X	X.X
	Arithmetic CV	X.X	X.X	X.X
	Median	X.X	X.X	X.X
	Minimum	X.X	X.X	X.X
	Maximum	X.X	X.X	X.X
	n	X	X	X
	.....			

Programming Note: Include all PK parameters: Cmax,tmax, AUClast, AUC0-168, AUCinf, %AUCextrap, t1/2, Lambda-z, CL/F, Vz/F.
Additional plasma ratios (metabolite to parent drug) of: Cmax, AUClast, AUCinf to be included on metabolites matrix.
Please note: Tmax summary statistics will be provided as n, minimum, median, and maximum only

Source: Listing XX
SD: Standard Deviation; CV: Coefficient of variation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Parasitaemia Level: At IMP Dosing and Peak
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Dose Group	Volunteer	Parasitaemia at IMP Dosing (Day 1) (geometric mean parasites/500 µL of packed RBCs)	Peak Parasitaemia during Study (timepoint) (geometric mean parasites/500 µL of packed RBCs)
Treatment	XXX	XXX	XXX (Day X)
	XXX	XXX	XXX (Day X)
Treatment	XXX	XXX	XXX (Day X)
	XXX	XXX	XXX (Day X)

:
:
:

Programming Note: Start a new page with different PD parameters. Apply all relevant scheduled visits to the PD parameters.

Source: Listing XX
Days in the () is related to the day since the IMP is administered.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Overall Summary of Inoculum Emergent Adverse Events
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

	Treatment (N=X)		Treatment (N=X)		Treatment (N=X)	
	Nr(%) of Volunteers	Nr of IEAEs	Nr(%) of Volunteers	Nr of IEAEs	Nr(%) of Volunteers	Nr of IEAEs
Number of volunteers with at least one IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one malaria challenge agent related IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one serious IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one malaria challenge agent related serious IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related serious IEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one IEAE by maximum severity	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 1: Mild	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 2: Moderate	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 3: Severe	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 4: Life-threatening	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 5: Fatal	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of volunteers with IEAEs by Relationship to rescue medication						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with IEAEs during inoculation period by relationship to the malaria challenge agent						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers withdrawn from the study due to a IEAE	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of deaths	X (XX.X%)		X (XX.X%)		X (XX.X%)	

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD

Table XX - Overall Summary of Treatment Emergent Adverse Events
Protocol: MMV_MMV533_20_01
Population: Safety Set

	Treatment (N=X)		Treatment (N=X)		Treatment (N=X)	
	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs
Number of volunteers with at least one TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one IMP-related TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one serious TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one IMP-related serious TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related serious TEAE	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one TEAE by maximum severity	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 1: Mild	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 2: Moderate	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 3: Severe	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 4: Life-threatening	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 5: Fatal	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of volunteers with TEAEs by Relationship to rescue medication						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers withdrawn from the study due to a TEAE	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of deaths	X (XX.X%)		X (XX.X%)		X (XX.X%)	

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Adverse Events by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Treatment Emergent Adverse Events by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Severity
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 5: Fatal	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a maximum severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Treatment Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Severity
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 5: Fatal	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest maximum for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Relatedness to Malaria Challenge Agent
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

	Treatment Group (N=X)		Treatment Group (N=X)		Treatment Group (N=X)	
System Organ Class (SOC) Preferred Term (PT)	Nr(%) of Volunteers	Nr of IEAEs	Nr(%) of Volunteers	Nr of IEAEs	Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Treatment Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Relatedness to IMP
Protocol: MMV_MMV533_20_01
Population: Safety Set

	Treatment Group (N=X)		Treatment Group (N=X)		Treatment Group (N=X)	
System Organ Class (SOC) Preferred Term (PT)	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Malaria Challenge Agent Related Inoculum Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Severity
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 5: Fatal	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A malaria challenge agent related inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent and is related to malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a maximum severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – IMP Related Treatment Emergent Adverse Events by MedDRA System Organ Class, Preferred Term and Severity
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs	Treatment Group (N=X) Nr(%) of Volunteers	 Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 5: Fatal	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 1: Mild	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 2: Moderate	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 3: Severe	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Grade 4: Life-threatening						
Grade 5: Fatal						

……..

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An IMP related treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP and is related to IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest maximum for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Serious Adverse Events by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Treatment Emergent Serious Adverse Events by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Adverse Events Leading to Study Discontinuation by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent .
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Treatment Emergent Adverse Events Leading to Study Discontinuation by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X)		Treatment (N=X)		Treatment (N=X)	
	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs	Nr(%) of Volunteers	Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Overall Summary of Inoculum Emergent Adverse Events of Special Interest (AESI)
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

	Treatment (N=X)		Treatment (N=X)		Treatment (N=X)	
	Nr(%) of Volunteers	Nr of AESIs	Nr(%) of Volunteers	Nr of AESIs	Nr(%) of Volunteers	Nr of AESIs
Number of volunteers with at least one Inoculum-Emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one malaria challenge agent related Inoculum-Emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related inoculum-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one serious inoculum-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one malaria challenge agent related serious inoculum-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related serious inoculum-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one inoculum-emergent AESI by maximum severity	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 1: Mild	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 2: Moderate	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 3: Severe	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 4: Life-threatening	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 5: Fatal	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of volunteers with inoculum-emergent AESI by Relationship to rescue medication						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with inoculum-emergent AESI during inoculation period by relationship to the malaria challenge agent						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers withdrawn from the study due to an inoculum-emergent AESI	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of deaths	X (XX.X%)		X (XX.X%)		X (XX.X%)	

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event of special interest is defined as an adverse event of special interest that occurred or worsened following administration of the malaria challenge agent..
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of AESIs column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Overall Summary of Treatment Emergent Adverse Events of Special Interest (AESI)
Protocol: MMV_MMV533_20_01
Population: Safety Set

	Treatment (N=X)		Treatment (N=X)		Treatment (N=X)	
	Nr(%) of Volunteers	Nr of AESIs	Nr(%) of Volunteers	Nr of AESIs	Nr(%) of Volunteers	Nr of AESIs
Number of volunteers with at least one treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one IMP-related treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one serious treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one IMP-related serious treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one study procedure-related serious treatment-emergent AESI	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers with at least one treatment-emergent AESI by maximum severity	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 1: Mild	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 2: Moderate	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 3: Severe	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 4: Life-threatening	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Grade 5: Fatal	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of volunteers with treatment-emergent AESI by relationship to rescue medication						
Not Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Related	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
Number of volunteers withdrawn from the study due to an treatment-emergent AESI	X (XX.X%)		X (XX.X%)		X (XX.X%)	
Number of deaths	X (XX.X%)		X (XX.X%)		X (XX.X%)	

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event of special interest is defined as an adverse event of special interest that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of AESI column.
If a participant has multiple occurrences of an AE by severity, the participant is presented only once in the Nr(%) column as a highest severity for a given SOC and preferred term.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Inoculum Emergent Adverse Events of Special Interest (AESI) by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	 Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	 Nr of IEAEs	Treatment (N=X) Nr(%) of Volunteers	 Nr of IEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
An inoculum-emergent adverse event (IEAE) is defined as an adverse event that occurred or worsened following administration of the malaria challenge agent.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of IEAEs column.
Percentages based on the number of volunteers in the relevant population

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Table XX - Treatment Emergent Adverse Events of Special Interest (AESI) by MedDRA System Organ Class and Preferred Term
Protocol: MMV_MMV533_20_01
Population: Safety Set

System Organ Class (SOC) Preferred Term (PT)	Treatment (N=X) Nr(%) of Volunteers	Treatment (N=X) Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Treatment (N=X) Nr of TEAEs	Treatment (N=X) Nr(%) of Volunteers	Treatment (N=X) Nr of TEAEs
All Body Systems	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
SOC2	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT1	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
PT2	X (XX.X%)	X				
….	….	…	….	…	….	…
PTx	X (XX.X%)	X	X (XX.X%)	X	X (XX.X%)	X
……..						

