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# STATISTICAL ANALYSIS PLAN FOR HVTN SAFETY

## Protocol HVTN 805/HPTN 093 (v1.0)

Antiretroviral analytical treatment interruption (ATI) to assess immunologic and virologic responses in participants who initiated ART in early HIV infection after having received VRC01 or placebo in HVTN 703/HPTN 081

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## Statistical Analysis Plan for Safety

**Protocol: HVTN 805/HPTN 083 (v1.0)**

*Document will become effective on date of last signature.*

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## SAP Modification History

The version history of, and modifications to, this statistical analysis plan are described below.

SAP Version	Modification
1.0	Initial
2.0	Add additional tables and figures for DSMB
3.0	Update include <ul style="list-style-type: none"><li>• Using the most recent SAP for HVTN safety template</li><li>• Add elements for safety FSR</li></ul>
4.0	Add back pregnancy listing

## Table of Contents

<b>1</b>	<b>LIST OF ABBREVIATIONS AND ACRONYMS .....</b>	<b>5</b>
<b>2</b>	<b>OVERVIEW .....</b>	<b>5</b>
<b>3</b>	<b>PROTOCOL SUMMARY .....</b>	<b>5</b>
<b>4</b>	<b>SAFETY OBJECTIVES AND ENDPOINTS .....</b>	<b>10</b>
<b>5</b>	<b>COHORT DEFINITION .....</b>	<b>11</b>
<b>6</b>	<b>RANDOMIZATION .....</b>	<b>11</b>
<b>7</b>	<b>BLINDING .....</b>	<b>11</b>
<b>8</b>	<b>SAMPLE SIZE .....</b>	<b>11</b>
<b>9</b>	<b>STATISTICAL ANALYSIS .....</b>	<b>13</b>
<b>10</b>	<b>SAFETY TABLES, PARTICIPANT LISTINGS, AND FIGURES .....</b>	<b>15</b>
	10.1 List of Tables .....	15
	10.2 List of Figures .....	16
<b>11</b>	<b>REFERENCES .....</b>	<b>16</b>

## 1 LIST OF ABBREVIATIONS AND ACRONYMS

AE	Adverse Experience
AMP	antibody mediated prevention
bnAb	broadly neutralizing antibody
ATI	Analytical Treatment Interruption
ART	Antiretroviral Therapy
DSMB	Data and Safety Monitoring Board
FSR	Final Study Report
PrEP	Pre-exposure Prophylaxis
RSC	Regulatory Support Center
SAE	Serious Adverse Event
SAP	Statistical Analysis Plan
SSP	Study Specific Procedures

## 2 OVERVIEW

The following describes the Statistical Analysis Plan (SAP) for the analysis of safety data from HVTN **805/HPTN 093** for Data and Safety Monitoring Board (DSMB) reports and the Final Study Report (FSR) for Safety.

## 3 PROTOCOL SUMMARY

Full title:	Antiretroviral analytical treatment interruption (ATI) to assess immunologic and virologic responses in participants who initiated ART in early HIV infection after having received VRC01 or placebo in HVTN 703/HPTN 081
Short title:	HVTN 805/HPTN 093
Sponsor:	NIAID Division of AIDS
Conducted by:	HIV Vaccine Trials Network (HVTN) and HIV Prevention Trials Network (HPTN)
Protocol chairs:	Shelly Karuna, MD, MPH; Katharine Bar, MD; Simba Takuva, MBChB, MSc
Sample size:	16 - 61
Study population:	HVTN 703/HPTN 081 participants living with HIV who met criteria for transition to Schedule 2 or Schedule 3 in that trial
Study design:	An exploratory study of participants living with HIV undergoing an analytical treatment interruption after early initiation of antiretroviral therapy (ART) following HIV

