CLINICAL RESEARCH IN INFECTIOUS DISEASES

STATISTICAL ANALYSIS PLAN
for
DMID Protocol: 19-0015
Study Title:
Mucosal immune responses against *Neisseria gonorrhoeae* following meningococcal immunization in healthy young adults

NCT04722003

Version 1.0

DATE: 22NOV2023

RESTRICTED

STUDY TITLE

Protocol Number Code:	**DMID Protocol: 19-0015**
Protocol Version:	**7.0**
Development Phase:	Phase II
Products:	Bexsero® (4CMenB), FDA-approved multi-component meningococcal serogroup B vaccine
Form/Route:	Intramuscular injection
Indication Studied:	*Neisseria gonorrhoeae*
Sponsor:	Division of Microbiology and Infectious Diseases National Institute of Allergy and Infectious Diseases National Institutes of Health
Clinical Trial Initiation Date:	July 19, 2021
Clinical Trial Completion Date:	October 2, 2023
Date of the Analysis Plan:	November 22, 2023
Version Number:	V1.0

This study was performed in compliance with Good Clinical Practice.

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LIST OF ABBREVIATIONS

4CMenB	Bexsero® or multi-component meningococcal serogroup B vaccine
ACIP	Advisory Committee on Immunization Practices
AE	Adverse Event/Adverse Experience
aPTT	Activated Partial Thromboplastin Time
BLA	Biologics License Applications
BMI	Body Mass Index
CI	Confidence Interval
CONSORT	Consolidated Standards of Reporting Trials
COVID-19	Coronavirus disease 2019
CRF	Case Report Form
CSR	Clinical Study Report
CT	*Chlamydia trachomatis*
DCC	Data Coordinating Center
DMID	Division of Microbiology and Infectious Diseases, NIAID, NIH, DHHS
eCRF	Electronic Case Report Form
ELISA	Enzyme-Linked Immunosorbent Assay
FDA	Food and Drug Administration
FHbp	factor H binding protein
GC	*Neisseria gonorrhoeae*
GC	Good Clinical Practice
GMFR	Geometric Mean Fold Rise
GMT	Geometric Mean Titer
HIPAA	Health Insurance Portability and Accountability Act
HIV	Human Immunodeficiency Virus
ICF	Informed Consent Form
ICH	International Conference on Harmonisation
ICMJE	International Committee of Medical Journal Editors
ICS	Intracellular Cytokine Staining
IDCRC	Infectious Diseases Clinical Research Consortium
IDES	Internet Data Entry System
IgA	Immunoglobin A
IgG	Immunoglobin G
IM	Intramuscular
IND	Investigational New Drug Application

List of Abbreviations (continued)

IRB	Institutional Review Board
ISM	Independent Safety Monitor
IUD	Intrauterine Device
JAMA	Journal of the American Medical Association
LLC	Limited Liability Corporation
MAAEs	Medically-Attended Adverse Events
MBC	Memory B Cell
MedDRA	Medical Dictionary for Regulatory Activities
MeNZB	New Zealand Meningococcal Group B Vaccine
mL	Milliliter
mm	Millimeter
N	Number (typically refers to participants)
NAAT	Nucleic Acid Amplification Test
NadA	Neisserial Adhesion A
NHBA	Neisserial Heparin Binding Antigen
NIAID	National Institute of Allergy and Infectious Diseases, NIH, DHHS
NIH	National Institutes of Health
NSAID	Non-Steroidal Anti-Inflammatory Drug
OMV	Outer Membrane Vesicle
PBMC	Peripheral Blood Mononuclear Cell
PI	Principal Investigator
PID	Pelvic Inflammatory Disease
PL	Platelet Count
PorA	Porin protein
PP	Per Protocol
PT	Prothrombin Time
RPR	Rapid Plasma Regain
SAE	Serious Adverse Event/Serious Adverse Experience
SAP	Statistical Analysis Plan
SBA	Serum Bactericidal Antibody
SDCC	Statistical and Data Coordinating Center
SMC	Safety Monitoring Committee
STI	Sexually Transmitted Infection
USP	United States Pharmacopeial Convention
VTEU	Vaccine and Treatment Evaluation Unit

List of Abbreviations (continued)

WBC	White Blood Count
WHO	World Health Organization

1. PREFACE

The Statistical Analysis Plan (SAP) for "Mucosal immune responses against Neisseria gonorrhoeae following meningococcal immunization in healthy young adults" (DMID Protocol 19-0015) describes and expands upon the statistical information presented in the protocol.

This document describes all planned analyses and provides reasons and justifications for these analyses. It also includes sample tables, listings, and figures planned for the final analyses. A separate report shell will be created for the interim immunogenicity analyses. Regarding the final analyses and Clinical Study Report (CSR), this SAP follows the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) Guidelines, as indicated in Topic E3 (Structure and Content of Clinical Study Reports), and more generally is consistent with Topic E8 (General Considerations for Clinical Trials) and Topic E9 (Statistical Principles for Clinical Trials). The structure and content of the SAP provides sufficient detail to meet the requirements identified by the FDA and ICH, while all work planned and reported for this SAP will follow internationally accepted guidelines published by the American Statistical Association and the Royal Statistical Society for statistical practice. This SAP also follows the FDA guidance regarding the COVID-19 public health emergency. 1. Contingency measures implemented to manage study conduct during disruption of the study as a result of COVID-19 control measures. 2. All participants affected by the COVID-19 will be highlighted. 3. Analyses and corresponding discussions that address the impact of implemented contingency measures. 4. Any protocol deviation due to COVID-19 will be documented.

This document contains four sections: (1) a review of the study design, (2) general statistical considerations, (3) comprehensive statistical analysis methods for immunogenicity and safety outcomes, and (4) a list of proposed tables and figures. Within the table, figure, and listing mock-ups (Appendices 1, 2, and 3). Any deviation from this SAP will be described and justified in protocol amendments and/or in the CSR, as appropriate. The reader of this SAP is encouraged to also review the study protocol for details on conduct of the study and the operational aspects of clinical assessments.

2. INTRODUCTION

Gonorrhea is a sexually transmitted infection (STI) caused by the gram-negative diplococcus *Neisseria gonorrhoeae* (GC). In 2012 the World Health Organization (WHO) estimated approximately 78 million new cases of gonorrhea globally[1]. In the United States, gonorrhea is the second most reported notifiable disease, with more than 550,000 cases reported in 2017. Rates of gonococcal disease have been steadily increasing since 2009 irrespective of age, sex, ethnic group, or geographic region.

Though gonococcal infections are curable with antibiotic therapy, antimicrobial resistance has become a global public health problem. The prevalence of resistance to multiple antibiotic classes has increased gradually since the 1940s,[1] and GC isolates with reduced susceptibility to current first-line therapy – ceftriaxone and azithromycin – have emerged.[2] Given the large and growing burden of disease, and the threat of untreatable gonococcal infections due to antimicrobial resistance, a safe and effective vaccine is urgently needed. Unfortunately, previous efforts to develop a gonorrhea vaccine have been largely unsuccessful.

Recently, a retrospective case-control study in New Zealand demonstrated 31% (95% confidence interval (CI), 21-39) effectiveness of an outer membrane vesicle (OMV) meningococcal group B vaccine (MeNZB) against incident gonorrhea.[3] The same group of investigators also reported 24% (95% CI, 1-42) vaccine effectiveness against hospitalization caused by gonorrhea.[3] Previous ecological studies had suggested a possible protective effect of OMV vaccines against gonorrhea in Norway[4] and Cuba.[5] Meningococcal OMV vaccines have been used successfully to control epidemic strains of *N. meningitidis* serogroup B.[6] These vaccines elicit serum bactericidal antibody (SBA) responses directed primarily against meningococcal strain-specific porin protein, PorA.[7] The precise mechanism of cross-protection conferred by meningococcal OMV vaccines against GC remains unknown.

A four component meningococcal serogroup B vaccine (Bexsero® or 4CMenB) was recently licensed for use in the United States and was given a category B recommendation by the Advisory Committee on Immunization Practices (ACIP) for use in adolescents and young adults aged 10- 25 years,[8] which is administered intramuscularly as a two dose-series, with the second dose given at least one month after the first dose.

4CMenB includes OMVs containing PorA serosubtype P1.4, as well as three recombinant protein antigens (neisserial adhesion A [NadA], factor H binding protein [FHbp] fusion protein, and neisserial heparin binding antigen [NHBA] fusion protein).[9] An analysis of gonococcal incidence following a 4CMenB vaccination campaign in one region of Quebec, Canada found a non-significant reduction in gonorrhea cases in the post-vaccination period,[10] supporting the findings from New Zealand, and suggesting that 4CMenB vaccine could protect against gonorrhea.

A recent study found a high level of amino acid sequence identity between the 4CMenB OMV antigens and those in the MeNZB OMV in the vaccine studied in New Zealand, and with OMV homologues in a laboratory strain of GC. The same study found that rabbits vaccinated either with MeNZB or the OMV component of 4CMenB raised antibodies against GC, and that 4CMenB vaccination in humans elicited serum antibodies against GC.[11] In contrast, another study found vaccination with a native OMV vaccine raised SBA responses against GC in mice, but 4CMenB vaccination did not elicit similar SBA responses in humans.[12]

Given the potential public health impact of an effective vaccine against gonorrhea, a better understanding of the immunologic responses to GC following 4CMenB vaccination is needed. Specifically, although two studies have characterized antibody responses against GC following 4CMenB in serum, gonorrhea is a mucosal disease. While there are studies looking at the ability of meningococcal serogroup B vaccines to

modulate human nasopharyngeal mucosal immunity to *N. meningitidis*, there are no data on the impact of 4CMenB on immunologic responses at the human mucosal surfaces where GC is typically encountered (urethra, rectum, cervix, and pharynx).

This is a mechanistic clinical trial to assess the systemic and mucosal immunogenicity of the multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against GC, using a placebo vaccine (normal saline) as a comparator, in healthy young adults.

2.1. Purpose of the Analyses

These analyses will assess the immunogenicity and safety of the multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against GC in comparison with a placebo vaccine (normal saline) and will be included in the clinical study report.

3. STUDY OBJECTIVES AND ENDPOINTS

3.1. Study Objectives

3.1.1. Primary Objective

- To characterize the rectal mucosal IgG antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine (normal saline) in healthy adult participants.

3.1.2. Secondary Objective

- To characterize the serum IgG antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To assess the safety and reactogenicity of 4CMenB in healthy adult participants.

3.1.3. Exploratory Objectives

- To characterize the vaginal mucosal IgG antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To characterize the oropharyngeal mucosal IgG antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants
- To characterize the serum IgA antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To characterize the mucosal IgA antibody response to GC elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants
- To characterize the systemic B cell responses to GC antigens elicited by 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To characterize the systemic T cell responses to GC antigens elicited by 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To characterize the mucosal T cell responses to GC antigens elicited by 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To characterize the serum bactericidal antibody responses to GC elicited by 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants.
- To evaluate the impact of 4CMenB vaccine-induced antibodies on gonococcal adhesion to human cervical cells.
- To characterize immune responses to *N. meningitidis* elicited by the 4CMenB vaccine as compared with the placebo vaccine in healthy adult participants for use as controls.

3.2. Endpoints

3.2.1. Primary Outcome

- Rectal mucosal IgG concentrations (geometric mean titers, GMT) against GC OMV antigens at Day 1, 29, 43, 57, and 181 in each treatment group.

3.2.2. Secondary Outcomes

- Serum IgG concentrations (GMT) against GC OMV antigens at Day 1, 29, 43, 57, and 181 in each treatment group
- Frequency and severity of any AE related to 4CMenB immunization through the end of the study.
- Frequency of SAEs through the end of the study.

3.2.3. Exploratory Outcomes

- Rectal mucosal IgG concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Serum IgG concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Vaginal mucosal IgG concentrations geometric mean titer (GMT) against GC antigens before and after vaccination in female participants in each treatment group
- Oropharyngeal mucosal IgG concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Serum IgA concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Rectal mucosal IgA concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Vaginal mucosal IgA concentrations (GMT) against GC antigens before and after vaccination in female participants in each treatment group
- Oropharyngeal mucosal IgA concentrations (GMT) against GC antigens before and after vaccination in each treatment group
- Frequencies and function of memory B cells specific for antigens from GC before and after vaccination by ELISpot in each treatment group.
- Frequencies and function of peripheral blood T cells specific for antigens from GC before and after vaccination by ELISpot in each treatment group.
- Frequencies, phenotype, and function of peripheral blood CD4+ T cells specific for antigens from GC based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.
- Frequencies, phenotype, and function of peripheral blood CD8+ T cells specific for antigens from GC based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.
- Frequencies, phenotype, and function of rectal mucosal CD4+ T cells specific for antigens from GC based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.
- Frequencies, phenotype, and function of rectal mucosal CD8+ T cells specific for antigens from GC based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.

- Serum bactericidal antibody titers against GC before and after vaccination in each treatment group.
- Percent inhibition of gonococcal adhesion to human cervical cell line (ME180) by mucosal antibodies at Day 43 in each treatment group.
- Serum IgG concentrations (GMT) against *N. meningitidis* antigens before and after vaccination in each treatment group.
- Frequencies and function of memory B cells specific for antigens from *N. meningitidis* before and after vaccination by ELISpot in each treatment group.
- Frequencies and function of peripheral blood T cells specific for antigens from *N. meningitidis* before and after vaccination by ELISpot in each treatment group.
- Frequencies, phenotype, and function of peripheral blood CD4+ T cells specific for antigens from *N. meningitidis* based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.
- Frequencies, phenotype, and function of peripheral blood CD8+ T cells specific for antigens from *N. meningitidis* based on cytokine profile before and after vaccination by intracellular cytokine staining in each treatment group.