Source: Listing X
Adverse events were coded to System Organ Class (SOC) and Preferred Term (PT) using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
A treatment-emergent adverse event (TEAE) is defined as an adverse event that occurred or worsened following administration of the IMP.
If a participant has multiple occurrences of an AE, the participant is presented only once in the Nr(%) column. Occurrences are counted each time in the Nr of TEAEs column.
Percentages based on the number of volunteers in the relevant population

Database Export Date: YYYY-MM-DD
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Table XX - Summary of Concomitant Medications
Protocol: MMV_MMV533_20_01
Population: Safety Set

Anatomical Therapeutic Chemical (ATC) Level 3 Preferred Name (PN)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Number of volunteers reporting at least one concomitant medication	X (XX.X%)	X (XX.X%)	X (XX.X%)
Number of concomitant medications reported	X	X	X
ATC1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN2	X (XX.X%)	X (XX.X%)	X (XX.X%)
….			
PNx	X (XX.X%)	X (XX.X%)	X (XX.X%)
ATC2	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN1	X (XX.X%)	X (XX.X%)	X (XX.X%)
PN2	X (XX.X%)	X (XX.X%)	X (XX.X%)
….			
PNx	X (XX.X%)	X (XX.X%)	X (XX.X%)
……..			

Source: Listing X
Medications were coded to preferred name and ATC class using WHO DD version 20YY:MM (ATC Class Level 3)
Percentages based on the number of subjects in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Haematology Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Measured Values						Change from Baseline						Out of NR Count		
Dose Group	Parameter (unit)	Visit	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max	L	N	H
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X	X	X.XX	X.XX	X.XX	X.X	X.X	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.
Percentages based on the number of subjects in the relevant population.
NA = Not Applicable; SD = Standard Deviation; NR = Normal Ranges; L = Low; N = Normal; H = High.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Cross-Tabulation of Haematology Abnormalities Versus Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

Dose Group	Parameter (unit)	Visit		Baseline				
				Low	Normal	High	Missing	Total
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	Low	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Normal	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			High	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Missing	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Total	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)

Source: Listing X
Baseline is defined as the last scheduled observation prior to the first IMP administration.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Biochemistry Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Measured Values						Change from Baseline						Out of NR Count		
Dose Group	Parameter (unit)	Visit	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max	L	N	H
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X	X	X.XX	X.XX	X.XX	X.X	X.X	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.
Percentages based on the number of subjects in the relevant population.
NA = Not Applicable; SD = Standard Deviation; NR = Normal Ranges; L = Low; N = Normal; H = High.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Cross-Tabulation of Biochemistry Abnormalities Versus Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

Dose Group	Parameter (unit)	Visit		Baseline				
				Low	Normal	High	Missing	Total
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	Low	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Normal	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			High	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Missing	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)
			Total	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)	X (X.X%)

Source: Listing X
Baseline is defined as the last scheduled observation prior to the first IMP administration.
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Liver Function: Summary of Volunteers Potentially Clinically Significant Abnormality During Inoculation Period
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Visit	Parameter (unit)	PCSA Criteria	Treatment (N=X) n/N1(%)	Treatment (N=X) n/N1(%)	Treatment (N=X) n/N1(%)
XXXX	ALT (xxx)	>3 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>5 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>8 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	AST (xxx)	>3 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>5 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>8 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	ALT, AST	ALT or AST >3 x ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	Total Bilirubin	>2 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	ALT, AST, TBILI, DBILI	ALT or AST >3 x ULN TBILI >2 x ULN at the same time point, together with a conjugated bilirubin fraction (DBILI / TBILI) > 35%	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)

Source: Listing X
Percentages based on the number of subjects in the relevant population.
PCSA: Potentially Clinically Significant Abnormality, ULN: Upper Limit Normal; TBILI: Total Bilirubin, DBILI: Direct Bilirubin
n: the total number of patients who met the PCSA criterion at the visit of interest
N1: the number of patients for the treatment group who had that parameter assessed post-baseline at the visit of interest
Inoculation period is defined as the time from the inoculum injection (Day-8) to the day before the IMP/rescue medication administration (for those who didn't receive IMP) (Day-1) visit (included)

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Liver Function: Summary of Volunteers Potentially Clinically Significant Abnormality Post IMP Administration
Protocol: MMV_MMV533_20_01
Population: Safety Set

Visit	Parameter (unit)	PCSA Criteria	Treatment (N=X) n/N1(%)	Treatment (N=X) n/N1(%)	Treatment (N=X) n/N1(%)
XXXX	ALT (xxx)	>3 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>5 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>8 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	AST (xxx)	>3 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>5 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
		>8 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	ALT, AST	ALT or AST >3 x ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	Total Bilirubin	>2 ULN	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)
	ALT, AST, TBILI, DBILI	ALT or AST >3 x ULN TBILI >2 x ULN at the same time point, together with a conjugated bilirubin fraction (DBILI / TBILI) > 35%	xx/xx (x.x%)	xx/xx (x.x%)	xx/xx (x.x%)

Source: Listing X
Percentages based on the number of subjects in the relevant population.
PCSA: Potentially Clinically Significant Abnormality, ULN: Upper Limit Normal; TBILI: Total Bilirubin, DBILI: Direct Bilirubin
n: the total number of patients who met the PCSA criterion at the visit of interest
N1: the number of patients for the treatment group who had that parameter assessed post-baseline at the visit of interest

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Liver Function: Summary of Peak Readings During Inoculation Period
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Parameter (unit)	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
ALT (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
AST (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Total Bilirubin (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X

Source: Listing XX
SD: Standard Deviation
Inoculation period is defined as the time from the inoculum injection (Day-8) to the day before the IMP/rescue medication (for those who didn't receive IMP) administration (Day-1) visit (included)

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Liver Function: Summary of Peak Readings Since IMP Administration
Protocol: MMV_MMV533_20_01
Population: Safety Set

Parameter (unit)	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
ALT (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
AST (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Total Bilirubin (unit)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X

Source: Listing XX
SD: Standard Deviation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Liver Function: Summary of Time to Peak Readings Since IMP Administration in Days During Inoculation Period
Protocol: MMV_MMV533_20_01
Population: Safety Set

Parameter (unit)	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Time to Peak ALT (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Time to Peak AST (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Time to Peak Total Bilirubin (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X

Source: Listing XX
SD: Standard Deviation

Database Export Date: YYYY-MM-DD
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Table XX - Liver Function: Summary of Time to Peak Readings Since IMP Administration in Days
Protocol: MMV_MMV533_20_01
Population: Safety Set

Parameter (unit)	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Time to Peak ALT (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Time to Peak AST (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Time to Peak Total Bilirubin (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X

Source: Listing XX
SD: Standard Deviation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Urinalysis (Continuous) Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Measured Values						Change from Baseline						Out of NR Count		
Dose Group	Parameter (unit)	Visit	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max	L	N	H
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X	X	X.XX	X.XX	X.XX	X.X	X.X	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.
Percentages based on the number of subjects in the relevant population.
NA = Not Applicable; SD = Standard Deviation; NR = Normal Ranges; L = Low; N = Normal; H = High.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Urinalysis (Categorical) Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Visit						
Dose Group	Parameter (unit)	Category	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Vital Signs Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

				Measured Values						Change from Baseline					
Dose Group	Parameter (unit)	Visit	Timepoint	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X	X	X.XX	X.XX	X.XX	X.X	X.X

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Abnormal Vital Signs Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

					Clinical Assessment	
Dose Group	Parameter (unit)	Visit	Timepoint	Position	Abnormal - NCS	Abnormal - CS
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	XXXX	XXXX	X (X.X%)	X (X.X%)