acquisition in HVTN 703/HPTN 081, where they received VRC01 or placebo infusions

- Study duration: Study duration is potentially indefinite for a participant maintaining extended viral control during ATI. Study duration for most participants is expected to be 13-18 months. The maximum anticipated duration for any participant is expected to be approximately 2½ to 3 years.
- Study products: None. Drugs for ART and for pre-exposure prophylaxis (PrEP) will not be provided by the study or paid for using sponsor funds. Access to external funding sources for PrEP and ART provision is available and is detailed in the HVTN 805/HPTN 093 Study Specific Procedures (SSP).
- Primary hypotheses: Individuals who initiated ART early in HIV infection in HVTN 703/HPTN 081 will suppress plasma viremia and maintain CD4+ T-cell counts longer during ATI than historical cohorts (ie, SPARTAC African and non-African cohorts described in Gossez et al (1) comprising individuals who initiated ART early in HIV infection without other interventions).
- Individuals who initiated ART early in HIV infection and also received VRC01 within 8 weeks before or after acquiring HIV in HVTN 703/HPTN 081 will suppress plasma viremia and maintain CD4+ T-cell counts longer during ATI than those who initiated ART early in HIV infection and received placebo within 8 weeks before or after acquiring HIV in HVTN 703/HPTN 081.
- ATI will be safe and well-tolerated in individuals who acquired HIV during their participation in HVTN 703/HPTN 081.
- Primary objectives: To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection, on the time to meeting ART re-initiation criteria in participants undergoing ATI
- To evaluate the safety of ATI among HVTN 805/HPTN 093 participants
- Secondary hypotheses: Individuals who initiated ART early in HIV infection and also received VRC01 within 8 weeks before or after acquiring HIV in HVTN 703/HPTN 081 will have

enhanced cellular and humoral responses compared with those who initiated ART early in HIV infection and received placebo within 8 weeks of acquiring HIV in HVTN 703/HPTN 081.

Individuals who initiated ART early in HIV infection and also received VRC01 within 8 weeks before or after acquiring HIV in HVTN 703/HPTN 081 will have more limited viral reservoirs, before and after ATI, than those who initiated ART early in HIV infection and received placebo within 8 weeks of acquiring HIV in HVTN 703/HPTN 081.

Secondary objectives: To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection, on the development of anti-HIV immune responses and on the potential association of those immune responses with time to meeting criteria for ART re-initiation in participants undergoing ATI

To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection, on viral load in participants undergoing ATI

To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection, on HIV reservoir size before and after ATI, and whether HIV reservoir measurements are associated with time to meeting criteria for ART re-initiation in participants undergoing ATI

### **3.1 Précis**

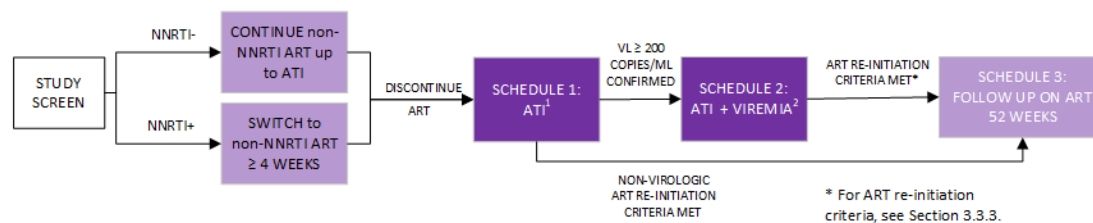
While plasma viremia rebounds rapidly in most chronically HIV-infected individuals upon cessation of therapy, early initiation of ART after HIV diagnosis has been associated with later ART-free virologic control in individuals known as “post-treatment controllers” (PTCs). Similarly, preclinical (eg, murine, nonhuman primate [NHP]) and clinical evidence suggest that the presence of broadly neutralizing anti-HIV-1 antibodies (bnAbs), even at a concentration, or with a neutralization sensitivity profile, insufficient to prevent HIV acquisition, may nevertheless modulate the autologous response to HIV infection in ways that help set the stage for later durable virologic control. There is also evidence suggesting that early ART initiation and the presence of bnAbs at the time of or soon after HIV infection may be capable of limiting the establishment of and decreasing the size of viral reservoirs. Whether and how these effects might act together to support durable viral control, and what biomarkers may predict such control, is unknown.