3.3. Study Definitions and Derived Variables

3.3.1. Baseline Values

The baseline value will be defined as the last value obtained prior to the first vaccination/dose of study product. The Immunogenicity baseline for serum, mucosal secretion (vaginal, rectal and oropharyngeal) sample will be taken at enrollment day (Visit 01) and rectal mucosal biopsy baseline will be taken at visit 00C, which is 14 - 28 days before enrollment.

3.3.2. Immunogenicity Outcomes

In the primary, secondary, and exploratory outcomes, the GMT for Enzyme-Linked Immunosorbent Assay (ELISA) will be calculated for Days 1, 29, 43, 57 and 181 for each treatment arm. The GMT is defined as:

$$\text{GMT} = \sqrt[n]{X1 * X2 * X3 * \ldots \ldots * Xn}$$

In practice, it is the equivalent of: GMT =Exp{[log(X1) + log(X2) + … + log(Xn)] / n}

Where the X1, X2, …Xn are the titers for each participant at a certain timepoint. A sample SAS code for calculating the geometric mean and the 95% confidence interval is shown below.

```
proc surveymeans
data=data geomean;
var variable;
run;
```

The geometric mean fold rise (GMFR) for ELISA titers will be calculated for Days 29, 43, 57, and 181 compared to baseline titer in each study arm. The fold change for each participant at each timepoint is calculated first by dividing the follow-up titer by the baseline titer, then the geometric mean and 95% confidence interval will be calculated for each treatment arm at each timepoint.

Similarly, the ratio of serum to mucosal (rectal, vaginal, and oropharyngeal) IgG will be calculated at each time point. The geometric mean and confidence interval will be calculated as above.

Percent inhibition of gonococcal adhesion to human cervical cell line by mucosal antibody is defined as:

100% * [(Titer without mucosal antibody – Titer with mucosal antibody) / Titer without mucosal antibody]

4. INVESTIGATIONAL PLAN

4.1. Overall Study Design and Plan

This is a single site, phase 2, double blinded, mechanistic clinical trial to assess the systemic and mucosal immunogenicity of the multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against *N. gonorrhoeae* (GC), using a placebo vaccine (normal saline) as a comparator. Approximately 50 participants (maximum of 60 participants) who meet all eligibility criteria will be randomized 4:1 to one of two treatment groups. Group 1 (approximately N=40) will receive two doses of 4CMenB on Day 1 and Day 29. Group 2 (approximately N=10) will receive two placebo injections on Day 1 and Day 29. Both treatment groups include a rectal mucosal biopsy cohort and a no rectal biopsy cohort, and the participants in each cohort will be stratified by sex. The goal will be to ensure adequate representation of participants by sex in both groups (see **Table 1**).

Potential participants will be screened for eligibility during the screening visit(s). Informed consent will be obtained. All participants undergo a brief medical history and sexual history, a concomitant medication review, a directed physical examination, STI screening, etc. See the protocol for detailed eligibility criteria.

The screening/enrollment period will be approximately 6 months and participants will be followed through 6 months after their first vaccination. The duration of each participant's participation is approximately 8 months, from recruitment through the last study visit.

This clinical study will utilize a Safety Monitoring committee (SMC), which is an independent group of experts that advises the DMID. The primary responsibility of the SMC is to monitor participant safety.

4.2. Discussion of Study Design, Including the Choice of Control Groups

This study follows a double-blind, randomized, placebo concurrent control design. Participants receive either the multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against GC or saline placebo as their first study vaccination. After approximately 1 month, all participants will receive the second dose of study vaccine (or placebo). To date, there are no vaccines that are licensed in preventing gonorrhea, thus a placebo will be used as the comparator, which allows us to determine if the observed effects are due to the study product or other reason.

4.3. Selection of Study Population

The study population will include approximately 50 males and non-pregnant females, 18 to 49 years of age, inclusive, who are in good health and meet all eligibility criteria. Participants will be recruited from the community at large and enrolled at 1 VTEU site (Hope Clinic, Emory VTEU). This age range was selected to represent the population with the highest incidence of gonorrhea therefore children are excluded from this study. There are no plans currently to include children in future studies of mucosal immune responses to GC after meningococcal immunization.

4.4. Treatments

4.4.1. Treatments Administered

The multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against GC or saline placebo as study vaccination at day 1 and 29.

4.4.2. Identity of Investigational Product(s)

Bexsero or 4CMenB: Active Product. Each 0.5-mL dose of Bexsero (4CMenB) is formulated to contain 50 micrograms each of recombinant proteins NadA, NHBA, and fHbp, 25 micrograms of OMV, 1.5 mg aluminum hydroxide (0.519 mg of Al3+), 3.125 mg sodium chloride, 0.776 mg histidine, and 10 mg sucrose at pH 6.4 – 6.7. The NadA component is a fragment of the full-length protein derived from *N. meningitidis* strain 2996 (peptide 8 variant 2/3). The NHBA component is a recombinant fusion protein comprised of NHBA (peptide 2) and accessory protein 953 derived from *N. meningitidis* strains NZ98/254 and 2996, respectively. The fHbp component is a recombinant fusion protein comprised of fHbp (variant 1.1) and the accessory protein 936 derived from *N. meningitidis* strains MC58 and 2996, respectively. These 3 recombinant proteins are individually produced in *Escherichia coli* and purified through a series of column chromatography steps. The OMV antigenic component is produced by fermentation of *N. meningitidis* strain NZ98/254 (expressing outer membrane protein PorA serosubtype P1.4), followed by inactivation of the bacteria by deoxycholate, which also mediates vesicle formation. The antigens are adsorbed onto aluminum hydroxide. Each dose contains less than 0.01 micrograms kanamycin (by calculation).

Placebo: The placebo is 0.9% Sodium Chloride, USP injection.

4.4.3. Method of Assigning Participants to Treatment Groups (Randomization)

Enrollment/randomization will be performed through the enrollment module in the electronic data capture system, maintained by the Statistical and Data Coordinating Center (SDCC).

This study will enroll both male and non-pregnant female participants. The goal will be to ensure approximately adequate representation of participants by sex in both Treatment groups (**Table 1**). To facilitate this, randomization will be stratified by sex. Within each biopsy cohort (Rectal Mucosal Biopsy Cohort and No Rectal Mucosal Biopsy Cohort), participants will be randomized 4:1 to 4CMenB or placebo. Approximately twenty (20) participants, 10 males and 10 females, will be enrolled into the Rectal Mucosal Biopsy Cohort and approximately 30 participants, 15 males and 15 females, will be enrolled into the No Rectal Mucosal Biopsy Cohort.

The list of randomized treatment assignments will be included in the enrollment module of Emmes' Internet Data Entry System (IDES). Advantage eClinical® will assign each enrolled participant to a treatment arm after demographic and eligibility data have been entered into the system. A designated individual at the site will be provided with a coded list for emergency unblinding purposes, which will be kept in a secure place.

Participant Inclusion and Exclusion Criteria (Section 5.1 of the protocol) must be confirmed by a study clinician licensed to make medical diagnoses and listed on the Form FDA 1572 as the site principal investigator (PI) or sub-investigator. No exemptions are granted on Participant Inclusion/Exclusion Criteria in DMID sponsored studies. Questions about eligibility will be directed toward the DMID Medical Officer.

4.4.4. Selection and Timing of Dose for Each Participant

Bexsero (4CMenB) or placebo will be administered as a 2-dose series (0.5-mL each) in participants randomized to each treatment arm. Both treatment arms will be enrolled and receive the first dose at day 1 (Visit 01) and will receive second dose at day 29 (Visit 04).

4.4.5. Blinding

This is a double-blinded clinical trial. Participants, site investigators, and study personnel who perform study assessments following study product administration, data entry personnel at the sites, and laboratory personnel performing study assays will be blinded to treatment assignment. Syringes will be labeled with an

overlay/blinding tape containing the participant ID, and the treatment number from the treatment key, and expiration time for the syringe, and provided to the unblinded vaccine administrator. The unblinded vaccine administrator will be credentialed to administer vaccines but will not be involved in study-related assessments, participant contact, or data collection following vaccination.

The SMC may receive data in aggregate and presented by study arm. The SMC may be unblinded to individual study treatment assignments, as needed, to adequately assess safety issues. The SMC will review grouped and unblinded data in the closed session only.

4.4.6. Prior and Concomitant Therapy

Concomitant medications will include all current medications and non-study vaccinations taken within 30 days before signing the ICF through approximately 28 days after the last study vaccination, and for new-onset chronic medical conditions through the final study visit for each participant. Participants who do not receive all vaccinations will have concomitant medications collected through approximately 28 days after the last vaccination, or early termination, whichever occurs first. Prescription and over-the-counter drugs will be included as well as herbals, vitamins, and supplements. See Section 7.1.2 of the study protocol for more detail.

4.4.7. Treatment Compliance

All participants are to receive two doses of either the multicomponent meningococcal serogroup B vaccine (4CMenB or Bexsero) against GC or saline placebo as their study vaccination at day 1 and 29. Treatment compliance with study product will be defined as the participant receiving all assigned doses within the assigned visit windows. A participant is not in compliance with the protocol treatment if they miss at least one dose or receive at least one dose out of the visit window. When this happens, it will be recorded as a protocol deviation, and the participant will be excluded from the per-protocol population (**Section 6.3.2**).

4.5. Immunogenicity and Safety Variables

4.5.1. Immunogenicity Variables

See **Table 2** for the schedule of study procedures.

Immunogenicity testing will include antibody assays, cell-mediated immunity assays, and bacterial adhesion assays. Antibody assays will be performed to measure the IgG and IgA concentrations against GC antigens at mucosal sites (rectum, vagina, oropharynx) and in serum, serum IgG concentrations against *N. meningitidis* antigens by enzyme-linked immunosorbent assay (ELISA), and serum bactericidal antibody titers determined by assessing GC survival in the presence of a fixed concentration of human complement source and serially diluted sera in which complement has been heat inactivated. Cell-mediated immunity assays will be performed to measure frequencies and function of memory B cells (MBC) and peripheral blood T cells specific for GC and *N. meningitidis* antigens by ELISpot. Cell-mediated immunity assays will be performed to measure frequencies, phenotype and function of peripheral blood CD4+ and CD8+ T cells and rectal mucosal CD4+ and CD8+ T cells specific for GC antigens by intracellular cytokine staining (ICS). Similar assays will also be performed with peripheral blood CD4+ and CD8+ T cells specific for *N. meningitidis* antigens. A bacterial adhesion assay will be performed to measure the percent inhibition by mucosal antibodies of gonococcal adhesion to a ME180 human cervical cell line at Day 43 in each treatment group. Serum for systemic immunity assays will be collected at days 1 (pre-vaccination), 8, 15, 29, 36, 43, 57 and 181. Serum and mucosal (rectum, vagina, oropharynx) samples for antibody assays will be collected at days 1 (pre-vaccination), 29, 43, 57 and 181.

The immunogenicity variables are:Concentration of mucosal antibodies (IgG or IgA) against GC antigens at mucosal sites (rectum, vagina oropharynx) and serum antibodies (IgG or IgA) against GC antigens. These will be measured by ELISA from specimens collected at each visit (days 1, 29, 43, 57 and 181), and results will be reported as geometric mean titer and 95% confidence interval for each time point for the two treatment arms.

- Frequencies and function of memory B cells and T cells from peripheral blood for GC and *N. meningitidis* antigens will be measured at each visit with ELISpot. The frequencies (cell count) will be reported. Frequencies and function of CD4+ and CD8+ T cells specific for GC and *N. meningitidis* antigens from peripheral blood, and GC antigens from rectal mucosae. These will be measured at each visit with ICS. Cell frequencies will be reported.
- Serum bactericidal antibody against GC and *N. meningitidis* will be measured and reported as geometric mean titer and 95% confidence interval for each time point for the two treatment arms.
- Inhibition of bacterial adhesion to a human cervical cell line (ME180) by mucosal antibodies will be measured by bacterial adhesion assay, and geometric mean titer and 95% confidence interval at each time point for two treatment arms will be reported.
- Other exploratory Immunogenicity outcomes measured by ELISA, ELISpot, and bacterial adhesion assays will be reported similarly.

4.5.2. Safety Variables

Safety will be assessed throughout the study.

Reactogenicity will be measured by pre-vaccination reactogenicity assessment, evaluation of the vaccination site and AE/SAEs from the clinic and self-reported reactogenicity information in an electronic memory aid with a paper back up.

Safety will be assessed by the frequency and severity of any AE related to 4CMenB immunization through the end of the study, and any SAEs through the end of the study.

5. SAMPLE SIZE CONSIDERATIONS

A total of approximately 50 participants (maximal 60) will be enrolled and randomized to one of two study arms, 40 participants will be randomized to the 4CMenB arm and 10 participants to the placebo arm. The 4:1 allocation ratio was not selected based on any formal statistical criteria but instead was selected to maximize the number of participants administered 4CMenB, and thus maximize the amount of immunogenicity data collected on participants administered 4CMenB. Of the 50 participants, 20 participants will be enrolled into the Rectal Mucosal Biopsy Cohort. As with the overall sample size, this number was not selected based on any statistical criteria but was selected weighing the feasibility of enrolling participants who would consent to the biopsy procedure against ensuring ample data was collected via rectal mucosal biopsy as there are no data on the impact of 4CMenB on immunologic responses at the human mucosal surfaces where GC is typically encountered.

This study is not designed to formally test any hypotheses associated with the safety or immunogenicity data.