Source: Listing X
Percentages based on the number of subjects in the relevant population.
NCS = Not Clinically Significant; CS = Clinically Significant.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Body Measures
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Measured Values						Change from Baseline					
Dose Group	Parameter (unit)	Visit	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X	X	X.XX	X.XX	X.XX	X.X	X.X

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - ECG Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

				Measured Values						Change from Baseline					
Dose Group	Parameter (unit)	Visit	Timepoint	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X						

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - ECG QTc Categorical Analyses
Protocol: MMV_MMV533_20_01
Population: Safety Set

ECG Parameter	Category (outside normal range)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
QTcB	Prolongation >30 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	Prolongation >60 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	>450 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	>480 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
QTcF	Prolongation >30 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	Prolongation >60 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	>450 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
	>480 msec	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)

Source: Listing X
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - ECG Clinical Assessment
Protocol: MMV_MMV533_20_01
Population: Safety Set

				Clinical Assessment			
Dose Group	Parameter (unit)	Visit	Timepoint	Normal	Abnormal NCS	Abnormal CS	Not Done
Treatment (N=X)	XXXXXXXX (xxx)	XXXX	XXXX	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)

Source: Listing X
Percentages based on the number of subjects in the relevant population.
NA = Not Applicable; NCS = Not Clinically Significant; CS = Clinically Significant.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX - Malaria Clinical Score Summary by Question
Protocol: MMV_MMV533_20_01
Population: Safety Set

			Visit						
Dose Group	Question	Reply	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
Treatment (N=X)	Headache	Absent (0)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
		Mild (1)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
		Moderate (2)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
		Severe (3)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)	X (XX.X%)
	:	:							

Programming Note: Include all questions under Malaria Clinical Score questionnaire.

Source: Listing X
Percentages based on the number of volunteers in the relevant population.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Malaria Clinical Total Score Results and Change from Baseline
Protocol: MMV_MMV533_20_01
Population: Safety Set

		Measured Values						Change from Baseline					
Dose Group	Visit	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max
Treatment (N=X)	XXXX	X	X.XX	X.XX	X.XX	X.X	X.X						

Source: Listing X
SD: Standard Deviation
Baseline is defined as the last scheduled observation prior to the first IMP administration.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Peak Total Malaria Clinical Score and Time to Peak Total Malaria Clinical Score by Subject
Protocol: MMV_MMV533_20_01
Population: Safety Set

Dose Group	Volunteer	Total Malarial Clinical Score at IMP Dosing	Peak Total Malaria Clinical Score During Study	Time of Peak Malaria Clinical Total Score	
				Study Days/s[a]	Days after IMP[b]
Treatment A	XXX	XXX	XXX	Day X	Day X
	XXX	XXX	XXX	Day X	Day X
Treatment B	XXX	XXX	XXX	Day X	Day X
	XXX	XXX	XXX	Day X	Day X

Source: Listing XX
[a] Study days is related to the day when the subject signed the informed consent.
[b] Days after IMP is related to the day since the IMP is administered.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Table XX – Summary Peak Total Malaria Clinical Score and Time to Peak Total Malaria Clinical Score
Protocol: MMV_MMV533_20_01
Population: Safety Set

Parameter	Statistic	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)	Treatment (N=X)
Peak Malaria Clinical Total Score					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X
Time to Peak Malaria Clinical Total Score (days)					
	n	X	X	X	X
	Mean	X.X	X.X	X.X	X.X
	Median	X.X	X.X	X.X	X.X
	SD	X.X	X.X	X.X	X.X
	Minimum	X	X	X	X
	Maximum	X	X	X	X

Source: Listing XX
SD: Standard Deviation

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

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Notes:

- Dose group names:
    - MMV 533 (20 mg)
    - MMV 533 (35 mg)
    - MMV 533 (100 mg)
    - MMV 533 (160 mg)
- Ordering of "Individual Safety" data:
    - Dose group – Present as sub-heading rather than separate column
    - Volunteer (ascending)
    - Parameter/Assessment
        - Non-laboratory to be ordered as ordered on the CRF
        - Laboratory parameters to be ordered alphabetically
    - Visit (chronological)
    - Timepoint (chronological)
- Ordering of all other data:
    - Gose group – Present as sub-heading rather than separate column
    - Volunteer (ascending)
    - Visit (chronological)
    - Timepoint (chronological)
    - Assessment (alphabetical)
- Footnotes may be added/amended as required
- Column widths and text-wrapping may be altered in final output to best present the data.
- Dates and Times
    - Date and times will be presented in ISO format:
        - Date: YYYY-MM-DD
        - Time: HH:MM (24-hour clock)
        - Date Time: YYYY-MM-DD / HH:MM or YYYY-MM-DD (XX) / HH:MM (If Study Day is included)
          For a Date/Time field, if there is no time then only the date portion will be presented
- Results may be split over multiple pages if all columns cannot be fit onto a single page.
- If there is no data for a particular listing (for example, SAEs, etc.), populate the listing with "No Serious Treatment Emergent Adverse Events reported."
- Refer to Statistical Deliverables document for output numbering

Listing XX - Study Enrolment and Completion/Discontinuation
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Date/Time of Informed Consent (YYYY-MM-DD / HH:MM)	Protocol Version	Date/Time of Inoculation (YYYY-MM-DD / HH:MM)	Date/Time of IMP Treatment (YYYY-MM-DD / HH:MM)	Date/Time of Rescue Medication Administered (YYYY-MM-DD / HH:MM)	Did the Volunteer Complete the Study?	Date of Completion/Early Termination (YYYY-MM-DD)	Primary Reason for Study Discontinuation / Related to COVID-19
Dose Group								
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	Yes	YYYY-MM-DD	XXXXXX / No
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	Yes	YYYY-MM-DD	XXXXXX / No
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	Yes	YYYY-MM-DD	XXXXXX / No
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	No	YYYY-MM-DD	XXXXXX / No
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	Yes	YYYY-MM-DD	XXXXXX / No
XXXX	YYYY-MM-DD / HH:MM	XXXXXX	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	YYYY-MM-DD / HH:MM	Yes	YYYY-MM-DD	XXXXXX / No

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Visit Dates
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) of Visit

Dose Group
XXXX

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Dose Group Assignment
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Note for Programmer: Do not group by Dose Group. Sort by Volunteer Number only (ascending)

Volunteer Number	Dose Group
XXXX	

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Protocol Deviations
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	PD No.	Date of Deviation (d) (YYYY-MM-DD (XX))	COVID-19 Related Deviation/ Describe/ Visit Relates to	Deviation Classification/ Deviation Category	Deviation Description	Action Required/ Outcome	Ethics Committee Reported/ Date of Reporting (d) (YYYY-MM-DD (XX))
Dose Group							
XXXX	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Major/ Informed Consent	Abcd	Abcd/ Efgh	No
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Eligibility	Abcd	Abcd/ Efgh	Yes/ YYYY-MM-DD (XX)
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Study Procedure Not Done	Abcd	Abcd/ Efgh	No
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Visit Performed Outside of Window	Abcd	Abcd Abcd/ Efgh	No
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Study Procedure Done out of Window	Abcd	Abcd/ Efgh	No
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Safety Reporting	Abcd	Abcd/ Efgh	No
	X	YYYY-MM-DD (XX)	Yes / No/ XXXXX/ Day X	Minor/ Concomitant Medication	Abcd	Abcd/ Efgh	No