The Antibody Mediated Prevention (AMP) studies HVTN 704/HPTN 085 and HVTN 703/HPTN 081, phase 2b studies assessing the ability of the CD4 binding site bnAb VRC01 to prevent HIV-1 infection, provide a unique opportunity to assess the impact of these hypothesized effects. The AMP studies currently have the only cohort of HIV-1–infected individuals who were diagnosed soon after acquisition, who initiated ART relatively soon after diagnosis, and a subset of whom had bnAb present at or near the time of infection. A pause in antiretroviral treatment—that is, an ATI—is the only way to determine whether early ART initiation with and without VRC01 circulating around the time of HIV acquisition, results in blunted, delayed, or absent viral rebound following discontinuation of ART, or subsequent immune control of any rebound that may be observed. If such an impact is observed, ATI is also the best means of assessing mechanisms and identifying predictive biomarkers of that impact through assessment of innate, cellular, and humoral markers along with characterization of the viral reservoir. Extensive virologic, immunologic, and safety monitoring will be conducted, and the trial has been formulated for consistency with recent consensus guidelines on the design and conduct of ATI studies (2, 3), particularly with respect to risk mitigation.

The study schema is shown below.



### 3.2 Schema



	SCREEN	PRE-DISCONTINUE ART	SCHEDULE 1			SCHEDULE 2			PRE-REINITIATE ART	SCHEDULE 3		
			ATI WEEKS 0-8	ATI WEEKS 10-24	ATI WEEKS 28-52¹	ATI + Viremia WEEKS 0-8	ATI + Viremia WEEKS 10-36	ATI + Viremia WEEKS 40-52²		FOLLOW UP ON ART WEEKS 0-12	FOLLOW UP ON ART WEEKS 12-28	FOLLOW UP ON ART WEEKS 40-52
Plasma HIV RNA	✓	✓	WEEKLY	Q2 WEEKS	Q4 WEEKS	WEEKLY	Q2 WEEKS³	Q4 WEEKS	✓	Q2 WEEKS	Q4 WEEKS	Q12 WEEKS
CD4+ & CD8+ T cell counts	✓	✓	Q2 WEEKS	Q4 WEEKS	Q8 WEEKS	Q2 WEEKS	Q4 WEEKS⁴	Q8 WEEKS	✓	Q4 WEEKS	Q8 WEEKS	Q12 WEEKS
Hematology & Chemistries	✓	✓	Q4 WEEKS		Q8 WEEKS	Q4 WEEKS		Q8 WEEKS	—	Q4 WEEKS	Q12 WEEKS	Q12 WEEKS

¹ QUARTERLY FOLLOW-UP VISITS MAY CONTINUE BEYOND WEEK 52 FOR PARTICIPANTS WHO DO NOT MEET CRITERIA FOR TRANSITION TO SCHEDULE 2.

² QUARTERLY FOLLOW-UP VISITS MAY CONTINUE BEYOND WEEK 52 FOR PARTICIPANTS WHO DO NOT MEET CRITERIA FOR ART RE-INITIATION.

³ OR WEEKLY FOR WEEKS 10-24, IF VL ≥ 200 copies/mL.

⁴ OR Q2 WEEKS FOR WEEKS 10-24 IF VL ≥ 200 copies/mL.

## **4 SAFETY OBJECTIVES AND ENDPOINTS**

### **Primary objectives and endpoints**

#### *Primary objective 1*

- To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection on the time to meeting ART re-initiation criteria in participants undergoing ATI

#### *Primary endpoint 1*

- Time to meeting criteria for ART re-initiation
- Frequency of sustained post-treatment HIV control, defined as  $\geq 24$  weeks off ART without meeting ART re-initiation criteria

#### *Primary objective 2*

- To evaluate the safety of ATI among HVTN 805/HPTN 093 participants

#### *Primary endpoint 2*

- Laboratory measures of safety, adverse events (AEs), SAEs, and rates of discontinuation

### **Secondary objectives and endpoints**

#### *Secondary objective 2*

- To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection on viral load in participants undergoing ATI

#### *Secondary endpoint 2*

- Cumulative incidence of participants with viral load  $\geq 200$  at weeks 8, 16, and 24

#### *Secondary objective 3*

- To evaluate the effect of early ART initiation, with or without having received VRC01 in the immediate pre-HIV acquisition period and/or during early infection on HIV reservoir size before and after ATI, and whether HIV reservoir measurements are associated with time to meeting criteria for ART re-initiation in participants undergoing ATI

#### *Secondary endpoint 3*

- Frequency of CD4+ T cells carrying intact and/or total pro-viral HIV DNA, replication competent virus, and/or cell-associated HIV RNA

## **5 COHORT DEFINITION**

Participants for this trial will be recruited from among former HVTN 703/HPTN 081 (NCT02568215) study participants who met criteria for transition to Schedule 2 or Schedule 3 in that study and who meet the following inclusion/exclusion criteria that are specified in protocol section 5.