6. GENERAL STATISTICAL CONSIDERATIONS

6.1. General Principles

Unless otherwise specified, continuous variables will be summarized using the following descriptive statistics: n (non-missing sample size), mean, standard deviation, median, minimum and maximum. For some immunogenicity outcomes, the titers /frequencies will be summarized by geometric mean titer (GMT) /geometric mean titer frequencies and confidence interval (CI), fold change (rise or decline) from baseline will be calculated for the follow up immunogenicity outcomes. When calculating geometric mean, only non-zero values will be included. The frequency and percentages (based on the non-missing sample size) of observed levels will be reported for all categorical measures. Exact confidence intervals for binomial proportions will be computed for safety variables. In general, all data will be listed, sorted by Treatment group, and participant, and when appropriate by visit number within participant. All summary tables will be structured with a column for each Treatment in the order presented and will be annotated with the total population size relevant to that table/treatment, including any missing observations.

6.2. Timing of Analyses

There will be an interim immunogenicity analysis, which may be used to optimize and prioritize research laboratory assays for exploratory outcomes. The interim immunogenicity analysis will include all available antibody data for the first 20 participants who complete Visit 6, which includes data addressing the primary and secondary objectives, as well as several exploratory objectives.

The final analysis will be performed when all enrolled participants have completed the day 181 visit, the clinical database has been cleaned, monitored, and locked, and data is available for all secondary immunogenicity measures. Exploratory immunogenicity assays will be determined and performed pending the results of the interim immunogenicity analysis**.** The results for primary and secondary endpoints, including safety data, will be reported in the primary Clinical Study Report (CSR). A CSR addendum will be prepared to report the results for exploratory endpoints and any additional results.

6.3. Analysis Populations

Demographic and baseline characteristics will be presented for all enrolled participants. All safety summaries will be presented for the safety population. Immunogenicity measures will be presented for the Immunogenicity and per protocol (PP) populations. A tabular listing of all participants, visits, and observations excluded from analyses will be provided in the CSR.

6.3.1. Immunogenicity Populations

For the primary outcome analysis, the immunogenicity population at a specified follow-up visit will include all eligible participants who have received all doses of study product prior to that visit and have immunogenicity data available for that visit. For this study the Immunogenicity population includes all participants who received at least one dose of study vaccine and contributed at least one sample for immunogenicity testing for which valid results were reported. To account for participants having data available only for a subset of assays, assay-specific populations will be defined. For example, the assays for vaginal mucosal specimens will only include female participants in the immunogenicity population, and rectal mucosal biopsy assays will only include biopsy cohort participants in the immunogenicity population. The population is defined for the participant at baseline, such that even when there is a missing value at a certain follow up visit, the participant will be included in the immunogenicity population.

For analyses using the Immunogenicity population, participants will be classified according to the study product received.

6.3.2. Per Protocol (PP) Populations for Immunogenicity

Per-protocol populations will be defined that further restrict the immunogenicity analysis populations to exclude participants with major protocol deviations or events that may impact study product effectiveness or the ascertainment or interpretation of assay results. The per protocol (PP) population includes all participants in the Immunogenicity subset with the following exclusions: 1) Data from all available visits for participants found to be ineligible at baseline or during follow-up. 2) Data from all visits subsequent to major protocol deviations, such as: a) at least one dose of study vaccination not received; b) at least one dose of study vaccination received at > 4 days out of window.

6.3.3. Safety Population

The safety analysis population includes all participants who received at least one dose of study treatment. For analyses using the safety population, participants will be grouped by study treatment received.

6.4. Covariates and Subgroups

Randomization was stratified by sex; however, the protocol does not define any formal subgroup analyses, and the study is not adequately powered to perform subgroup analyses.

6.5. Missing Data

All attempts will be made to collect all data per protocol. As missing data are expected to be minimal, no imputation will be performed for missing values. Any data point that appears to be erroneous or inexplicable based on clinical judgment will be investigated as a possible outlier. If such data points are identified as scientifically valid outliers, sensitivity analyses will be performed to examine the impact of including or excluding the outliers. Any substantive differences in these analyses will be reported.

If a participant missed visits, discontinued vaccinations or early terminated due to Covid-19, the participant will be recorded and highlighted in the report.

6.6. Interim Analyses and Data Monitoring

There will be an interim immunogenicity analysis, which may be used to optimize and prioritize research laboratory assays for exploratory outcomes. Results of the interim analyses will not be used to make any decisions concerning the conduct of this trial.

The interim immunogenicity analysis will include all available antibody data for the first 20 participants who complete Visit 6, which includes data addressing the primary and secondary objectives, as well as several exploratory objectives. The interim report will be prepared by the unblinded statistician at the SDCC after all relevant immunogenicity data through Visit 6 are received. Results will be shared only with relevant study personnel (i.e. PI, laboratory investigator(s), and DMID) and only in aggregate by treatment arm. Study personnel will remain blinded to individual participant treatment assignments.

The interim immunogenicity analyses will include summaries of descriptive and aggregate antibody data against antigens from *N. gonorrhoeae* and *N. meningitidis* stratified by antigen, specimen type (serum or mucosal), pre- versus post-treatment timepoints, and treatment arm (4CMenB or placebo). No hypothesis tests

or modeling will be included in the interim immunogenicity analysis. This interim analysis of the data is not intended to impact the conduct of this trial. No statistical adjustments are planned.

As defined in the protocol, the SMC will review data at specified times during the course of the study for participant and overall study progress and will conduct ad hoc reviews as appropriate when a halting rule is met or for immediate concerns regarding observations during this study.

6.7. Multiple Comparisons/Multiplicity

There is only one primary endpoint at 5 timepoints. No formal hypothesis test of the primary outcome will be performed. No adjustments for multiple comparison are planned. No adjustment to the alpha level for CIs will be performed.

7. STUDY PARTICIPANTS

7.1. Disposition of Participants

The disposition of participants in the study will be tabulated by Treatment group (**Table 6**). The table shows the total number of participants who screened, enrolled, received at least one dose, discontinued dosing or terminated from study follow-up, and those completing the study. The composition of analysis populations, including reasons for participant exclusion, by treatment arm, is presented in **Table 7** and **Table 8.** Participants excluded from analysis populations will also be summarized in **Listing 5**. **Table 9** shows the dates of first treatment received by group. **Table 10** will present a summary of the reasons that participants were screened but not enrolled. A listing of all participants that received study product is provided in **Listing 1**. A flowchart showing the disposition of study participants, adapted from the Consort Statement will be included (**Figure 1**). This figure will present the number of participants screened, enrolled, lost to follow-up, and analyzed, by treatment arm. A listing of participants who discontinued dosing or early terminated from study follow-up and the reason will be included in **Listing 2**. Participants who terminated early or discontinued vaccinations due to the Covid-19 pandemic will be highlighted in the listing.

7.2. Protocol Deviations

A summary of participant-specific protocol deviations will be presented by the deviation category, deviation type, and Treatment group for all participants (**Table 3**). Major deviations will be reviewed for possible participant exclusion from the per protocol population, including deviations affecting eligibility at baseline, product administration deviations, primary endpoint missing data, and deviations relating to prohibited medications. See **Section 6.3.2** for per protocol exclusion definitions. All participant-specific protocol deviations and non-participant specific protocol deviations will be included in **Appendix 3** as data listings (**Listing 3** and **Listing 4**, respectively). Participants who had a protocol deviation due to the Covid-19 pandemic will be highlighted in the listing.

8. IMMUNOGENICITY EVALUATION

This study was not designed to test a specific null hypothesis, rather, the objective was to characterize the immune response to GC elicited by the 4CMenB vaccine as compared with the placebo (normal saline) in healthy adult participants. Immunogenicity analysis will be presented for the Immunogenicity and PP populations.Immune responses for the study vaccine (4CMenB or placebo) will be summarized at each time point presented by study arm. Descriptive summary statistics will be provided for all assays and time points.For serum and mucosal antibody (IgG, IgA) assays by ELISA, the GMT and geometric mean fold rise (GMFR) will be calculated for each time point, (Days 1, 29, 43, 57, and 181 for GMT, and Days 29, 43, 57, and 181 for GMFR) in each study arm. Point estimates and their 95% confidence intervals will be reported for each time point. The distribution of titers will also be graphically summarized using reverse cumulative frequency distributions.

8.1. Primary Outcome Analysis

Rectal mucosal IgG concentrations (GMT) against GC OMV antigens at days 1, 29, 43, 57, and 181 in each Treatment group are shown in **Table 14**, **Figure 2**, and **Figure 4**. The summary of GMFR from baseline are also shown in **Table 14**. The distributions of rectal mucosal IgG titers are graphically summarized using reverse cumulative frequency distributions in **Figure 36** and **Figure 37**. All results are presented in **Listing 9**. A summary of GMT and GMFR Rectal mucosal IgG by sex is shown in table **Table 15**, **Figure 3**, and **Figure 5**.

8.2. Secondary Outcome Analyses

Serum IgG concentrations (GMT) against GC OMV antigens at days 1, 29, 43, 57, and 181 in each Treatment group are shown in **Table 16**, **Figure 6** and **Figure 8**. The summary of GMFR is also shown in **Table 16**. The distributions of serum IgG titers are graphically summarized using reverse cumulative frequency distributions in **Figure 38** and **Figure 39**. A summary of GMT and GMFR serum IgG by sex is shown in **Table 17**, **Figure 7**, and **Figure 9**. Summaries of the ratio of serum to mucosal IgG concentration will be generated at each time point and presented in **Table 22** and **Table 23**. All results are presented in **Listing 10**.

8.3. Exploratory Outcome Analyses

For the exploratory outcomes, summaries of IgG antibody concentrations (GMT) at each time point and GMFR in each treatment group are shown in **Table 18**, **Table 19**, **Table 20**, and **Table 21**. Summaries of the ratio of serum to mucosal IgG GMT results will be presented in **Table 22** and **Table 23**. Summaries of pairwise ratios of mucosal IgG concentrations among anatomical sites will be generated at each time point and presented in **Table 24** and **Table 25**. Summaries of IgA antibody concentrations and serum bactericidal antibody (GMT) at each time point and GMFR for other exploratory outcomes are shown starting in **Table 26** and concluding with **Table 33**. Serum Bactericidal Antibody GMT and GMFR will be presented in **Table 34**.

Summaries of the frequency of antigen-specific immune cells will include the mean if data are reported as percentage, or geometric mean if data are reported as cell count per million cells. The corresponding 95% confidence interval as well as the median, minimum, and maximum values will be presented. Fold rise from baseline will be summarized by arithmetic, geometric mean[**2**] or median. The summary of frequencies will be presented starting in **Table 35** and concluding with **Table 45**.Figures depicting the GMT (IgG, IgA) or frequency (MBC, T cells) for each assay over time will be presented beginning with **Figure 10** and continuing through **Figure 39** (GMTs), and **Figure 74** to **Figure 87** (frequencies). Reverse cumulative distribution (RCD) plots will be presented with separate panels for each visit, and separate curves within each panel for

each study arm and overall. Antibody titers are shown beginning with **Figure 40** and continuing through **Figure 73**.Percent inhibition of gonococcal adhesion to human cervical cell line (ME180) by mucosal antibodies at day 43 in each treatment group will be show in **Table 46**. The results for each participant at each visit are listed in **Listing 11** through **Listing 22**.

9. SAFETY EVALUATION

All summaries and analysis of safety data will be presented for the safety analysis population. Safety summaries will be presented overall and stratified by treatment group. Listings will be sorted by treatment group, participant ID, parameter (if applicable), and visit.Continuous variables will be summarized using the following descriptive statistics: n (non-missing sample size), mean, standard deviation, median, maximum and minimum. All categorical measures will be summarized by the frequency and percentages (based on the non-missing sample size) of observed levels.

9.1. Demographic and Other Baseline Characteristics

Summaries of age, sex, ethnicity, and race will be presented by treatment group overall for all enrolled participants (**Table** 11 and **Table 12**). Ethnicity is categorized as Hispanic or Latino, or not Hispanic and not Latino. In accordance with NIH reporting policy, participants may self-designate as belonging to more than one race or may refuse to identify a race, the latter reflected in the CRF as "No" to each racial option. Individual participant listings will be presented for all demographics (**Listing 6**). Sexual history at baseline will be presented (**Table 47** and **Table 48**). Sexual history during follow-up visits will be presented (**Table 49** and **Table 50**).

9.1.1. Pre-Existing Medical Conditions

All current illnesses and past pre-existing medical conditions will be MedDRA® coded using MedDRA dictionary version 21.1 or higher. Summaries of all enrolled participants' pre-existing medical conditions will be presented by treatment group (**Table 13**). Individual participant listings will be presented for all medical conditions (**Listing 7**).

9.1.2. Prior and Concomitant Medications

Summaries of medications will be presented by WHO Drug Levels 1 and 2 and treatment group for participants in the safety population (**Table 69**). Individual participant listings will be presented for all concomitant medications (**Listing 32**).

9.2. Measurements of Treatment Compliance

The number of doses of study product administered to participants will be presented by treatment group as part of the participant disposition table (**Table 6**). **Table 9** presents the number of participants who received a first dose at each enrollment period by treatment group. A listing of treatment compliance data by participant will also be presented in **Listing 8**.

9.3. Adverse Events

Unsolicited AEs and SAEs will be coded by MedDRA for preferred term (PT) and system organ class (SOC). AEs will also be graded for severity. For each AE experienced, the participant will be asked if he/she had received medical attention, defined as hospitalization, an ER visit, or an otherwise unscheduled visit to or from medical personnel for any reason. AEs characterized by such unscheduled medical care will be designated as MAAEs. Safety will be assessed by the frequency and severity of:

- Any AE related to 4CMenB immunization through the end of the study.
- Any AE related to rectal mucosal sampling procedures through the end of the study.
- Any SAEs through the end of the study

A summary of all adverse events is provided in **Table** 51. This information is also presented graphically in **Figure 88** with number and severity of AEs categorized by MedDRA System Organ Class and treatment group. A summary of those events that occurred in ≥5% of participants in any treatment group is provided in **Table 54**.