Notes: Description of Protocol Deviation presented as verbatim. PD No. = Protocol deviation number.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Analysis Population Assignment
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Full Analysis Set	Safety Set	PK Analysis Set	PD Analysis Set	PK/PD Analysis Set	Inoculation Set
Dose Group						
XXXX	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Full Analysis Set: All enrolled volunteers
Safety Set: All enrolled volunteers who received at least one dose (full or partial) of IMP
PK Analysis Set: All volunteers with at least one available valid (i.e. not flagged for exclusion) PK concentration measurement, who received any study treatment and experienced no protocol deviations with relevant impact on PK data
PD Analysis Set: All volunteers with any available PD data, who received any study treatment and experienced no protocol deviations with relevant impact on PD data
PK/PD Analysis Set: All volunteers from the PK set and all subjects from the PD set
Inoculation Set: All volunteers inoculated with the P. falciparum challenge agent

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - In Patient Facility Admission and Discharge
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Date (d) / Time of Admission (YYYY-MM-DD (XX) HH:MM)	Date (d) / Time of Discharge (YYYY-MM-DD (XX) HH:MM)
Dose Group		
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM
XXXX	YYYY-MM-DD (XX)/ HH:MM	YYYY-MM-DD (XX)/ HH:MM

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Demographics
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Age (Years)	Sex	Is the Volunteer of Childbearing Potential?/ Is the Volunteer menopausal?	Race	Ethnicity	Height (cm) [Screening / Day -1]	Weight (kg) [Screening / Day -1]	Body Mass Index (kg/m^2)
Dose Group								
XXXX	XX	Female	No/No	White	Not Hispanic or Latino	XXX	XX.X / XX.X	XX.X / XX.X
XXXX	XX	Male	-	Asian	Not Hispanic or Latino	XXX	XX.X / XX.X	XX.X / XX.X
XXXX	XX	Female	Yes/No	Other: XXXX	Not Hispanic or Latino	XXX	XX.X / XX.X	XX.X / XX.X
XXXX	XX	Male	-	Black or African American	Not Hispanic or Latino	XXX	XX.X / XX.X	XX.X / XX.X
…								

Notes: Age at Screening visit

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Eligibility (Inclusion and Exclusion Criteria)
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Did the volunteer meet ALL inclusion criteria and NO exclusion criteria?
Dose Group		
XXXX	Day -1	Yes
	Day 1	No: Inclusion

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Medical History
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	MH No	Medical History Verbatim / System Organ Class / Preferred Term	Start Date of Medical History Event (YYYY-MM-DD)	End Date of Medical History Event (YYYY-MM-DD)	Volunteer Taking Medication for The Medical History Event?
Dose Group					
XXXX	X	XXXXXXXXXXXXX / XXXXXXXXXXXXXXX / XXXXXXXXXXXXXXXXX	YYYY-MM-DD	Ongoing	Yes
XXXX	X	XXXXXXXXXXXXX / XXXXXXXXXXXXXXX / XXXXXXXXXXXXXXXXX	YYYY-UNK-UN	YYYY-UNK-UN	No
XXXX	etc.			-	

Notes: Medical conditions were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
UN = Unknown day; UNK= Unknown month; UNKK = Unknown year; MH No: Medical History Number; UN: Unknown

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Beck Depression Index (BDI-2)
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) / Time of Completion (YYYY-MM-DD (XX) / HH:MM)	Question	Result
Dose Group				
XXXX	Visit	YYYY-MM-DD (XX) / HH:MM	1. Sadness	0 I do not feel sad
			2. Pessimism	1 I feel more discouraged about my future than I used to be.
			….	
			21. Loss of Interest in Sex	
			Total Score	**XX**
	Visit	Not Done: XXXXX		

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Pregnancy Test
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set (Women of Childbearing Potential Only)

Volunteer Number	Visit	Date (d) / Time of Pregnancy Test (YYYY-MM-DD (XX) HH:MM)	Sample Type	Result
Dose Group				
XXXX	Screening	YYYY-MM-DD (XX) HH:MM	Urine	Negative

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Follicile Stimulating Hormone (FSH)
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set (Post-menopausal women only)

Volunteer Number	Visit	Date (d) / Time of Sampling (YYYY-MM-DD (XX) / HH:MM)	Result (IU/L)

Dose Group

XXXX

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Serology Screening
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) / Time of Sampling (YYYY-MM-DD (XX) / HH:MM)	Parameter	Result
Dose Group				
XXXX	Visit	YYYY-MM-DD (XX)		

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Coagulation Screening
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Parameter (unit)	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Range Indicator	Clinical Significance
Dose Group							
XXXX	Parameter (unit)	Screening	YYYY-MM-DD(XX) / HH:MM	Yes/No	X.XX	-	-
	Parameter (unit)	Screening	YYYY-MM-DD(XX) / HH:MM	Yes/No	X.XX	H	NCS
XXXX	Parameter (unit)	Screening	Not Done: Reason	Yes/No	-	-	-

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Urine Drug Screening
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) / Time of Drug Assessment (YYYY-MM-DD (XX) HH:MM)	Parameter	Result
Dose Group				
XXXX	Screening	YYYY-MM-DD (XX) HH:MM	Amphetamines	Negative
			Benzodiazepines	Negative
			Cocaine	Negative
			Methadone	Not Done
			…	
			Paracetamol	Negative

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Alcohol Breath Test
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) / Time of Assessment (YYYY-MM-DD (XX) HH:MM)	Result
Dose Group			
XXXX	Screening	YYYY-MM-DD (XX) HH:MM	XXXXX

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Positive SARS-CoV-2
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Date (d) / Time of Test (YYYY-MM-DD (XX) HH:MM)	Type of Test
Dose Group			
XXXX	Screening	YYYY-MM-DD (XX) HH:MM	XXXX

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Prior Medications
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Med No	Medication Name Verbatim/ Preferred Name*/ ATC Class*	Start Date (d) / Start Time / End Date (d) / End Time	Dose (unit)	Route	Frequency	Indication / Indication Category
Dose Group							
XXXX	X	XXXXXX / XXXXXXXX / XXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	XX (xx)	Abcd	Abcd	Abcd / Abcd
XXXX	X	XXXXXX / XXXXXXXX / XXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	XX (xx)	Abcd	Abcd	Abcd / Abcd

Notes: *Medications were coded to preferred name and ATC class using WHO DD version 20YY:MM (ATC Class Level 3)
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Prior medications with an end date after the administration of IMP are also classified as concomitant medication.
Med No: Medication Number; UN: Unknown

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Concomitant Medications
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Med No	Medication Name Verbatim/ Preferred Name*/ ATC Class*	Start Date (d) / Start Time / End Date (d) / End Time	Dose (unit)	Route	Frequency	Indication / Indication Category
Dose Group							
XXXX	X	XXXXXX / XXXXXXXX / XXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	XX (xx)	Abcd	Abcd	Abcd / Abcd
XXXX	X	XXXXXX / XXXXXXXX / XXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	XX (xx)	Abcd	Abcd	Abcd / Abcd

Notes: *Medications were coded to preferred name and Anatomical Therapeutic Class (ATC) using WHO DD version 2018:03 (ATC Class Level 3)
Study Day (d): Number of days relative to date of first administration of Investigational Medicinal Product (IMP), where the day of first administration = 1.
Medications with a start date prior to administration of IMP were also classified as prior medications.
Med No: Medication Number; UN: Unknown

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Malaria Challenge Agent Administration
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Was Malaria Challenge Agent Administered?	Date (d) / Time of Inoculation (YYYY-MM-DD (XX) / HH:MM)	Total Volume of Inoculation Administered (mL)
Dose Group				
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX
XXXX	Day 1	No: XXXX		XX
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX
…				

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Study Drug Administration
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	Visit	Was IMP Administered?	Date (d) / Start Time of Administration (YYYY-MM-DD (XX) / HH:MM)	Total Amount Administered (mg)	Was Volunteer fasted for at least 8 hours?
Dose Group					
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX	Yes
XXXX	Day 1	No: XXXX		XX	Yes
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX	Yes
XXXX	Day 1	Yes	YYYY-MM-DD (XX) / HH:MM	XX	Yes
…					

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Pharmacokinetic Concentrations
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Programming Note: Repeat for metabolites (MMV022 and MMV023). Replace Plasma to Metabolite in Matric and replace MMV533 with MMV022 and MMV023 accordingly.