## **6 RANDOMIZATION**

This study is not randomized. Outcomes will be compared using randomized treatment assignment from HVTN 703/HPTN 081.

## **7 BLINDING**

Although this study is not randomized, and study product is not administered, precautions have been taken to protect the integrity of the ongoing HVTN 703/HPTN 081 study.

Participants eligible for screening and enrollment into this study are a subset of all HVTN 703/HPTN 081 HIV-infected participants. Participant recruitment lists are restricted to study staff who already have knowledge of HVTN 703/HPTN 081 HIV-infected participants (details in the HVTN 805/HPTN 093 SSP). HVTN 703/HPTN 081 participant identifiers were masked in this study's database until HVTN 703/HPTN 081 was fully completed and unblinded. Unlike other HVTN studies in which enrollment data is available to all HVTN members, enrollment data for this study are restricted to study team members.

## **8 SAMPLE SIZE**

We calculate the expected trial sized under different scenarios for the percentage of enrolled participants out of the total number of endpoint infected cases from HVTN 704/HPTN 085; scenarios include 25%, 50%, and 75%. Eligible placebo recipients will be capped such that the overall placebo to VRC01 recipient ratio of enrolled participants is at most approximately 1:1. Given that the parent HVTN 704/HPTN 085 study was randomized at a 1:2 placebo to VRC01 ratio, we would only expect to cap the number of eligible placebo recipients if prevention efficacy (PE) exceeds 50%. Given this constraint, along with an assumption of a common prevention efficacy at each dose (PE10 and PE30), the expected trial size will depend on different levels of PE. Under the null hypothesis (PE10 = PE30 = 0%), the total expected number of endpoint infections among placebo recipients is 26 and VRC01 recipients is 55 (Table 4-3 in the parent protocol HVTN 704/HPTN 085); therefore, we assume a trial size of 7, 13 or 20 placebo recipients and 14, 28, or 41 VRC01 recipients depending on the enrollment ratio. Under the alternative hypothesis (PE10 = PE30 = 60%), the total expected number of endpoint infections among placebo recipients is 37 and VRC01 recipients is 30 (Table 4-3 in the parent protocol); therefore, under the different enrollment ratio scenarios, we assume a trial size of 8, 15, or 23 placebo recipients and an equal number of VRC01 recipients so as not to exceed a 1:1 ratio. These six sample size scenarios represent estimated upper and lower bounds for sample size given the expected number of endpoint infections under the null and alternative hypotheses respectively, as well as various scenarios for the percentage of eligible participants who will ultimately enroll in HVTN 804/HPTN 095.

### **Sample size considerations for time to ART re-initiation criteria (primary objective 1)**

Using data from the placebo arm of a therapeutic vaccine study which enrolled early treated patients (80), we modeled the time T (in weeks) to meet re-initiation criteria as a Weibull

distribution with survival function  $P(T > t) = \exp[-(\lambda t)^p]$ , where  $\lambda = \exp(-2.932) = 0.053$  and  $p = 2.014$ . From these parameters, we estimated the median time to meet re-initiation criteria as 15.6 weeks in the AMP placebo recipients. We can express the treatment effect in terms of either the hazard ratio  $\theta$  or the factor  $\beta$  by which treatment increases the median time to meet re-initiation criteria;  $\beta$  and  $\theta$  are related by  $\beta = \theta^{-1/p}$ .