9.3.1. Solicited Events and Symptoms

Systemic solicited adverse events were collected pre-vaccination, and systemic and local solicited adverse events were collected 30 minutes post-vaccination and then daily for 7 days after each vaccination and graded on a severity scale of 0 (absent), 1 (mild), 2 (moderate) and 3 (severe). Systemic events include fever, chills/shivering/sweating, fatigue, malaise, myalgia and arthralgia (exclusive of the injection site), headache, and nausea. Local events include pain at injection site, pruritus, erythema, ecchymosis, induration/swelling, pain, and tenderness. **Table 56** summarizes the solicited adverse event grading scale.

The proportion of participants reporting at least one solicited adverse event will be summarized for each solicited adverse event, any systemic symptom, any local symptom, and any symptoms. The 95% CI will be calculated using Clopper-Pearson methodology from a binomial distribution (**Table 55**).

For each systemic and local event, any systemic event, any local event, and any solicited event, the maximum severity over 7 days after each vaccination will be summarized for the safety population. The number and percentage of participants reporting each event will be summarized by the maximum severity and treatment group, separately for each vaccination and over all vaccinations. For each event the denominator is the number of participants with non-missing data for the specific event (**Table 55**).

The number of participants reporting a solicited adverse event will be summarized for each day post vaccination for each vaccination and for all vaccinations combined both in a summary table (**Table 56**, **Table 7**, **Table 58**, and **Table 59**) and graphically in a bar chart (**Figure 89** and **Figure 90**). A comparison of the event rate for each treatment group between dose 1 and dose 2 will be presented in **Table 60**.

Solicited adverse events by participant will be presented in **Listing 23** and **Listing 24**.

9.3.2. Unsolicited Adverse Events

When calculating the incidence of unsolicited AEs (i.e., on a per participant basis), each participant will only be counted once at the highest severity and/or relationship, and any repetitions of AEs within a participant will be ignored; the denominator will be the total number of participants in the safety population. All AEs reported will be included in the summaries and analyses.

The number and percentage of participants reporting at least one unsolicited AE will be summarized by MedDRA system organ class and preferred term. Denominators for percentages are the number of participants who received the study vaccination summarized. A 95% CI will be presented for the percentage of participants reporting any unsolicited AE (serious or non-serious) for each MedDRA system organ class and preferred term. A listing of all unsolicited AEs by participant will be presented in **Listing 25**, sorted by Treatment group, participant ID, and AE Number.

The following summaries for unsolicited adverse events will be presented by MedDRA system organ class, preferred term, and Treatment group:

- Participant incidence and total frequency of unsolicited adverse events with 95% CI (**Table 61**)
- Summary of severity and relationship to study product (**Table 62**)

- Participant incidence and total frequency of related unsolicited adverse events over time (Days 1-7) (**Table 63**)
- Participant listing of death and serious adverse events (**Table 52**)
- Participant listing of non-serious adverse events of moderate or greater severity (**Table 53**)
- Bar charts of the frequency and incidence of non-serious adverse events by severity and MedDRA system organ class (**Figure 91** and **Figure 92**)
- Bar charts of the frequency and incidence of non-serious adverse events by relationship and MedDRA system organ class (**Figure 93** and **Figure 94**)

9.4. Pregnancies

For any participants in the safety population who become pregnant during the study, every attempt will be made to follow these participants to completion of pregnancy to document the outcome, including information regarding any complications with pregnancy and/or delivery. A listing of pregnancies and outcomes will be presented in **Listing 33**, **Listing 34**, **Listing 35**, **Listing 36**, and **Listing 37**.

9.5. Clinical Laboratory Evaluations

Clinical laboratory evaluations assessed at the screening visit will be considered as baseline. At the screening visit (visit 00A), the following clinical laboratory parameters will be evaluated: a serology screening (HIV-1/2 and RPR), GC/CT NAAT at mucosal sites (rectum, vagina and oropharyngeal), and Trichomonas NAAT for female participants. For the rectal mucosal biopsy cohort, hematology (CBC) and coagulation testing (PT/aPTT) will be measured at visit 00A and may be repeated at visit 00B. At day 29, before the second vaccination and final visit at day 181 or early termination visit, serology screening (HIV-1/2 and RPR) and GC/CT NAAT at mucosal sites will be evaluated again. The laboratory adverse event grading scale will be presented in **Table 5**.

RPR, HIV antibody and STI testing will be presented in **Table 64**, **Table 65**, **Table 66**, **Table 67**, and **Table 69**. A complete listing of individual laboratory results will be presented in **Listing 26** and **Listing 27**. Participants with abnormal laboratory results, grade 1 severity or higher, will be presented in **Listing 28** and **Listing 29**, for hematology and coagulation, respectively, sorted by participant ID, parameter, and study day.

9.6. Vital Signs

Vital signs will be assessed at screening visits (Visit 00A or, if performed, Visits 00B and/or 00C), baseline visit (Visit 1, day 1), day 29 and 43, and possibly at other visit determined by study staff. Enrolled participants with abnormal vital signs will be listed (**Listing 30**).

9.7. Physical Examinations

Physical examinations will be performed at screening visit 00A, and possibly at every visit as determined by study staff. Physical examination will include the following organs and organ systems: general appearance, head /eyes /ears /nose /throat (HEENT), neck, lungs, heart, abdomen, extremities, musculoskeletal, lymph nodes, skin, and nervous system. Genital and rectal exams will be performed at the investigator's discretion (**Listing 31**).

9.8. Concomitant Medications

Concomitant medications will be coded to the Anatomical Therapeutic Classification (ATC) using the WHO Drug Dictionary. The use of prior and concomitant medications taken during the study will be recorded on the CRFs. A by-participant listing of concomitant medication use will be presented in **Listing 32**. The use of concomitant medications during the study will be summarized by ATC1, ATC2 code and treatment group for the Safety population (**Table 69**).

9.9. Other Safety Measures

There are no other safety measures performed.

10. OTHER ANALYSES

Not applicable

11. REPORTING CONVENTIONS

The mean, geometric mean, standard deviation, and other statistics will be reported to one decimal place greater than the original data. The minimum and maximum will use the same number of decimal places as the original data. Proportions will be presented as two decimal places; values greater than zero but <0.01 will be presented as "<0.01". Percentages will be reported to the nearest whole number; values greater than zero but <1% will be presented as "<1"; values greater than 99% but less than 100% will be reported as >99%. Estimated parameters, not on the same scale as raw observations (e.g. regression coefficients) will be reported to three significant figures.

12. TECHNICAL DETAILS

SAS version 9.4 or above will be used to generate all tables, figures and listings. R studio may also be used to generate figures.

13. SUMMARY OF CHANGES IN THE CONDUCT OF THE STUDY OR PLANNED ANALYSES

There are no changes in the conduct of the study. With the protocol amendment from v6.0 to v7.0, an interim immunogenicity analysis was added. A separate interim immunogenicity report will be developed for this analysis.

14. REFERENCES

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15. LISTING OF TABLES, FIGURES, AND LISTINGS

Table, figure, and listing shells are presented in Appendices 1, 2, and 3.

APPENDICES

APPENDIX 1. TABLE MOCK-UPS

LIST OF TABLES

Table of Tables (continued)

Table of Tables (continued)

Table of Tables (continued)

9.1 Overall Study Design and Plan Description

Table 1: Study Design

	Rectal Mucosal Biopsy Cohort (N=20)*		No Rectal Mucosal Biopsy Cohort (N=30) *		Total
Vaccine	Male	Non-pregnant Female	Male	Non-pregnant Female	
4CMenB	8	8	12	12	40
Placebo	2	2	3	3	10
*As noted in the study design, this trial will enroll approximately 50 (maximum of 60 participants) - approximately 20 in Rectal Mucosal Biopsy Cohort and approximately 30 in No Rectal Mucosal Biopsy Cohort					

9.5.1 Immunogenicity and Safety Measurements Assessed and Flow Chart

Table 2: Schedule of Study Procedures

Procedures	*Screening (Visit 00A) Day -56 to -1 (-56 to -28 for biopsy cohort)*	*Screening (Visit 00B) Day -7 to -1 (-34 to -28 for biopsy cohort)*	*Baseline Rectal Mucosal Biopsy Visit 00C ,Day -28 to -1*	*Study Visit 00P (Phone visit) Day -27 to -12*	*Enrollment/Baseline visit 1,Day 1*	*Study Visit 2 Day 8 ±1day*	*Study Visit 3 Day 15 ±1day*	*Study Visit 4 Day 29 ±1day*	*Study Visit 5 Day 36 ±1day*	*Study Visit 6 Day 43 ±3 days*	*Study Visit 6p Day 44±1days*	*Study Visit 7 Day 57 ±1days*	*Final Study visit Day 18 ±7 days*	*Early 1Termination Visit*[15]
Informed consent	X													
Assessment of Eligibility criteria	X	X	X		X									
Demographics	X													
Medical history	X	X	X		X	X	X	X	X	X		X	X	X
Sexual history	X	X	X		X			X		X		X	X	X
Randomization					X									
Concomitant medications	X	X	X		X	X	X	X	X	X		X	X	X
Review covid-19 Vaccine history					X			X						
Vital signs	X	(X)	X		X	(X)	(X)	X	(X)	X		(X)	(X)	(X)
Physical exam	X	(X)	(X)		(X)	(X)	(X)	(X)	(X)	(X)		(X)	(X)	(X)
Administer study intervention					X			X[e]						
Pre-vaccine reactogenicity assessment					X			X						
Post-vaccine, Observation to assess Acute reaction (for ≥15 minutes)					X			X						
Evaluation vaccine site, Reactogenicity and AE/SAE after ≥15 minutes					X			X						
Memory aid					X	X		X	X					(X)
AE review and evaluation			X[d]	X[d]	X	X	X	X	X	X	(X)	X	X	X

Table 2: Schedule of Study Procedures (continued)

	Procedures	*Screening (Visit 00A) Day -56 to -1 (-56 to -28 for biopsy cohort)*	*Screening (Visit 00B) Day -7 to -1 (-34 to -28 for biopsy cohort)*	*Baseline Rectal Mucosal Biopsy Visit 00C ,Day -28 to -1*	*Study Visit 00P (Phone visit) Day -27 to -12*	*Enrollment/Baseline visit 1,Day 1*	*Study Visit 2 Day 8 ±1day*	*Study Visit 3 Day 15 ±1day*	*Study Visit 4 Day 29 ±1day*	*Study Visit 5 Day 36 ±1day*	*Study Visit 6 Day 43 ±3 days*	*Study Visit 6p Day 44±1days*	*Study Visit 7 Day 57 ±1days*	*Final Study visit Day 18 ±7 days*	*Early 1Termination Visit*[15]
Specimen collection	Hematology (CBC, PT, aPTT)[a]	X	(X)	(X)											
	Urine pregnancy test	X	(X)			X			X						(X)
	STI screening[b]	X[c]				(X)	(X)	(X)	(X)	(X)	(X)		(X)	X	
	Rectal mucosal biopsy[a]			X							X[f]				
	Secretion sampling (Vaginal, rectal, Oropharyngeal)					X			X		X		X	X	(X)
	Blood for serum antibody assays					X			X		X		X	X	(X)
	Blood for systemic immunity assays					X	X	X	X	X	X	X	X	X	(X)

[a] Only to be performed in the rectal mucosal biopsy cohort (N=20)
[b] STI screening will include GC/CT NAAT of urine, pharynx, and rectum, and RPR. HIV antibody testing will occur at Visit 00A and 08 only
[c] Baseline STI screening in non-pregnant females will also include NAAT for Trichomonas
[d] AE review and evaluation at Visit 00C will include only AEs from the baseline biopsy procedure
[e] The following will be reviewed for safety prior to administering the second dose: interim medical history, concomitant medications, COVID-19 vaccination status, vital signs, and negative pregnancy test result for females of childbearing potential.
[f] The following will be reviewed for safety prior to the rectal mucosal biopsy procedure: interim medical history, concomitant medications, and vital signs.
Abbreviations: X, study procedure for all participants; (X), study procedures to be determined by study staff; CBC, complete blood count; PT, prothrombin time; aPTT, activated partial thromboplastin time; STI, sexually transmitted infection

10.2 Protocol Deviations

Table 3: Distribution of Protocol Deviations by Category, Type, and Treatment Group

Category	Deviation Type	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		No. of Part.	No. of Dev.	No. of Part.	No. of Dev.	No. of Part.	No. of Dev.
Eligibility/enrollment	Any type	x	x	x	x	x	x
	Did not meet inclusion criterion	x	x	x	x	x	x
	Met exclusion criterion	x	x	x	x	x	x
	ICF not signed prior to study procedures	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Treatment administration schedule	Any type	x	x	x	x	x	x
	Out of window visit	x	x	x	x	x	x
	Missed visit/visit not conducted	x	x	x	x	x	x
	Missed treatment administration	x	x	x	x	x	x
	Delayed treatment administration	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Follow-up visit schedule	Any type	x	x	x	x	x	x
	Out of window visit	x	x	x	x	x	x
	Missed visit/visit not conducted	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Protocol procedure/assessment	Any type	x	x	x	x	x	x
	Incorrect version of ICF signed	x	x	x	x	x	x
	Blood not collected	x	x	x	x	x	x
	Urine not collected	x	x	x	x	x	x
	Stool not collected	x	x	x	x	x	x
	Other specimen not collected	x	x	x	x	x	x
	Too few aliquots obtained	x	x	x	x	x	x

Table 3: Distribution of Protocol Deviations by Category, Type, and Treatment Group (continued)

Category	Deviation Type	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		No. of Part.	No. of Dev.	No. of Part.	No. of Dev.	No. of Part.	No. of Dev.
	Specimen result not obtained	x	x	x	x	x	x
	Required procedure not conducted	x	x	x	x	x	x
	Required procedure done incorrectly	x	x	x	x	x	x
	Study product temperature excursion	x	x	x	x	x	x
	Specimen temperature excursion	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Treatment administration	Any type	x	x	x	x	x	x
	Required procedure done incorrectly	x	x	x	x	x	x
	Study product temperature excursion	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Blinding policy/procedure	Any type	x	x	x	x	x	x
	Treatment unblinded	x	x	x	x	x	x
	Other	x	x	x	x	x	x
Note: N = Number of participants in each group in the safety population							

12.2.2 Displays of Adverse Events

Table 4: Solicited Adverse Event Grading Scale

[Implementation Note: Extract Solicited Adverse Event Grading Scale/grading scales from protocol and include here.]