Matric: Plasma; Analyte: MMV533

		Concentration (units)				
Volunteer Number	Visit	Pre-dose	0.5h	1h	2h	…..
Dose Group						
XXXX	Day 1					
XXXX	Day 1					
XXXX	Day 1					
XXXX	Day 1					
…						

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Pharmacokinetic Parameters
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Programming Note: Repeat for metabolites (MMV022 and MMV023). Replace Plasma to Metabolite in Matric and replace MMV533 with MMV022 and MMV023 accordingly.

Matric: Plasma; Analyte: MMV533

Volunteer Number	$AUC_{0-\infty}$ (unit)	…	…	t_{max} (unit)
Dose Group				
XXXX				
XXXX				
XXXX				
XXXX				
…				

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Pharmacodynamics Parameters
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Programming Notes:
- Individual values for 18S qPCR with nominal timepoints and actual sampling times will be presented in data listings for all subjects.

Matric: Plasma; Analyte: MMV533

Volunteer Number	Visit	Timepoint	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	CP of PCR Replicates	Calculated Parasites/ 500µl of Packed RBCs	Geometric Mean of Parasites/ 500µl of Packed RBCs
Dose Group						
XXXX	Day -8	Pre inoculation	YYYY-MM-DD(XX) / HH:MM	ND	ND	XX
				ND	ND	
				XX	XX	
…						

Notes: ND: Non-detected.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Pharmacodynamic – Parasitemia and Parasite Life Cycle Stages
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Volunteer Number	Parameter (unit)	Visit	Timepoint	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	CP of PCR Replicates	Copies of transcripts/ 500µl pRBCs	Geometric Mean of Copies of transcripts/ 500µl pRBCs
Dose Group							
XXXX	18S qPCR (unit)	Day -8	Pre inoculation	YYYY-MM-DD(XX) / HH:MM	ND XX	ND XX	XX
		Day -4		YYYY-MM-DD(XX) / HH:MM	XX XX	XX XX	XX
		Day -3	am	YYYY-MM-DD(XX) / HH:MM	XX	XX	XX
			pm	YYYY-MM-DD(XX) / HH:MM	XX		

Programming Notes:
- Individual values for total parasitemia (18S qPCR) and parasite life cycle stages (pfs25, pfMGET and sbp1 qRT-PCR) with nominal timepoints and actual sampling times will be presented in data listings for all subjects.

Notes: ND: Non-detected.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Adverse Events
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Programming Notes:
- For the first draft, fit all columns to the one page, adjusting the font no less than 8pt. Page margins may also be narrowed to aide in formatting.
- If time is unknown then present date only

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Start Date (d) / Start Time / End Date (d) / End Time	IETE/ TEAE/ SAE	Severity / Action Taken with IMP / Other Actions Taken / Outcome	Related to: IMP / Rescue Medication / Malaria Challenge Agent / Procedure	AE Lead to Study Discontinuation / COVID-19 Related
Dose Group							
XXXX	X	XXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXXXX*	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	Yes/ No/ No	Grade 1 - Mild / No Action taken / Medical/Surgical Procedure Taken: XXXX / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	Yes/ Yes/ No	Grade 1 - Mild / No Action taken / Medication Taken; Medical/Surgical Procedure Taken: XXXX Other Action Taken: YYYYY / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
A treatment-emergent adverse event is defined as an AE that occurred on or worsened following first administration of IMP
An inoculum-emergent adverse event is defined as an AE that occurred on of worsened following the administration of the challenge agent for the inoculation up to the end-of-study (EOS) visit (inclusive).
AE No: Adverse Event Number; IMP: Investigational Medicinal Product SAE: serious adverse event; IEAE: Inoculum-emergent adverse event; TEAE: Treatment-emergent adverse event
*indicates AE occurred during inoculation period.

Database Export Date: YYYY-MM-DD Page X of Y
Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Listing XX – Malaria Challenge Agent Related Inoculum Emergent Adverse Events
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Programming Notes:
- For the first draft, fit all columns to the one page, adjusting the font no less than 8pt. Page margins may also be narrowed to aide in formatting.
- If time is unknown then present date only

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Start Date (d) / Start Time / End Date (d) / End Time	SAE	Severity / Action Taken with IMP / Other Actions Taken / Outcome	Related to: IMP / Rescue Medication / Malaria Challenge Agent / Procedure	AE Lead to Study Discontinuation / COVID-19 Related
Dose Group							
XXXX	X	XXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXXXX*	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No / No	Grade 1 - Mild / No Action taken / Medical/Surgical Procedure Taken: XXXX / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	Yes / No	Grade 1 - Mild / No Action taken / Medication Taken; Medical/Surgical Procedure Taken: XXXX Other Action Taken: YYYYY / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
An inoculum-emergent adverse event is defined as an AE that occurred on of worsened following the administration of the challenge agent for the inoculation up to the end-of-study (EOS) visit (inclusive).
AE No: Adverse Event Number; IMP: Investigational Medicinal Product SAE: serious adverse event;
*indicates AE occurred during inoculation period.

Database Export Date: YYYY-MM-DD Page X of Y
Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Listing XX – IMP Related Treatment Emergent Adverse Events
Protocol: MMV_MMV533_20_01
Population: Safety Set

Programming Notes:
- For the first draft, fit all columns to the one page, adjusting the font no less than 8pt. Page margins may also be narrowed to aide in formatting.
- If time is unknown then present date only

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Start Date (d) / Start Time / End Date (d) / End Time	SAE	Severity / Action Taken with IMP / Other Actions Taken / Outcome	Related to: IMP / Rescue Medication / Malaria Challenge Agent / Procedure	AE Lead to Study Discontinuation / COVID-19 Related
Dose Group							
XXXX	X	XXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXX*/ XXXXXXXXXXXXXXXXXXXXX*	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No / No	Grade 1 - Mild / No Action taken / Medical/Surgical Procedure Taken: XXXX / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	Yes / No	Grade 1 - Mild / No Action taken / Medication Taken; Medical/Surgical Procedure Taken: XXXX Other Action Taken: YYYYY / Recovered/Resolved	Related / Not Related / Not Related / Not Related	No / No

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
A treatment-emergent adverse event is defined as an AE that occurred on or worsened following first administration of IMP
AE No: Adverse Event Number; IMP: Investigational Medicinal Product SAE: serious adverse event;
*indicates AE occurred during inoculation period.

Database Export Date: YYYY-MM-DD
Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Listing XX – Inoculum Emergent Serious Adverse Events
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Programming Notes:
- If there is no record for SAE, please display as" "No Serious Adverse Event Reported".
- If time is unknown then present date only

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Overall AE Start Date (d) / Start Time / End Date (d) / End Time	SAE Start Date (d) / Start Time / End Date (d) / End Time	Death?	Life Threatening?	Prolonged Hospitalisation?	Persistent or Significant Disability of Incapacity	Congenital Anomaly of Birth Defect	Possible Hy's Law	Other Medically Important Event
Dose Group											
XXXX	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	No	Yes	No	No	No	No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	No	No	No	No	No	Yes: XXXX

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
An inoculum-emergent adverse event is defined as an AE that occurred on of worsened following the administration of the challenge agent for the inoculation up to the end-of-study (EOS) visit (inclusive).
AE No: Adverse Event Number; SAE: serious adverse event

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Treatment Emergent Serious Adverse Events
Protocol: MMV_MMV533_20_01
Population: Safety Set

Programming Notes:
- If there is no record for SAE, please display as" "No Serious Adverse Event Reported".
- If time is unknown then present date only