We model censoring of time to re-initiation criteria using an exponential model and a maximum follow-up time of 72 weeks, where follow-up is censored at a rate of 20% per year due to either study termination or re-initiation of ART before reaching the re-initiation criteria. Simulating 10,000 trials based on these models of time to re-initiation criteria and censoring, we computed power using a log rank test with alpha equal to 0.05. Power for a 40%, 50%, 60%, and 70% reduction in hazard under different enrollment rate and prevention efficacy scenarios are shown in Table 4-1. These hazard reductions correspond to 29%, 41%, 58%, and 82% increases in the median time to meet re-initiation criteria. Therefore, if VRC01 increases the median time to re-initiation criteria 58% and the enrollment rate is 50%, then under the parent study null hypothesis power to detect a difference in time to re-initiation criteria is 72% while under the alternative hypothesis power is 62%.

**Table 4-1 Power under different prevention efficacy results, different enrollment rates and different treatment effects, expressed as either reduction in hazard or percent increase in median time to meet re-initiation criteria**

Enrollment Rate		Null hypothesis			Alternative hypothesis		
		25%	50%	75%	25%	50%	75%
Expected number of placebos		7	13	20	8	15	23
Expected number of VRC01		14	28	41	8	15	23
Reduction in hazard	% Increase in median time to meet re-initiation criteria						
40%	29%	20%	32%	44%	16%	26%	37%
50%	41%	31%	50%	67%	24%	42%	58%
60%	58%	46%	72%	89%	36%	62%	81%
70%	82%	65%	91%	98%	54%	83%	96%

### **Sample size considerations for safety (primary objective 2)**

The goal of the safety evaluation for this study is to identify safety concerns associated with ATI. The ability of the study to detect serious adverse events (SAEs) (see protocol Section 4.2.4.1) can be expressed by the true event rate above which at least 1 SAE would likely be observed and the true event rate below which no events would likely be observed. Under the enrollment rate and PE scenarios described in protocol Section 4.1, Table 4-2 shows the true event rate such that there is a 90% chance of observing at least 1 event (or no events) among three groups; 1) the placebo recipients only, 2) the VRC01 recipients only, or 3) all enrolled participants.

**Table 4-2 True event rates above which at least 1 SAE (or below which no events) would likely be observed in a group of size  $n$  participants. Event rates are computed separately for various values of  $n$  given by the range and midpoint for the estimated number of participants among 3 groups; 1) the placebo recipients only, 2) the VRC01 recipients only, or 3) all enrolled participant based on the enrollment scenarios described in Section 4.1.**

	Placebo recipients			VRC01 recipients			All enrolled		
$n$	7	15	23	8	25	49	16	38	61
At least 1 event	28.0%	14.2%	9.5%	25.0%	8.8%	4.6%	13.4%	5.9%	3.7%
No events	1.5%	0.7%	0.5%	1.3%	0.4%	0.2%	0.7%	0.3%	0.2%

## **9 STATISTICAL ANALYSIS**

Analyses for primary endpoints will be performed using SAS and R. All other descriptive and inferential statistical analyses will be performed using SAS, StatXact, or R statistical software.

No formal multiple comparison adjustments will be employed for multiple safety endpoints or secondary endpoints. However, multiplicity adjustments will be made for certain laboratory assays, as discussed below, when the assay endpoint is viewed as a collection of hypotheses (eg, testing multiple peptide pools to determine a positive response).

### **6.1 Analysis variables**

The analysis variables consist of baseline participant characteristics, safety, and laboratory outcomes for primary- and secondary-objective analyses.

### **6.2 Baseline comparability**

Groups defined by the parent protocol treatment arms will be compared for baseline participant characteristics using descriptive statistics.

### **6.3 Primary virologic analysis**

In this study we either compare placebo recipients from HVTN 703/HPTN 081 with historical controls (ie, SPARTAC cohorts described in Gossez et al (1)) or we condition on HIV-infection with the intention of comparing virologic outcomes by randomized treatment assignment from HVTN 703/HPTN 081.