Local (Injection Site) Reaction			
	Mild (Grade 1)	Moderate (Grade 2)	Severe (Grade 3)
Pain – experienced without touching the injection site (spontaneous discomfort)	Participant is aware of pain, but it does not interfere with daily activity, **and** it does not require pain medication, or it requires use of a non-narcotic pain reliever ≤24hours	Participant is aware of pain; there is interference with daily activity, **or** it requires repeated use of a non-narcotic pain reliever for >24 hours	Participant is aware of pain, **and** it prevents daily activity or requires any use of a narcotic pain reliever
Tenderness – hurts only when injection site is touched or the arm is moved	The area immediately surrounding the injection site hurts only when touched or with arm motion, **and** it does **not** interfere with daily activity	The area immediately surrounding the injection site hurts when touched or with arm motion, **and** it interferes with daily activity	The area immediately surrounding the injection site hurts when touched or with arm motion, **and** it prevents daily activity
Pruritus (Itching)	Does not interfere with daily activity	Interferes with daily activity	Prevents daily activity
Ecchymosis (Bruising)	Does not interfere with daily activity	Interferes with daily activity	Prevents daily activity
Erythema (Redness)	Does not interfere with daily activity	Interferes with daily activity	Prevents daily activity
Induration (Hardness)/Swelling	Does not interfere with daily activity	Interferes with daily activity	Prevents daily activity
Ecchymosis (Bruising)[a]	25 mm – 50 mm	51 mm – 100 mm	>100 mm
Erythema (Redness)[a]	25 mm – 50 mm	51 mm – 100 mm	>100 mm
Induration (Hardness)/Swelling[a]	25 mm – 50 mm	51 mm – 100 mm	>100 mm
Participantive Systemic Reactogenicity			
Feverishness (Chills/Shivering/Sweating)	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Fatigue (Tiredness)	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Malaise (General Unwell Feeling)	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Myalgia (Body Aches/Muscular Pain)[b]	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Arthralgia (Joint Pain)[b]	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Headache	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity
Nausea	No interference with daily activity	Some interference with daily activity	Significant interference, prevents daily activity

Table 4: Solicited Adverse Event Grading Scale (continued)

Quantitative Systemic Reactogenicity Grading			
	Mild (Grade 1)	Moderate (Grade 2)	Severe (Grade 3)
Fever[c] – oral[d,#]	38.0°C – 38.4°C 100.4°F – 101.1°F	38.5°C – 38.9°C 101.2°F – 102.0°F	>38.9°C >102.0°F
Pulse and Blood Pressure Grading			
Bradycardia - beats per minute	50 - 54	45 - 49	<45
Tachycardia - beats per minute	101 - 115	116 -130	>130
Hypotension (systolic) mmHg	85 - 89	80 - 84	<80
Hypotension (diastolic) mmHg	50 - 54	45 - 49	<45
Hypertension (diastolic) mmHg	141 - 150	151 - 155	>155
Hypertension (diastolic) mmHg	91 - 95	96 - 100	>100

[a] Size will also be measured in mm but will not be used as a halting criterion.
[b] Not at injection site.
[c] A fever can be considered not related to the vaccine if an alternative etiology can be documented.
[d] Participants must not eat or drink anything hot or cold, or smoke within 10 minutes prior to taking oral temperature.
[#] Oral temperature, pulse and blood pressure assessed on Day 1 prior to the first study vaccination will be considered as baseline.

12.4.1 Individual Laboratory Measurements and Abnormal Laboratory Values

Table 5: Laboratory Adverse Event Grading Scale

Hematology	Normal Range	Mild (Grade 1)	Moderate (Grade 2)	Severe (Grade 3)
WBC 10^3/µL (Low)	3.8 – 10.8	2.5 – 3.7	1.5 – 2.4	<1.5
WBC 10^3/µL (High)	3.8 – 10.8	10.9 – 15.0	15.1 – 20.0	>20.0
Hgb g/dL (Low) (Female)	11.7 – 15.5	11.0 – 11.6	9.5 – 10.9	<9.5
Hgb g/dL (Low) (Male)	13.2 – 17.1	12.0 – 13.1	10.0 – 11.9	<10.0
Platelets 10^3/µL (Low)	140 – 400	125 – 139	100 – 124	<100
Platelets 10^3/µL (High)	140 – 400	401 – 550	551– 750	>750
PT (seconds) (increase by factor) (prothrombin time)	9.0 – 11.5	>1.0 – 1.1 x ULN	>1.1 – 1.2 x ULN	> 1.2 x ULN
aPTT (seconds) (increase by factor) (activated partial thromboplastin time)	22.0 – 34.0	>1.0 – 1.2 x ULN	>1.2 – 1.4 x ULN	>1.4 x ULN

14.1 Description of Study Participants

14.1.1 Disposition of Participants

Table 6: Participant Disposition by Treatment Group

Participant Disposition	4CMenB						Placebo						All Participants (N=X)	
	Rectal Biopsy Cohort (N=X)		Non- Rectal Biopsy Cohort (N=X)		All 4CMenB (N=X)		Rectal Biopsy Cohort (N=X)		Non- Rectal Biopsy Cohort (N=X)		All Placebo (N=X)			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Screened	--	--	--	--	--	--	--	--	--	--	--	--	x	--
Enrolled/Randomized	x	100	x	100	x	100	x	100	x	100	x	100	x	100
Received Treatment	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
Received All Scheduled Treatments[a]	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
Completed Final Specimen Collections	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
Completed all Follow-up (Study Day 181) [a]	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
Completed Per Protocol[b]	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx

Note: N = Number of participants enrolled in each group
[a] Refer to Listing 16.2.1 for reasons participants discontinued or terminated early.
[b] Refer to Listing 16.2.3 for reasons participants are excluded from the Analysis populations.

Table 7: Immunogenicity and Safety Populations by Treatment Group

[Implementation Note: The reasons listed here should match the SAP text that describes who will be excluded from analyses.

Populations	Reason Participants Excluded	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		n	%	n	%	n	%
Overall Immunogenicity population*	Any Reason	x	xx	x	xx	x	xx
	Did not receive first dose	x	xx	x	xx	x	xx
	No Baseline Sample	x	xx	x	xx	x	xx
	No Baseline Result reported	x	xx	x	xx	x	xx
	Other	x	xx	x	xx	x	xx
Immunogenicity population for assays with vaginal mucosal specimen*	Any Reason	x	xx	x	xx	x	xx
	Did not receive first dose	x	xx	x	xx	x	xx
	No Baseline Sample	x	xx	x	xx	x	xx
	No Baseline Result reported	x	xx	x	xx	x	xx
	Other	x	xx	x	xx	x	xx
Safety Analysis population	Did not receive first study vaccination.	x	xx	x	xx	x	xx

Notes: The population is defined at the baseline visit, the number of participants may be different at each visit time;
For each specific assay, there may be missing values for certain assays.
N = Number of participants enrolled in each group

Table 8: Per-protocol Immunogenicity Populations by Treatment Group

Analysis Populations	Reason Participants Excluded	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		n	%	n	%	n	%
Overall Per Protocol Immunogenicity Analysis Population	Any protocol deviation	x	xx	x	xx	x	xx
	Deviation with Eligibility/enrollment	x	xx	x	xx	x	xx
	Deviation with Treatment administration schedule	x	xx	x	xx	x	xx
	Deviation with Follow-up visit schedule	x	xx	x	xx	x	xx
	Deviation with Treatment administration	x	xx	x	xx	x	xx
	Deviation with Protocol procedure/assessment	x	xx	x	xx	x	xx
	Deviation with Blinding policy/procedure	x	xx	x	xx	x	xx
	Other	x	xx	x	xx	x	xx
Per Protocol Immunogenicity Analysis Population-assays with vaginal mucosal specimen	Any protocol deviation	x	xx	x	xx	x	xx
	Deviation with Eligibility/enrollment	x	xx	x	xx	x	xx
	Deviation with Treatment administration schedule	x	xx	x	xx	x	xx
	Deviation with Follow-up visit schedule	x	xx	x	xx	x	xx
	Deviation with Treatment administration	x	xx	x	xx	x	xx
	Deviation with Protocol procedure/assessment	x	xx	x	xx	x	xx
	Deviation with Blinding policy/procedure	x	xx	x	xx	x	xx
	Other	x	xx	x	xx	x	xx

Notes: N = Number of participants enrolled in each group
The number of participants may be different at each visit;
For each specific assay, the number of participants may be different.

Table 9: Dates of First Treatment by Treatment Group

Dates of Dosing	4CMenB (N=X)	Placebo (N=X)	All Participants (N=X)
Total (Entire period of enrollment)			
DDMMMYYYY-DDMMMYYYY [categorize based on length of enrollment period]	x	x	x
Notes: The dates of dosing will be categorized by 3 month period. N = Number of participants enrolled in each group			

Table 10: Ineligibility Summary of Screen Failures

Inclusion/Exclusion Category	Inclusion/Exclusion Criterion	n[a]	%[b]
Inclusion and Exclusion	Number of participants failing any eligibility criterion	x	xx
Inclusion	Any inclusion criterion	x	xx
	[inclusion criterion 1]	x	xx
	[inclusion criterion 2]	x	xx
	[inclusion criterion 3]	x	xx
Exclusion	Any exclusion criterion	x	xx
	[exclusion criterion 1]	x	xx
	[exclusion criterion 2]	x	xx
	[exclusion criterion 3]	x	xx
Eligible but Not Enrolled		x	xx

[a] More than one criterion may be marked per participant.
[b] Denominator for percentages is the total number of screen failures.

14.1.2 Demographic Data by Study Group

Table 11: Summary of Categorical Demographic and Baseline Characteristics by Treatment Group - All Enrolled Participants

Variable	Characteristic	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		n	%	n	%	n	%
Sex	Male	X	xx	x	xx	x	xx
	Female						
Ethnicity	Not Hispanic or Latino	X	xx	x	xx	x	xx
	Hispanic or Latino						
	Not Reported						
	Unknown						
Race	American Indian or Alaska Native	x	xx	x	xx	x	xx
	Asian						
	Native Hawaiian or Other Pacific Islander						
	Black or African American						
	White						
	Multi-Racial						
	Unknown						
Note: N = Number of participants in each group							

Table 12: Summary of Continuous Demographic and Baseline Characteristics by Treatment Group - All Enrolled Participants

Variable	Statistic	4CMenB (N=X)	Placebo (N=X)	All Participants (N=X)
Age (years)	Mean	xx	xx	xx
	Standard Deviation	xx	xx	xx
	Median	x	x	x
	Minimum	x	x	x
	Maximum	x	x	x
Note: N = Number of participants in each group				

14.1.3 Prior and Concurrent Medical Conditions

Table 13: Summary of Participants with Pre-Existing Medical Conditions by MedDRA System Organ Class and Treatment Group

MedDRA System Organ Class	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
	n	%	n	%	n	%
Any SOC	x	xx	x	xx	x	xx
[SOC 1]						
[SOC 2]						

Notes: n = Number of participants reporting medical history within the specified SOC. A participant is only counted once per SOC.
N = Total number of participants in each group.