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Overall AE Start Date (d) / Start Time / End Date (d) / End Time	SAE Start Date (d) / Start Time / End Date (d) / End Time	Death?	Life Threatening?	Prolonged Hospitalisation?	Persistent or Significant Disability of Incapacity	Congenital Anomaly of Birth Defect	Possible Hy's Law	Other Medically Important Event
Dose Group											
XXXX	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	No	Yes	No	No	No	No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	No	No	No	No	No	Yes: XXXX

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
A treatment-emergent adverse event is defined as an AE that occurred on or worsened following first administration of IMP.
AE No: Adverse Event Number; SAE: serious adverse event

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Inoculum Emergent Adverse Events Leading to Study Discontinuation
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Start Date (d) / Start Time / End Date (d) / End Time	SAE	Severity / Action Taken with IMP / Other Actions Taken / Outcome	Related to: IMP / Rescue Medication / Malaria Challenge Agent / Procedure	AE Lead to Study Discontinuation / COVID-19 Related
Dose Group							
XXXX	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	Grade 1 - Mild / No Action taken / Medical/Surgical Procedure Taken: XXXX / Recovered/Resolved	Related / Not Related / Not Related / Not Related	Yes / No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	No	Grade 1 - Mild / No Action taken / Medication Taken; Medical/Surgical Procedure Taken: XXXX Other Action Taken: YYYYY / Recovered/Resolved	Related / Not Related / Not Related / Not Related	Yes / No

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
An inoculum-emergent adverse event is defined as an AE that occurred on of worsened following the administration of the challenge agent for the inoculation up to the end-of-study (EOS) visit (inclusive)
AE No: Adverse Event Number; IMP: Investigational Medicinal Product SAE: serious adverse event; TEAE: Treatment-emergent adverse event

Database Export Date: YYYY-MM-DD Page X of Y
Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Programming Notes:
- For the first draft, fit all columns to the one page, adjusting the font no less than 8pt. Page margins may also be narrowed to aide in formatting.
- If time is unknown then present date only

Listing XX – Treatment Emergent Adverse Events Leading to Study Discontinuation
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	AE No	Adverse Event Verbatim/ System Organ Class/ Preferred Term	Start Date (d) / Start Time / End Date (d) / End Time	SAE	Severity / Action Taken with IMP / Other Actions Taken / Outcome	Related to: IMP / Rescue Medication / Malaria Challenge Agent / Procedure	AE Lead to Study Discontinuation / COVID-19 Related
Dose Group							
XXXX	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / DD-MMM-YYYY (xx) / HH:MM	No	Grade 1 - Mild / No Action taken / Medical/Surgical Procedure Taken: XXXX / Recovered/Resolved	Related / Not Related / Not Related / Not Related	Yes / No
	X	XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXXXXXXXX	DD-MMM-YYYY (xx) / HH:MM / Ongoing	No	Grade 1 - Mild / No Action taken / Medication Taken; Medical/Surgical Procedure Taken: XXXX Other Action Taken: YYYYY / Recovered/Resolved	Related / Not Related / Not Related / Not Related	Yes / No

Notes: Adverse events were coded using the Medical Dictionary for Regulatory Activities (MedDRA) Version XX.X.
Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
A treatment-emergent adverse event is defined as an AE that occurred or worsened following first administration of IMP
AE No: Adverse Event Number; IMP: Investigational Medicinal Product SAE: serious adverse event; TEAE: Treatment-emergent adverse event

Database Export Date: YYYY-MM-DD Page X of Y
Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Programming Notes:
- For the first draft, fit all columns to the one page, adjusting the font no less than 8pt. Page margins may also be narrowed to aide in formatting.
- If time is unknown then present date only

Listing XX – Inoculum Emergent Adverse Events of Special Interest (AESIs)
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Listing to take same format as the Inoculum Emergent Adverse Events listing, restricted to AESIs only

Listing XX – Treatment Emergent Adverse Events of Special Interest (AESIs)
Protocol: MMV_MMV533_20_01
Population: Safety Set

Listing to take same format as the Treatment Emergent Adverse Events listing, restricted to AESIs only

Listing XX - Adverse Events During Inoculation Period
Protocol: MMV_MMV533_20_01
Population: Full Analysis Set

Listing to take same format as the Inoculum Emergent Adverse Events listing

Listing XX - Deaths
Protocol: MMV_MMV533_20_01
Population: Safety Set

Programming Note:
• Listing only to be prepared if there is one or more death reported.

Volunteer Number	Date (d) of Death (YYYY-MM-DD)	Primary Cause of Death
Dose Group		
XXXX	YYYY-MM-DD(XX)	

Notes: Study Day (d): Number of days relative to date of first administration of IUIMP, where the day of first administration = 1.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Haematology Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Actual Change from Baseline	Range Indicator	Clinical Significance
Dose Group								
XXXX	Parameter (unit) [XXX-XXX]	Screening	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	-	-
		Day -1	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	H	NCS
		XXXX	Not Done: Reason	-	-	-	-	-
		XXXX	YYYY-MM-DD(XX) / HH:MM	No	X.XX	X.XX	-	-

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Haematology Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Range Indicator	Clinical Significance
Dose Group							
XXXX	Parameter (unit) [XXX-XXX]	Day -1	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	H	NCS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Biochemistry Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Actual Change from Baseline	Range Indicator	Clinical Significance
Dose Group								
XXXX	Parameter (unit) [XXX-XXX]	Screening	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	-	-
		Day -1	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	H	NCS
		XXXX	Not Done: Reason	-	-	-	-	-
		XXXX	YYYY-MM-DD(XX) / HH:MM	No	X.XX	X.XX	-	-

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Biochemistry Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Range Indicator	Clinical Significance
Dose Group							
XXXX	Parameter (unit) [XXX-XXX]	Day -1	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	H	NCS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Liver Function Related Parameters
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Actual Change from Baseline	Range Indicator	Clinical Significance
Dose Group								
XXXX	Parameter (unit) [XXX-XXX]	Screening	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	-	-
		Day -1	YYYY-MM-DD(XX) / HH:MM	Yes	X.XX	NA	H	NCS
		XXXX	Not Done: Reason	-	-	-	-	-
		XXXX	YYYY-MM-DD(XX) / HH:MM	No	X.XX*	X.XX	-	-

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant
*Peak Results.

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Coagulation Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Fasting	Result	Range Indicator	Clinical Significance
Dose Group							
XXXX	Parameter (unit) [XXX-XXX]	Day -1	YYYY-MM-DD(XX) / HH:MM	Yes/No	X.XX	H	NCS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Urinalysis Results (dipstick)
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Result	Actual Change from Baseline	Range Indicator	Clinical Significance
Dose Group							
XXXX	Parameter (unit) [XXX-XXX]	Screening	YYYY-MM-DD(XX) / HH:MM	X.XX	NA	-	-
		Day -1	YYYY-MM-DD(XX) / HH:MM	X.XX	NA	H	NCS
		XXXX	Not Done: Reason	-	-	-	-
		XXXX	YYYY-MM-DD(XX) / HH:MM	X.XX	X.XX	-	-

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Urinalysis Results (dipstick)
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Result	Range Indicator	Volunteer Menstruating?	Clinical Significance
Dose Group							
XXXX	Parameter (unit) [XXX-XXX]	Day -1	YYYY-MM-DD(XX) / HH:MM	X.XX	H	No	NCS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Urine Microscopy Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Result	Actual Change from Baseline	Range Indicator	Was Volunteer Menstruating?	Clinical Significance
Dose Group								
XXXX								

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Urine Microscopy Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit) [Normal Range]	Visit	Date (d) / Time of Sample Collection (YYYY-MM-DD (XX) / HH:MM)	Result	Range Indicator	Clinical Significance
Dose Group						
XXXX						