When comparing outcomes by treatment assignment among infected AMP participants, we are conditioning on a postrandomization event, HIV-infection. Consequently, a two-sample test for a difference in outcome is subject to postrandomization selection bias. A direct comparison of virologic outcomes between treatment groups, which measures the “net treatment effect,” does not have a causal interpretation (2). As an example of the type of bias that can occur, suppose VRC01 protects against mild viruses but is not effective against virulent viruses. If this were true, we might see longer time to re-initiation criteria in VRC01 recipients than placebo recipients whereas, if we restricted only to those participants infected with a virulent HIV strain, we might see shorter time to re-initiation criteria in the VRC01 group. Therefore, a two-sample test comparing time to re-initiation criteria between treatment groups could give a misleading impression that VRC01 shortens viral suppression time during ATI while the causal interpretation of this hypothetical example would be that for virulent viruses, VRC01 increases viral suppression time during ATI compared to placebo.

Approaches will be taken to ensure robust and unbiased results. Implementation of targeted minimum loss-based estimation (TMLE) methods, used to address the objectives in the following sections, will be fully prespecified in the statistical analysis plan (SAP) to ensure objective and reproducible inference.

When comparing by treatment assignment among AMP cases, each analysis will be done pooling the VRC01 recipients versus placebo recipients with supplemental analyses done separately for each dose group versus the placebo recipients.

Time to ART re-initiation criteria

The primary outcome is the time from the start of treatment interruption until the participant meets criteria to re-initiate ART.

For a comparison of the placebo group to historical controls a Cox proportional hazards model with the indicator of AMP placebo group versus historical control group will be used to estimate the cumulative incidence in each group, as well as the HR, all with 95% confidence intervals and associated 2-sided p-values, where the model controls for baseline covariates thought to potentially predict both HIV-1 infection and the instantaneous hazard of meeting the ART re-initiation criteria. This is needed for controlling for potential selection bias given that analyzed treatment groups are not randomized. Plots of the estimated cumulative incidence will be shown by treatment group.

A Cox proportional hazards model with the indicator of assignment to a mAb group versus the control group will be used to estimate the cumulative incidence in each of the infected VRC01 and infected placebo groups, as well as the HR, all with 95% confidence intervals and associated 2-sided p-values, where the model controls for baseline covariates thought to potentially predict both HIV-1 infection and the instantaneous hazard of meeting the ART re-initiation criteria. This is needed for controlling for potential postrandomization selection bias given that analyzed treatment groups are selected postrandomization. Plots of the estimated cumulative incidence will be shown by treatment group.

As a supportive analysis of this hypothesis, TMLE may be used to estimate cumulative incidences of the primary efficacy endpoint over time for the pooled mAb arm and the control arm. Iterative mean-based TMLE is used for this analysis as described by Benkeser et al (3). The Super Learner (4) is used to generate initial estimates of the conditional censoring distribution and the iterated conditional means. This analysis will use TMLE as implemented in the R package `survtmle` available on CRAN (5).

Frequency of sustained post-treatment HIV control

The same covariate adjusted model used to estimate cumulative incidence of meeting the re-initiation criteria for ART over time, described in the previous section, will be used to compare the rates of failure to maintain HIV control at 24 weeks between the placebo group and historical controls and between the 2 treatment groups.

#### **6.4 Secondary analyses of immune responses, reservoir measurements and viral load**

Analyses of immune responses and reservoir measurements will be descriptive using appropriate plotting techniques for describing measurements at a fixed time point (eg, boxplots and barplots) or longitudinally (eg, spaghetti plots) separately by treatment group. In addition, if enough samples are assayed we plan to do inferential and descriptive analyses as described in the following sections.

Evaluate the difference in anti-HIV immune responses or reservoir size between VRC01 and placebo recipients

TMLE will be used to estimate mean endpoints in each of the infected VRC01 and infected placebo groups, as well as the mean difference, all with 95% confidence intervals and associated 2-sided p-values, where the TMLE controls for all baseline covariates thought to potentially predict both HIV-1 infection and one of the secondary endpoints under study. This is needed for controlling for potential postrandomization selection bias given that analyzed treatment groups are selected postrandomization.

Assess whether anti-HIV immune responses or reservoir size are associated with time to meeting ART re-initiation criteria

Cox regression will be used to estimate cumulative incidence over time for groups defined by levels of immune response or reservoir size for each treatment group.

Time to viral load > 200

Secondary endpoint 2 is time until the participant has a viral load > 200. The same methodology used to assess time to ART re-initiation criteria will be used for this endpoint. In this analysis we will compare cumulative incidence at week 8 in each of the infected VRC01 and infected placebo groups supplemented by a sensitivity analysis based on cumulative incidence at weeks 8, 16, and 24.