Table 14: Primary Outcome - Rectal Mucosal IgG GMT and GMFR Results by Analysis Population, Time Point, and Treatment Group

Population	Time Point	Statistic	4CMenB		Placebo	
			OMV Ng 1291	OMV Ng CNG20	OMV Ng 1291	OMV Ng CNG20
Immunogenicity Population	**Day 1**	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
Per-Protocol Population	**Day 1**	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (OMV1291, and OMV20) at each time for certain Treatment Group

Table 15: Rectal Mucosal IgG GMT and GMFR Results by Analysis Population, Time Point, Sex and Treatment Group

			4CMenB				Placebo			
			Female		Male		Female		Male	
Population	**Time Point**	**Statistic**	**OMV 1291**	**OMV CNG20**	**OMV 1291**	**OMV CNG20**	**OMV 1291**	**OMV CNG20**	**OMV 1291**	**OMV CNG20**
Immunogenicity Population	**Day 1**	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
Per-Protocol Population	**Day 1**	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (OMV1291, and OMV20) at each time for certain Treatment Group

Table 16: Secondary Outcome - Serum IgG against OMV antigens: GMT and GMFR Results by Time Point and Treatment Group

Population	Time Point	Statistic	4CMenB			Placebo		
			OMV NZ98	OMV Ng 1291	OMV Ng CNG20	OMV NZ98	OMV Ng 1291	OMV Ng CNG20
Immunogenicity Population	**Day 1**	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
Per-Protocol Population	**Day 1**	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (OMV98, OMV1291, and OMV20) at each time for certain Treatment Group

Table 17: Serum IgG against OMV antigens: GMT and GMFR Results by Analysis Population, Time Point, Sex and Treatment Group

			4CMenB						Placebo					
			Female			Male			Female			Male		
Population	**Time Point**	**Statistic**	**OMV NZ98**	**OMV 1291**	**OMV CNG20**	**OMV NZ98**	**OMV 1291**	**OMV CNG20**	**OMV NZ98**	**OMV 1291**	**OMV CNG20**	**OMV NZ98**	**OMV 1291**	**OMV CNG20**
Immunogenicity Population	**Day 1**	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Table 17: Serum IgG against OMV antigens: GMT and GMFR Results by Analysis Population, Time Point, Sex and Treatment Group (continued)

			4CMenB						Placebo					
Per-Protocol Population	**Day 1**	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (OMV98, OMV1291, and OMV20) at each time for certain Treatment Group

Table 18: Exploratory Outcome - Serum IgG against NHBA antigens GMT and GMFR Results by Time Point and Treatment Group

Population	Time Point	Statistic	4CMenB			Placebo		
			NHBA NZ98	NHBA Ng 1291	NHBA Ng CNG20	NHBA NZ98	NHBA Ng 1291	NHBA Ng CNG20
Immunogenicity Population	**Day 1**	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
Per-Protocol Population	**Day 1**	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (NHBA NZ98, NHBA Ng1291, and NHBA CNG20) at each time for certain Treatment Group

Note: Following tables have the similar format with Table 14

Table 19: Exploratory Outcome - Rectal Mucosal IgG against NHBA: GMT and GMFR Results by Time Point and Treatment Group

[note: The assays may be performed depending on specimen availability and interim immunogenicity analysis report]

Table 20: Exploratory Outcome - Vaginal Mucosal IgG GMT and GMFR Results by Time Point and Treatment Group

[note: Vaginal mucosal include lavage and swab samples, this table will summarize the two types of samples in separated rows; if only one type of sample is tested, then only that type will be included.

The assays for IgG against OMV antigen will be performed, the assay against NHBA antigen maybe performed depending on specimen availability and interim immunogenicity analysis report]

Table 21: Exploratory Outcome - Oropharyngeal Mucosal IgG GMT and GMFR Results by Time Point and Treatment Group

[note: The assays for IgG against OMV antigen will be performed, the assay against NHBA antigen maybe performed depending on specimen availability and interim immunogenicity analysis report]

Table 22: Summaries of the Ratio of Serum to Mucosal IgG GMT Results by Time Point and Treatment Group - Immunogenicity Population

Assay	Time	Statistic	4CMenB			Placebo		
			Serum vs Rectal Mucosal IgG	Serum vs Oropharyngeal IgG	Serum vs Vaginal Mucosal IgG	Serum vs Rectal Mucosal IgG	Serum vs Oropharyngeal IgG	Serum vs Vaginal Mucosal IgG
OMV Ng1291	**Day 1**	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
OMV Ng CNG20	**Day 1**	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for specific pair of immunoassays, when comparing serum vs rectal and oropharyngeal mucosal, both male and female are included, when compare with Vaginal mucosal IgG, only females are included.

Same format for following table:

Table 23: Summaries of the Ratio of Serum to Mucosal IgG Concentration GMT Results by Time Point and Treatment Group - Per-Protocol Population

Table 24: Summaries of Pairwise IgG Concentration Ratios Comparing Anatomical Sites GMT Results by Time Point and Treatment Group - Immunogenicity Population

Assay	Time	Statistic	4CMenB			Placebo		
			Rectal vs Oropharyngeal IgG	Rectal vs Vaginal Mucosal IgG	Vaginal vs Oropharyngeal IgG	Rectal vs Oropharyngeal IgG	Rectal vs Vaginal Mucosal IgG	Vaginal vs Oropharyngeal IgG
OMV Ng1291	**Day 1**	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
OMV20 Ng CNG20	**Day 1**	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	**N**	x	x	x	x	x	x
		Geometric Mean Ratio (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for specific pair of immunoassays, when comparing rectal and oropharyngeal sites, both males and females are included; when comparing with vaginal site, only females are included.

Same format for following table:

Table 25: Summaries of pairwise IgG Concentration Ratios Comparing Anatomical Sites GMT Results with 95% Confidence Intervals by Time Point and Treatment Group - Per-Protocol Population

Table 26: Serum IgA against OMV antigens: GMT and GMFR Results by Time Point and Treatment Group

Population	Time	Statistic	4CMenB		Placebo	
			OMV Ng 1291	OMV Ng CNG20	OMV Ng 1291	OMV Ng CNG20
Immunogenicity Population	**Day 1**	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 181	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
Per-Protocol Population	**Day 1**	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 29	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 43	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
	Day 57	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Table 26: Serum IgA against OMV antigens: GMT and GMFR Results by Time Point and Treatment Group (continued)

Population	Time	Statistic	4CMenB		Placebo	
			OMV Ng 1291	OMV Ng CNG20	OMV Ng 1291	OMV Ng CNG20
	Day 181	N	x	x	x	x
		GMT (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)
		GMFR (95% CI)	x (x, x)	x (x, x)	x (x, x)	x (x, x)

Note: N = Number of participants in the Immunogenicity Population for Rectal Mucosal data for a specific assay (OMV98, OMV1291, and OMV20) for certain Treatment Group

Same format for the following tables:

Table 27: Serum IgA against NHBA antigens: GMT and GMFR Results by Time Point and Treatment Group

Table 28: Rectal Mucosal IgA against OMV antigens: GMT and GMFR Results by Time Point and Treatment Group

Table 29: Rectal Mucosal IgA against NHBA antigens: GMT and GMFR Results by Time Point and Treatment Group

[note: The assays may be performed depending on specimen availability and interim immunogenicity analysis report]

Table 30: Vaginal Mucosal IgA against OMV antigens: GMT and GMFR Results by Time Point and Treatment Group

Table 31: Vaginal Mucosal IgA against NHBA antigens: GMT and GMFR Results by Time Point and Treatment Group

[note: The assays may be performed depending on specimen availability and interim immunogenicity analysis report]

Table 32: Oropharyngeal Mucosal IgA against OMV antigens: GMT and GMFR Results Time Point and Treatment Group

Table 33: Oropharyngeal Mucosal IgA against NHBA antigens: GMT and GMFR Results Time Point and Treatment Group

[note: The assays may be performed depending on specimen availability and interim immunogenicity analysis report]

Table 34: Serum Bactericidal antibody GMT and GMFR Results against N. Gonorrhoeae by Time Point and Treatment Group

Table 35: Frequencies of Memory B Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group

Population	Assay: IgG MBC ELISpot	Statistic	4CMenB				Placebo			
			Day 1	Day 29	Day 43	Day 181	Day 1	Day 29	Day 43	Day 181
Immunogenicity Population	**OMV NZ98**	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	OMV Ng1291	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	OMV CNG20	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA NZ98	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA Ng1291	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA CNG20	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)

Table 35: Frequencies of Memory B Cells Specific for OMV and NHBA antigens by Time Point and Treatment Group (continued)

Population	Assay: IgG MBC ELISpot	Statistic	4CMenB				Placebo			
			Day 1	Day 29	Day 43	Day 181	Day 1	Day 29	Day 43	Day 181
Per-protocol Population	**OMV NZ98**	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	OMV Ng1291	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	OMV CNG20	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA NZ98	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA Ng1291	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	NHBA CNG20	N	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (Range)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)

Notes: N is the number of participants in each group at given timepoint.
Frequencies are % total IgG-secreting memory B cells (format: 0.00-XXX)

Table 36: Frequencies of Peripheral Blood T Cells Specific for OMV Antigens by Time Point and Treatment Group

Population	Assay: IFNg ELISpot	Statistic	4CMenB							Placebo						
			Day 1	Day 8	Day 15	Day 29	Day 36	Day 43	Day 57	Day 1	Day 8	Day 15	Day 29	Day 36	Day 43	Day 57
Immunogenicity Population	**IFNg NZ98 OMV**	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNg Ng1291 OMV	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNg CNG20 OMV	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
Per-protocol Population	**IFNg NZ98 OMV**	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNg Ng1291 OMV	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNg CNG20 OMV	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)

Note: N is the number of participant in each treatment group at certain timpoint
The frequencies are measured as Spots per million PBMC, format is 0 - xxxx

Table 37: Frequencies of Peripheral Blood T Cells Specific for NHBA Antigens by Time Point and Treatment Group

Population	Assay: IFNg ELISpot	Statistic	4CMenB			Placebo		
			Day 1	Day 15	Day43	Day 1	Day 15	Day43
Immunogenicity Population	NZ98 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	1291 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	CNG20 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	Consensus Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
Per-Protocol Population	NZ98 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	1291 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	CNG20 NHBA Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	Consensus Peptide pool	N	x	x	x	x	x	x
		Geometric Mean	x	x	x	x	x	x
		95% CI	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
Note: The frequencies are measured as Spots per million PBMC, format is 0 - xxxx								

Table 38: Frequencies of Peripheral Blood CD4+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group – Intracellular Cytokine Staining (ICS), Immunogenicity Population

Assay: ICS	Phenotype	Statistic	4CMenB					Placebo				
			Day 1	Day 15	Day 29	Day 43	Day 57	Day 1	Day 15	Day 29	Day 43	Day 57
NZ98 OMV	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
1291 OMV	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
CNG20 OMV	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x

Table 38: Frequencies of Peripheral Blood CD4+ T Cells Specific for OMV and NHBA Antigens from GC by Time Point and Treatment Group – Intracellular Cytokine Staining (ICS), Immunogenicity Population (continued)

Assay: ICS	Phenotype	Statistic	4CMenB					Placebo				
			Day 1	Day 15	Day 29	Day 43	Day 57	Day 1	Day 15	Day 29	Day 43	Day 57
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
NHBA NZ98	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
NHBA Ng1291	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
NHBA CNG20	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)

Table 38: Frequencies of Peripheral Blood CD4+ T Cells Specific for OMV and NHBA Antigens from GC by Time Point and Treatment Group – Intracellular Cytokine Staining (ICS), Immunogenicity Population (continued)

Assay: ICS	Phenotype	Statistic	4CMenB					Placebo				
			Day 1	Day 15	Day 29	Day 43	Day 57	Day 1	Day 15	Day 29	Day 43	Day 57
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
Consensus peptide pool	IL17+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x	x	x	x	x	x	x
		Mean (SD)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)	x(x)
		Median (IQR)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)	(x, x)
Note: Frequencies are presented as percentage format 0.00% - 99.99%												

[*Implementation note for above and below table, the values reported in the table are values derived from (original value - background value)*]

Same format for the following tables:

Table 39: Frequencies and Function of Peripheral Blood CD4+ T cells Specific for Antigens by Time Point and Treatment Group - ICS - Per-Protocol Population

Table 40: Frequencies and Function of Peripheral Blood CD8+ T cells Specific for Antigens by Time Point and Treatment Group - ICS - Immunogenicity Population

[note: The CD8 table should not contain IL17+ as cytokine**]**

Table 41: Frequencies and Function of Peripheral Blood CD8+ T cells Specific for Antigens by Time Point and Treatment Group - ICS - Per-Protocol Population

[note: The CD8 table should not contain IL17+ as cytokine**]**

Table 42: Frequencies and Function of Rectal Mucosal CD4+ T Cells Specific for Antigens by Time Point and Treatment Group - ICS - Immunogenicity Population

[Implementation note, the values reported in the table are values derived from (original value - background value)

The assays may be performed depending on specimen availability and interim immunogenicity analysis report]

Assay: Intracellular cytokine staining (ICS)	Phenotype	Statistic	4CMenB		Placebo	
			Day 1	Day 43	Day 1	Day 43
OMV Ng1291	IL17+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
OMV CNG20	IL17+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)

Table 42: Frequencies and Function of Rectal Mucosal CD4+ T Cells Specific for Antigens by Time Point and Treatment Group - ICS - Immunogenicity Population (continued)

Assay: Intracellular cytokine staining (ICS)	Phenotype	Statistic	4CMenB		Placebo	
			Day 1	Day 43	Day 1	Day 43
NHBA Ng1291* peptide	IL17+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
NHBA CNG20* peptide	IL17+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	TNFa+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
	IFNG+ as a % of CD4+	N	x	x	x	x
		Median (IQR)	x(x, x)	x(x, x)	x(x, x)	x(x, x)
		Range	(x, x)	(x, x)	(x, x)	(x, x)
Note: Frequencies are presented as percentage format 0.00% - 99.99%						

Same format for the following tables:

Table 43: Frequencies and Function of Rectal Mucosal CD4+ T Cells Specific for Antigens by Time Point and Treatment Group - ICS - Per-Protocol Population

Table 44: Frequencies and Function of Rectal Mucosal CD8+ T Cells Specific for Antigens by Time Point and Treatment Group - ICS - Immunogenicity Population

[note: The CD8 table should not contain IL17+ as cytokine]

Table 45: Frequencies and Function of Rectal Mucosal CD8+ T Cells Specific for Antigens by Time Point and Treatment Group - ICS - Per-Protocol Population

[note: The CD8 table should not contain IL17+ as cytokine**]**

Table 46: Percent Inhibition of Gonococcal Adhesion to Human Cervical Cell Line (ME180) by Mucosal Antibodies at Day 43

Population	Assay	Percent Inhibition (95% CI)	
		4CMenB	Placebo
Immunogenicity Population	N*	**x**	**x**
	BAA_1291	x(x , x)	x(x , x)
	BAA_20	x(x , x)	x(x , x)
Per-Protocol Population	N*	**x**	**x**
	BAA_1291	x(x , x)	x(x , x)
	BAA_20	x(x , x)	x(x , x)
*N =Number of participants in the certain Treatment Group for certain analysis population			

Table 47: Summary of Categorical Sexual History Variables at Screening - All Enrolled Participants

Variable		Characteristic	4CMenB N=X		Placebo N=X		All Participants	
			n	%	n	%	n	%
Oral receptive	Yes/No	No	x	x	x	x	x	x
		Yes	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x
		Never	x	x	x	x	x	x
Oral active	Yes/No	No	x	x	x	x	x	x
		Yes	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x
		Never	x	x	x	x	x	x
Rectal receptive	Yes/No	No	x	x	x	x	x	x
		Yes	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x
		Never	x	x	x	x	x	x
Rectal insertive	Yes/No	No	x	x	x	x	x	x
		Yes	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x
		Never	x	x	x	x	x	x
Genital/ vaginal	Yes/No	No	x	x	x	x	x	x
		Yes	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x
		Never	x	x	x	x	x	X

Note: N is the number of participants answered "Yes" to the question "Sexual intercourse in last 6 months?"