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; A = Abnormal; E = Eligibility; H = High; HE = High/Eligibility; L = Low; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Vital Signs Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit)	Visit	Timepoint	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Position	Result	Actual Change from Baseline	Clinical Significance
Dose Group								
XXXX				YYYY-MM-DD (XX) / HH:MM				

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Abnormal Vital Signs Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit)	Visit	Timepoint	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Position	Result	Clinical Assessment
Dose Group							
XXXX				YYYY-MM-DD(XX) / HH:MM			NCS CS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual Body Measurement Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit)	Visit	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Result	Actual Change from Baseline
Dose Group					
XXXX			YYYY-MM-DD (XX) / HH:MM		

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX - Individual ECG Parameters Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit)	Visit	Timepoint	Replicate Number	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Result	Actual Change from Baseline	Abnormal Description / Clinical Significance
Dose Group								
XXXX	PR (msec)	XXXX	XXXX	-	YYYY-MM-DD(XX) / HH:MM	XXX	NA	-
		XXXX	XXXX	-	Not Done: Reason	-	-	-
		XXXX	XXXX	1	YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
				2	YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
				3	YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
				Average	-	XXX	XXX	-
		XXXX	XXXX		YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
		XXXX	XXXX		YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
	QRS (msec)	XXXX	XXXX		YYYY-MM-DD(XX) / HH:MM	XXX	-	-
		XXXX	XXXX		YYYY-MM-DD(XX) / HH:MM	XXX	XXX	-
	…….							
	Interpretation	XXXX	XXXX	-	YYYY-MM-DD(XX) / HH:MM	Normal	-	-
		XXXX	XXXX	-	Not Done: Reason	-	-	-
		XXXX	XXXX	-	YYYY-MM-DD(XX) / HH:MM	Abnormal	-	Abcd / CS

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA: Not Applicable; NCS: Not Clinically Significant; CS: Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Programming Note:
- Listing to incorporate both single and triplicate ECG results
- All Parameters, including RR interval (msec), Heart Rate(bpm), PR Interval (msec), QRS Interval (msec), QT Interval (msec), QTcB (msec) and QTcF (msec) will be displayed in this listing.
- In addition, the ECG interpretation will be included as a separate parameter and "Abnormal Description" will be specified if the result if abnormal.

Listing XX - Individual Abnormal ECG Findings
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Parameter (unit)	Visit	Timepoint	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Result	Abnormal Description	Clinical Significance
Dose Group							
XXXX	PR (msec)	XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
	QRS (msec)	XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
		XXXX	XXXX	YYYY-MM-DD(XX) / HH:MM	XXX		
	Etc.						

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
NA = Not Applicable; NCS = Not Clinically Significant; CS = Clinically Significant

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Programming Note:
• The ECG interpretation will be included as a parameter and display in this listing. “Abnormal Description” will be specified if the result if abnormal.

Listing XX - Physical Examination
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Visit	Timepoint	Date (d) / Time of Physical Examination (YYYY-MM-DD (XX) / HH:MM)	Body System	Examination Finding	Description of Abnormal Findings
Dose Group						
XXXX	Screening	XXXX	YYYY-MM-DD (XX) / HH:MM	Respiratory Auscultation	Abnormal NCS	Abcd
				Peripheral Arterial Pulse	Abnormal CS	Abcd
				….		
				Abdomen	Abcd	Abcd
	Visit	XXXX	YYYY-MM-DD (XX) / HH:MM	Heart Auscultation	Abcd	Abcd
				Respiratory Auscultation	Abcd	Abcd
				Peripheral Arterial Pulse	Abcd	Abcd
				….		
				Abdomen	Abcd	Abcd

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
NCS = Not Clinically Significant; CS = Clinically Significant;

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

Listing XX – Malaria Clinical Score Results
Protocol: MMV_MMV533_20_01
Population: Safety Set

Volunteer Number	Timepoint	Date (d) / Time of Assessment (YYYY-MM-DD (XX) / HH:MM)	Signs/Symptoms	Result	Actual Change from Baseline
Dose Group					
XXXX	Pre-inoculation	YYYY-MM-DD (XX) / HH:MM	Headache		
	:		:		
	:		:		
			Total Score		
	30 hours	YYYY-MM-DD (XX) / HH:MM	Headache		
			:		
			:		
			Total Score	xxx*	

Notes: Study Day (d): Number of days relative to date of first administration of IMP, where the day of first administration = 1.
Baseline is defined as the last scheduled observation prior to the IMP administration.
*Peak Total Score

Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: *filepath_name* Created: YYYY-MM-DD HH:MM Page X of Y

MMV_MMV533_20_01: Mock Figures: Table of Contents

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Figure XX: Individual RT-PCR pfs25-time Profiles 5
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Figure XX: Individual RT-PCR SBP-1-time Profiles 5

Notes:

- Unscheduled visits will be excluded from summary tables unless otherwise indicated
- The following footer will be added to all tables:

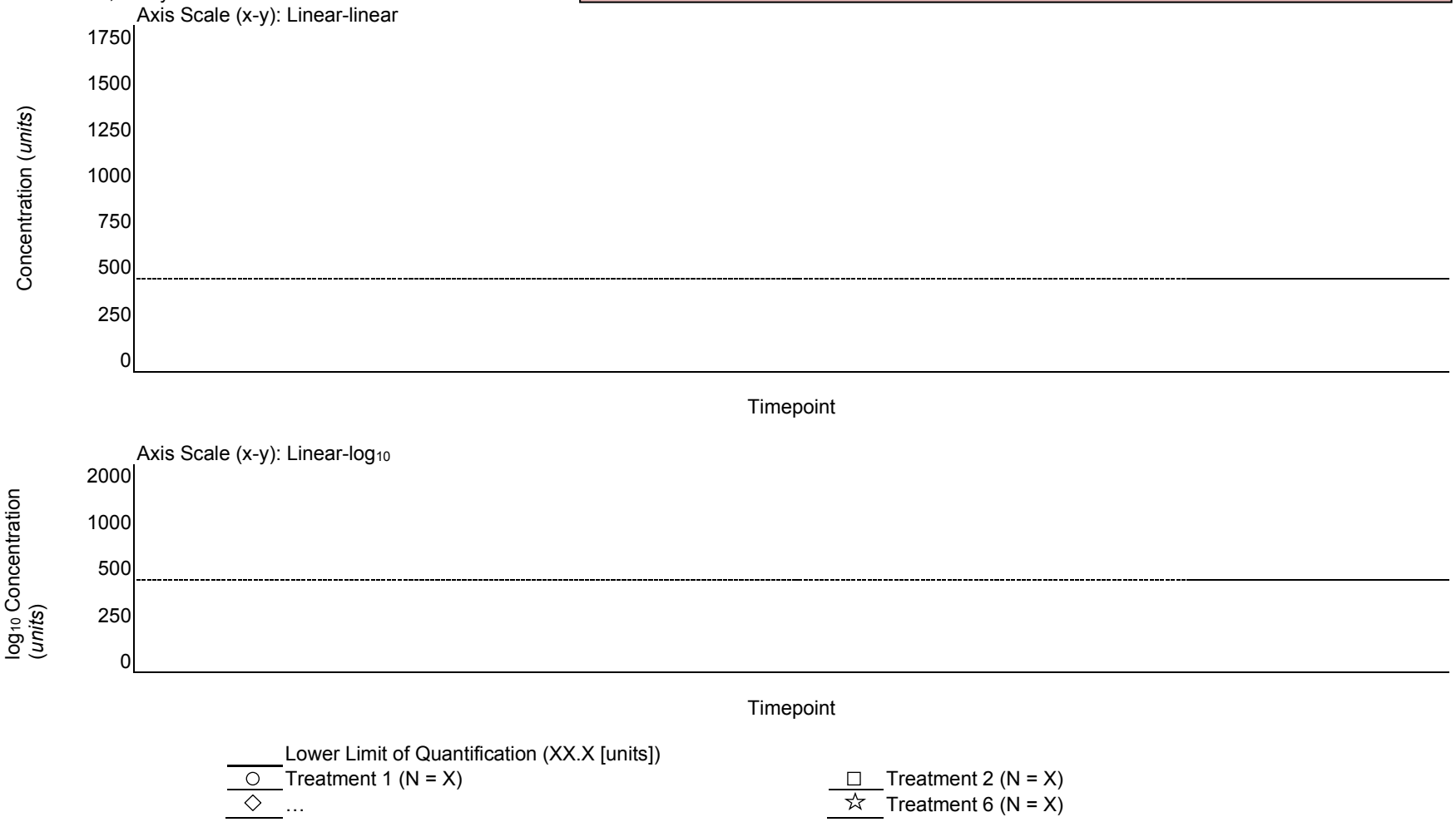
  Database Export Date: YYYY-MM-DD Page X of Y