## **6.5 Primary safety analysis**

AEs and SAEs

AEs will be summarized using Medical Dictionary for Regulatory Activities (MedDRA) System Organ Class and preferred terms. Tables will show by treatment arm the number and percentage of participants experiencing an AE within a System Organ Class or within preferred term category by severity or by relationship to treatment interruption. For the calculations in these tables, a participant with multiple AEs within a category will be counted once under the maximum severity or the strongest recorded causal relationship to treatment interruption. Formal statistical testing comparing arms is not planned since interpretation of differences must rely heavily upon clinical judgment.

Local laboratory values

Box plots of local laboratory values will be generated for baseline values and for values measured during the course of the study by treatment arm and visit. Each box plot will show the first quartile, the median, and the third quartile. Outliers (values outside the box plot) will also be plotted. If appropriate, horizontal lines representing boundaries for abnormal values will be plotted.

For each local laboratory measure, summary statistics will be presented by treatment arm and timepoint, as well as changes from baseline for postenrollment values. In addition, the number (percentage) of participants with local laboratory values recorded as meeting Grade 2 AE criteria or above as specified in the Division of AIDS Table for Grading the Severity of Adult and Pediatric Adverse Events will be tabulated by treatment arm for each timepoint after initiation of treatment interruption. Reportable clinical laboratory abnormalities without an associated clinical diagnosis will also be included in the tabulation of AEs described above.

Reasons for discontinuation of ATI and early study termination

The number and percentage of participants who discontinue ATI and who terminate from the study early will be tabulated by reason and treatment arm.

## **10 SAFETY TABLES, PARTICIPANT LISTINGS, AND FIGURES**

### **10.1 List of Tables**

The following tables are included in the DSMB reports and FSR for Safety:

- Enrollment by study site
- Baseline participant characteristics
- Study status and reasons for early termination



- Visit retention, Schedule 1
- Visit retention, Schedule 2
- Visit retention, Schedule 3
- Reasons for meeting ART re-initiation criteria
- Summary of time to meeting ART re-initiation criteria
- Turnaround times for ART Re-Initiation
- SAE listing
- STI listing
- Grade 1-5 Adverse Events by System Organ Class, Ordered by Decreasing Frequency
- Grade 3+ Adverse Events by System Organ Class, High Level Term, and Severity
- Grade 1-5 Adverse Events Related to ATI by System Organ Class, High Level Term, and Severity
- Pregnancy listing

Additional tables include in the FSR for Safety:

- Local Lab Value Summary Statistics
- Local Laboratory Values Meeting Grade 2 AE Criteria or Above

## 10.2 List of Figures

These graphs are included in the DSMB reports and FSR for Safety:

- Longitudinal Summaries of HIV-1 RNA Viral Load and CD4+ T-Cell Count (participant level) – all participants
- Longitudinal Summaries of HIV-1 RNA Viral Load and CD4+ T-Cell Count, restricted to participants who entered schedule 2 and to schedule 1 and 2 data points
- Cumulative Incidence of Meeting ART Re-Initiation Criteria
- Survival Plot of Time to Viral Load  $\geq 200$  (copies/ml)

Additional graphs included in FSR for Safety:

- Boxplots for local laboratory value (ALT, Direct Bilirubin, eGFR, Hemoglobin, Platelets, Absolute Neutrophil Count) at schedule 1 (visit 4, 8, 12, 14, 16, 18, 20, 21, 22, 23, 25, 27), schedule 2 (visit 40, 44, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66), and schedule 3 (82, 84, 86, 89, 91)

## 11 REFERENCES

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- 3) Benkeser D, Carone M, Gilbert PB. Improved estimation of the cumulative incidence of rare outcomes. *Stat Med*. 2018;37(2):280-93.
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- 5) Benkeser D, Hejazi N. survtmle: Compute Targeted Minimum Loss-Based Estimates in Right-Censored Survival Settings [R package]. 2018 [Available from: <https://cran.r-project.org/web/packages/survtmle/index.html>].