Table 48: Summary of Continuous Sexual History Variables at Screening - All Enrolled Participants

Variable	Statistics	4CMenB (N=x)	Placebo (N=x)	All Participants (N=x)
How many total sexual partners has the participant had in the preceding 6 months?	Mean (SD)	x(x)	x(x)	x(x)
	Median (min, max)	x(x,x)	x(x,x)	x(x,x)

Table 49: Summary of Categorical Sexual History Variables at Follow Up - All Enrolled Participants

Variable		Characteristic	Visit 01						Visit 04						Visit 04Z					
			4CMenB		Placebo		All Participants		4CMenB		Placebo		All Participants		4CMenB		Placebo		All Participants	
			n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sexual intercourse[a,c]		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
New partner sexual orientation[b]		Opposite-sex	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Same-sex	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Both	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Oral receptive	Yes/No	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Never	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Oral active	Yes/No	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Never	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Rectal receptive	Yes/No	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Engage in receptive anal <= 1 week after the rectal biopsy procedure?	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Never	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Table 49: Summary of Categorical Sexual History Variables at Follow Up - All Enrolled Participants (continued)

Variable		Characteristic	Visit 01						Visit 04						Visit 04Z					
			4CMenB		Placebo		All Participants		4CMenB		Placebo		All Participants		4CMenB		Placebo		All Participants	
			n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Rectal insertive	Yes/No	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Never	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Genital/vaginal	Yes/No	No	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Yes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	How often did the participant or the participant's partner use a condom or barrier for protection?	Always	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Sometimes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Never	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	X

[a] The question is: Sexual intercourse since previous visit?
[b] The question is:if there is new partner since previous visit, what is sexual orientation?
[c] if the answer to this question is "Yes" then continue.

Table 50: Summary of Continuous Sexual History Variables at Follow Up - All Enrolled Participants

		Visit 01			Visit 04			Visit 04Z		
Variable	**Statistics**	**4CMenB (N=x)**	**Placebo (N=x)**	**All Participants (N=x)**	**4CMenB (N=x)**	**Placebo (N=x)**	**All Participants (N=x)**	**4CMenB (N=x)**	**Placebo (N=x)**	**All Participants (N=x)**
How many total sexual partners has the participant had since previous visit?	Mean (SD)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)
	Median (min, max)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)
How many new sexual partners has the participant had? *	Mean (SD)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)	x(x)
	Median (min, max)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)	x (x,x)

* New partner defined as partners since the last assessment with no sexual contact in the 6 months prior to initial screening.

14.3 Safety Data

14.3.1 Displays of Adverse Events

Table 51: Overall Summary of Adverse Events

	4CMenB (N = x)		Placebo (N = x)		All Participants (N = x)	
Participants[a] with	n	%	n	%	n	%
At least one solicited adverse event						
At least one local solicited adverse event	x	x	x	x	x	x
At least one systemic solicited adverse event	x	x	x	x	x	x
At least one solicited adverse event due to rectal mucosal biopsy procedure	x	x	x	x	x	x
At least one unsolicited adverse event	x	x	x	x	x	x
Mild (Grade 1)	x	x	x	x	x	x
Moderate (Grade 2)	x	x	x	x	x	x
Severe (Grade 3)	x	x	x	x	x	x
Not yet assessed	x	x	x	x	x	x
At least one related unsolicited adverse event	x	x	x	x	x	x
Mild (Grade 1)	x	x	x	x	x	x
Moderate (Grade 2)	x	x	x	x	x	x
Severe (Grade 3)	x	x	x	x	x	x
Not yet assessed	x	x	x	x	x	x
At least one severe (Grade 3) unsolicited adverse event	x	x	x	x	x	x
Related	x	x	x	x	x	x
Unrelated	x	x	x	x	x	x
At least one serious adverse event[b]	x	x	x	x	x	x
At least one related, serious adverse event	x	x	x	x	x	x
At least one adverse event leading to early termination[c]	x	x	x	x	x	x
At least one medically attended adverse event	x	x	x	x	x	x

Note: N = Number of participants in the Safety Population
[a] Participants are counted once for each category regardless of the number of events.
[b] A listing of Serious Adverse Events is included in Section 9.3
[c] As reported on the Adverse Event eCRF.

14.3.2 Listing of Deaths, Other Serious and Significant Adverse Events

Table 52: Listing of Serious Adverse Events– Safety Population

[Implementation Note: This listing is included in the table shells document, as it is included in the body of the CSR. If the event is ongoing (no stop date), indicate "ongoing" for the "Duration". If more than one reason is selected for the reason reported as an SAE, list all reasons in the column, separated by a comma. In the "If Not Related, Alternate Etiology" column, merge the 2 data fields for collecting alternate etiology, separate by a colon. If there are no comments for an event, populate 'Comments' row with 'None'. Add columns for MedDRA HLT or LLT depending on halting criteria or other study needs. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Listing should be sorted by Treatment Group, Participant ID, Associated with Dose No., and No. of Days Post Associated Dose.]

Adverse Event	Associated with Dose No.	No. of Days Post Associated Dose (Duration)	No. of Days Post Dose the Event Became Serious	Reason Reported as an SAE	Severity	Relationship to Study Treatment	If Not Related, Alternative Etiology	Action Taken with Study Treatment	Participant Discontinued Due to AE	Outcome	MedDRA System Organ Class	MedDRA Preferred Term
Treatment Group: , Participant ID: , AE Number:												
Comments:												
Participant ID: , Treatment Group: , AE Number:												
Comments:												

Table 53: Listing of Non-Serious Adverse Events of Moderate or Greater Severity – Safety Population

[Implementation Note: Listing should be sorted by Treatment Group, Participant ID, Associated with Dose No., and No. of Days Post Associated Dose.]

Adverse Event	Associated with Dose No.	No. of Days Post Associated Dose (Duration)	No. of Days Post Dose the Event Became Serious	Severity	Relationship to Study Treatment	If Not Related, Alternative Etiology	Action Taken with Study Treatment	Participant Discontinued Due to AE	Outcome	MedDRA System Organ Class	MedDRA Preferred Term
Treatment Group: , Participant ID: , AE Number:											
Comments:											
Participant ID: , Treatment Group: , AE Number:											
Comments:											

Table 54: Adverse Events Occurring in ≥ 5% of Participants in Any Treatment Group by MedDRA System Organ Class and Preferred Term, and Treatment Group - Safety Population

Preferred Term	MedDRA System Organ Class	4CMenB (N=X)			Placebo (N=X)			All Participants (N=X)		
		n	%	Events	n	%	Events	n	%	Events
Serious Adverse Events										
All	All	x	x	x	x	x	x	x	x	x
PT1	SOC1	x	x	x	x	x	x	x	x	x
Etc.	Etc.	x	x	x	x	x	x	x	x	x
Other (Non-serious) Adverse Events										
All	All	x	x	x	x	x	x	x	x	x
PT1	SOC1	x	x	x	x	x	x	x	x	x
Etc.	Etc.	x	x	x	x	x	x	x	x	x

Notes: N = number of participants in the Safety Population (number of participants at risk).
n= number of participants reporting event.
Events= total frequency of events reported.

14.3.1.1 Solicited Adverse Events

Table 55: Number and Percentage of Participants Experiencing Solicited Events with 95% Confidence Intervals by Symptom, Maximum Severity, Dose, and Treatment Group – Safety Population

Symptom	Severity	Post Dose 1 - 4CMenB (N=X)			Post Dose 1 - Placebo (N=X)			Post Dose 2 - 4CMenB (N=X)			Post Dose 2 - Placebo (N=X)			Post Either Dose-4CMenB (N=X)			Post Either Dose Placebo (N=X)		
		n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]
Any Symptom	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
Systemic Symptoms																			
Any Systemic Symptom	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
[Systemic Symptom 1]	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
[Systemic Symptom 2]	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x

Table 55: Number and Percentage of Participants Experiencing Solicited Events with 95% Confidence Intervals by Symptom, Maximum Severity, Dose, and Treatment Group – Safety Population (continued)

Symptom	Severity	Post Dose 1 - 4CMenB (N=X)			Post Dose 1 - Placebo (N=X)			Post Dose 2 - 4CMenB (N=X)			Post Dose 2 - Placebo (N=X)			Post Either Dose-4CMenB (N=X)			Post Either Dose Placebo (N=X)		
		n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]	n	%	95% CI[a]
Local Symptoms																			
Any Local Symptom	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
[Local Symptom 1]	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
[Local Symptom 2]	Any Severity	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	None	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Mild	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Moderate	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x
	Severe	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x	x	xx	x, x

Note: N = Number of participants in the Safety Population who received the specified dose. Severity is the maximum severity reported over all solicited symptoms post dosing for each participant.
[a] The 95% CI of the proportion will be calculated using Clopper-Pearson (Exact) methodology from a binomial distribution.

Table 56: Number and Percentage of Participants Experiencing Solicited Events by Symptom, Severity, and Day Post Dosing - 4CMenB, Post Dose 1

Symptom	Severity	Pre-Dose 1		Post-Dose 1		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7+	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any Symptom	None	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		
Systemic Symptoms																			
Any Systemic Symptom	None	x	xx	x	xx	x	xx	X	xx	x	xx	x	xx	x	xx	x	xx	x	xx
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		
[Systemic Symptom 1]	None																		
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		
[Systemic Symptom 2]	None																		
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		
Local Symptoms																			
Any Local Symptom	None	x	xx	x	xx	x	xx	X	xx	x	xx	x	xx	x	xx	x	xx	x	xx
	Mild																		

Table 56: Number and Percentage of Participants Experiencing Solicited Events by Symptom, Severity, and Day Post Dosing - 4CMenB, Post Dose 1 (continued)

Symptom	Severity	Pre-Dose 1		Post-Dose 1		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7+	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
	Moderate																		
	Severe																		
	Not Reported																		
[Local Symptom 1]	None																		
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		
[Local Symptom 2]	None																		
	Mild																		
	Moderate																		
	Severe																		
	Not Reported																		

Note: N = Number of participants in the Safety Population who received the specified dose. Severity is the maximum severity reported post dosing for each participant for each day.

Tables with similar format:

Table 57: Number and Percentage of Participants Experiencing Solicited Events by Symptom, Severity, and Day Post Dosing- 4CMenB, Post Dose 2

Table 58: Number and Percentage of Participants Experiencing Solicited Events by Symptom, Severity, and Day Post Dosing- Placebo, Post Dose 1

Table 59: Number and Percentage of Participants Experiencing Solicited Events by Symptom, Severity, and Day - Placebo, Post Dose 2

Table 60: Number and Percentage of Participants Experiencing Solicited Events for Dose 1 Compared with Dose 2 by Treatment Group

Treatment Group		Dose 2 – Participants with No Symptoms	Dose 2 – Participants with Mild or Greater Symptoms	Dose 2 – Total Number of Participants
Systemic Symptoms				
	Dose 1 Participant with No Symptoms	x (%)	x (%)	x (%)
	Dose 1 Participants with Mild or Greater Symptoms	x (%)	x (%)	x (%)
4CMenB	Dose 1 Total Number of Participants	x (%)	x (%)	x (100%)
	Dose 1 Participant with No Symptoms	x (%)	x (%)	x (%)
	Dose 1 Participants with Mild or Greater Symptoms	x (%)	x (%)	x (%)
Placebo	Dose 1 Total Number of Participants	x (%)	x (%)	x (100%)
Local Symptoms				
	Dose 1 Participants with No Symptoms	x (%)	x (%)	x (%)
	Dose 1 Participants with Mild or Greater Symptoms	x (%)	x (%)	x (%)
4CMenB	Dose 1 Total Number of Participants	x (%)	x (%)	x (100%)
	Dose 1 Participants with No Symptoms	x (%)	x (%)	x (%)
	Dose 1 Participants with Mild or Greater Symptoms	x (%)	x (%)	x (%)
Placebo	Dose Total Number of Participants	x (%)	x (%)	x (100%)

Notes: Denominators for percentages are the number of participants in the Safety Population who received both the first and second dose.
[x] participants did not get the second dose and are not included in this table.