  Program: filepath_name (Version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM
- Footnotes may be added/amended as required

Figure XX: Arithmetic Mean (+SD) Pharmacokinetic Concentration-time Profiles
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Programming Note: Repeat for metabolites (MMV022 and MMV023). Replace Plasma to Metabolite in Matric and replace MMV533 with MMV022 and MMV023 accordingly.

Matrix: Plasma; Analyte: MMV533

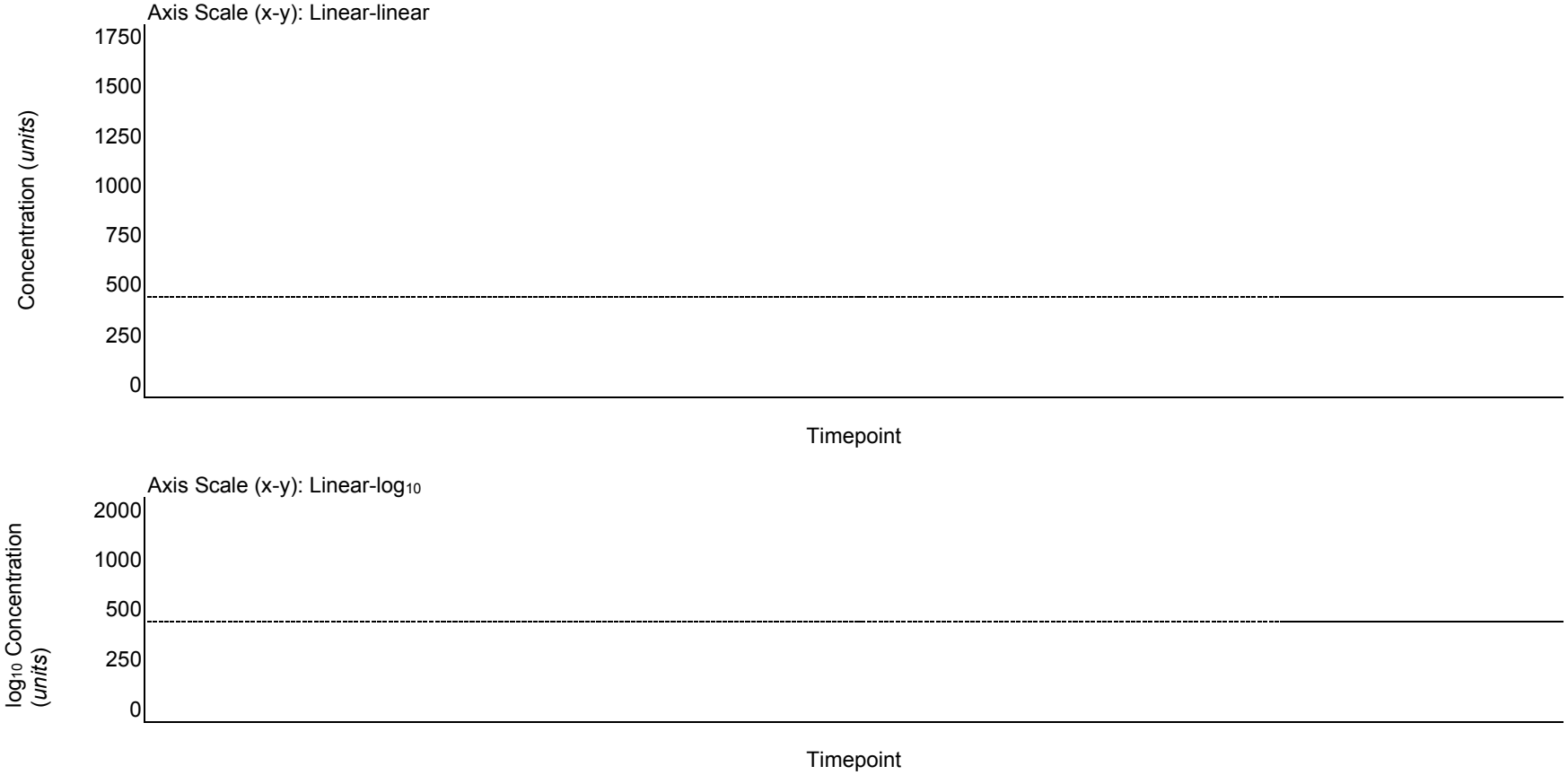


Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Figure XX: Individual Pharmacokinetic Concentration-time Profiles
Protocol: MMV_MMV533_20_01
Population: PK Analysis Set

Programming Note: Repeat for metabolites (MMV022 and MMV023). Replace Plasma to Metabolite in Matric and replace MMV533 with MMV022 and MMV023 accordingly.

Volunteer: xxxxx, Treatment: xxxx mg, Matrix: Plasma; Analyte: MMV533



Database Export Date: YYYY-MM-DD
Program: filepath_name (version x.x), Output: filepath_name Created: YYYY-MM-DD HH:MM

Repeat for the following figures:

Figure XX: Individual qPCR 18s-time Profiles
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Programming Note: The Y-axis should be Geometric Mean of Parasites/ 500µl of Packed RBCs.

Figure XX: Individual RT-PCR pfs25-time Profiles
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Figure XX: Individual RT-PCR pfMGET-time Profiles
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Figure XX: Individual RT-PCR SBP-1-time Profiles
Protocol: MMV_MMV533_20_01
Population: PD Analysis Set

Programming Note: For Female gametocytemia, the Y-axis should be Copies of transcripts/ 500µl pRBCs.

For at least one of the Pfs25/PFMGET/SBP-1 assay sample replicates there is a cases of one replicate being detected and the other being ND or both are ND. In these cases to calculate the geometric mean the ND replicate is replaced with the assay LOD/2. Below is the value for LOD/2.

Pfs25 (Female gametocyte):

Limit of detection (LoD)	1080 Copies of transcripts/ 500µl pRBCs (3.9 gametocytes/mL) **LOD/2** = 540 Copies of transcripts/ 500µl pRBCs

PFMGET (Male gametocyte):

Limit of detection (LoD)	340 Copies of transcripts/ 500µl pRBCs (26.9 gametocytes/mL) **LOD/2** = 170 Copies of transcripts/ 500µl pRBCs

SBP-1 (ring stage):

Limit of detection (LoD)	34000 Copies of transcripts/ 500µl pRBCs ($7.38x10^3$ parasites/mL of whole blood) **LOD/2** = 17000 Copies of transcripts/ 500µl pRBCs

MMV_MMV533_20_01_Statistical Analysis Plan _Final_V1_0_28NOV2022_Package

Final Audit Report 2022-12-01

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By:	Ray Lin (rlin@southernstarresearch.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA7MMchyOum8V0nkH173_YiS-rt83LVmZB

"MMV_MMV533_20_01_Statistical Analysis Plan_Final_V1_0_28 NOV2022_Package" History

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