14.3.1.2 Unsolicited Adverse Events

Table 61: Summary of Unsolicited Adverse Events by MedDRA System Organ Class and Preferred Term, Dose Number, and Treatment Group

4CMenB													
		Post Dose 1 (N=X)				Post Dose 2 (N=X)				Post Any Dose (N=X)			
MedDRA Preferred Term	MedDRA Preferred Term	n	%	95% CI	Events	n	%	95% CI	Events	n	%	95% CI	Events
Any SOC	Any PT	x	xx	xx, xx	x	x	xx	xx, xx	x	x	xx	xx, xx	x
[SOC 1]	Any PT												
	[PT 1]												
	[PT 2]												
[SOC 2]	Any PT												
	[PT 1]												
	[PT 2]												
Placebo													
MedDRA System Organ Class	MedDRA Preferred Term	Post Dose 1 (N=X)				Post Dose 2 (N=X)				Post Any Dose (N=X)			
		n	%	95% CI	Events	n	%	95% CI	Events	n	%	95% CI	Events
Any SOC	Any PT	x	xx	xx, xx	x	x	xx	xx, xx	x	x	xx	xx, xx	x
[SOC 1]	Any PT												
	[PT 1]												
	[PT 2]												
[SOC 2]	Any PT												
	[PT 1]												
	[PT 2]												

Note: N = number of participants in the Safety Population who received the specified dose. This table presents number and percentage of participants. A participant is only counted once per PT/time point.

Table 62: Unsolicited Adverse Events by MedDRA System Organ Class and Preferred Term, Maximum Severity, Relationship, and Treatment Group

MedDRA System Organ Class	Preferred Term	Severity	4CMenB (N = X)						Placebo (N = X)						All Participants (N = X)					
			Related		Not Related		Total		Related		Not Related		Total		Related		Not Related		Total	
			n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any SOC	Any PT	Any Severity	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Mild	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Moderate	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Severe	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
SOC 1	PT 1	Any Severity	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Mild	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Moderate	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Severe	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
	PT 2	Any Severity	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Mild	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Moderate	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx
		Severe	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx	x	xx

Note: N = Number of participants in the Safety Population.

Table 63: Related Unsolicited Adverse Events Within 7 Days Post Dosing by MedDRA System Organ Class and Preferred Term, Dose, and Treatment Group

[Implementation Note: Day x-y interval should correspond to period of collection for solicited symptoms, if applicable.]

			Day 1-7 Post Dose 1			Day 1-7 Post Dose 2			Within 7 Days Post Either Dose		
Treatment Group	**MedDRA System Organ Class**	**MedDRA Preferred Term**	**n**	**%**	**Events**	**n**	**%**	**Events**	**n**	**%**	**Events**
4CMenB (N = X)	Any SOC	Any PT	x	xx	x	x	xx	x	x	xx	x
	[SOC 1]	Any PT									
		[PT 1]									
		[PT 2]									
	[SOC 2]	Any PT									
		[PT 1]									
		[PT 2]									
Placebo (N=X)	Any SOC	Any PT	x	xx	x	x	xx	x	x	xx	x
	[SOC 1]	Any PT									
		[PT 1]									
		[PT 2]									
Note: N = Number of participants in the Safety Population. This table presents number and percentage of participants. For each time point, a participant is only counted once per PT.											

Table 64: Laboratory Assessment --RPR Results - Safety Population

Time Point	Treatment Group	N	Positive		Negative		Missing	
			n	%	n	%	n	%
Baseline	4CMenB	x	x	xx	x	xx	x	xx
	Placebo							
Day 29	4CMenB							
	Placebo							
Day 181	4CMenB							
	Placebo							
Max Severity Post Baseline	4CMenB							
	Placebo							
Note: N = Number of available participants in the Safety Population at certain time								

Table of Figures (continued)

Table 65: Laboratory Assessment --HIV Antibody Testing Results - Safety Population

Time Point	Treatment Group	N	Positive		Negative		Missing	
			n	%	n	%	n	%
Baseline	4CMenB	x	x	xx	x	xx	x	xx
	Placebo							
Day 181	4CMenB							
	Placebo							
Max Severity Post Baseline	4CMenB							
	Placebo							
Note: N = Number of available participants in the Safety Population at certain time								

Table of Figures (continued)

Table 66: Laboratory Assessment – Chlamydia NAAT Testing Results - Safety Population

Test	Time Point	Treatment Group	N	Positive		Negative		Missing	
				n	%	n	%	n	%
Chlamydia NAAT Genitourinary	Baseline	4CMenB	x	x	xx	x	xx	x	xx
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Chlamydia NAAT Rectal	Baseline	4CMenB							
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Chlamydia NAAT Pharyngeal	Baseline	4CMenB							
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Note: N = Number of available participants in the Safety Population at certain time									

Table of Figures (continued)

Table 67: Laboratory Assessment – Gonorrhea NAAT Testing Results - Safety Population

Test	Time Point	Treatment Group	N	Positive		Negative		Missing	
				n	%	n	%	n	%
Gonorrhea NAAT Genitourinary	Baseline	4CMenB	x	x	xx	x	xx	x	xx
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Gonorrhea NAAT Rectal	Baseline	4CMenB							
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Gonorrhea NAAT Pharyngeal	Baseline	4CMenB							
		Placebo							
	Day 29	4CMenB							
		Placebo							
	Day 181	4CMenB							
		Placebo							
Note: N = Number of available participants in the Safety Population at certain time.									

Table of Figures (continued)

Table 68: Laboratory Assessment – Trichomonas Testing Results - Safety Population

Time Point	Treatment Group	N	Positive		Negative		Missing	
			n	%	n	%	n	%
Baseline	4CMenB	x	x	xx	x	xx	x	xx
	Placebo							
Day 29	4CMenB							
	Placebo							
Day 181	4CMenB							
	Placebo							
Note: N = Number of available participants in the Safety Population at certain time.								

Table 69: Number and Percentage of Participants with Prior and Concurrent Medications by WHO Drug Classification and Treatment Group

WHO Drug Code Level 1, Anatomic Group	WHO Drug Code Level 2, Therapeutic Subgroup	4CMenB (N=X)		Placebo (N=X)		All Participants (N=X)	
		n	%	n	%	n	%
Any Level 1 Codes	Any Level 2 Codes	x	xx	x	xx	x	xx
[ATC Level 1 - 1]	Any [ATC 1 – 1]						
	[ATC 2 - 1]						
	[ATC 2 - 2]						
	[ATC 2 - 3]						
[ATC Level 1 – 2]	Any [ATC 1 – 2]						
	[ATC 2 - 1]						
	[ATC 2 - 2]						

Note: N = Number of participants in each group in the Safety Population.
n = Number of participants reporting taking at least one medication in the specific WHO Drug Class.

APPENDIX 2. FIGURE MOCK-UPS

LIST OF FIGURES

Table of Figures (continued)

Table of Figures (continued)

Table of Figures (continued)

Table of Figures (continued)

Table of Figures (continued)

Figure 1: CONSORT Flow Diagram- Disposition of Participants

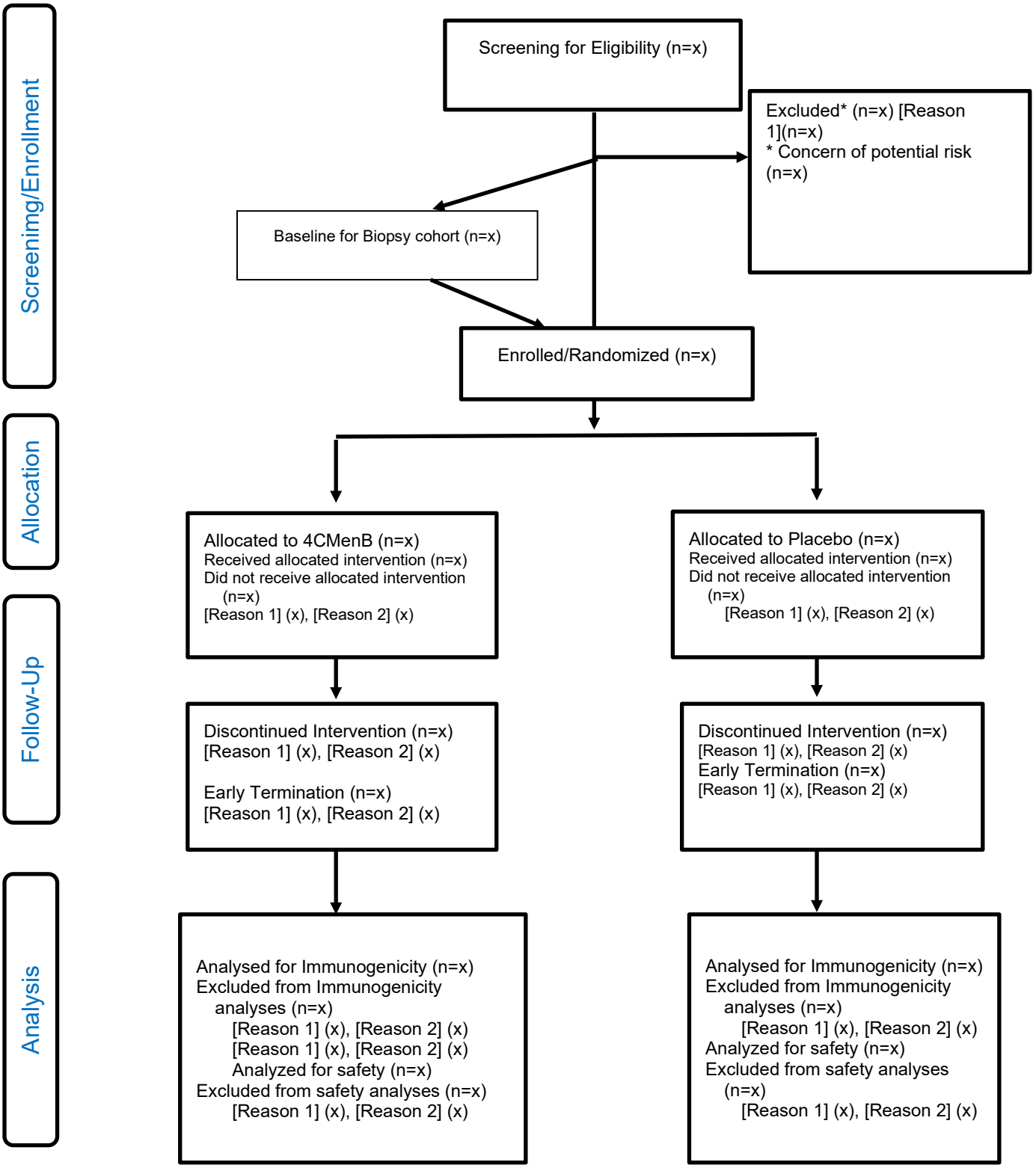
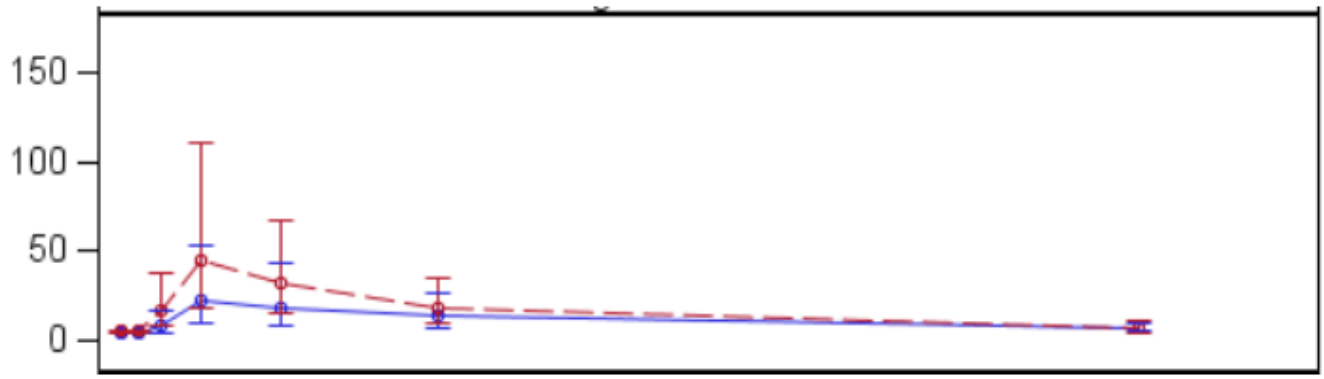


Figure 2: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

[Implementation Note: A generic sample figure is shown below. Planned study day is plotted along the x-axis, with visit labels as tick labels. Titer/frequency is plotted on the y-axis. Separated panels will be used for different antigens- **Ng1291** and **CNG20**. Different colors indicate different treatment groups and/or sex. Scale will be determined for each antigen separately based on the distribution of the data received). GMT/frequency will be plotted at each visit with upper and lower error bars for the 95% CI for each study arm with different marker shapes/colors for each study arm.]



Figures with similar format (for Serum, include **NZ98, Ng1291 and CNG20;** For mucosal, only include **Ng1291 and CNG20.**):

Figure 3: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against OMV by Study Day, Sex and Treatment Group - Immunogenicity Population

Figure 4: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 5: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against OMV by Study Day, Sex and Treatment Group - Per-Protocol Population

Figure 6: Geometric Mean Titers of Serum IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 7: Geometric Mean Titers of Serum IgG Antibody Against OMV by Study Day, Sex and Treatment Group - Immunogenicity Population

Figure 8: Geometric Mean Titers of Serum IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 9: Geometric Mean Titers of Serum IgG Antibody Against OMV by Study Day, Sex and Treatment Group - Per-Protocol Population

Figure 10: Geometric Mean Titers of Serum IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 11: Geometric Mean Titers of Serum IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 12: Geometric Mean Titers of Vaginal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 13: Geometric Mean Titers of Vaginal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 14: Geometric Mean Titers of Oropharyngeal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 15: Geometric Mean Titers of Oropharyngeal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Following analysis (Figure 16-21) will be performed based on the results of the interim analysis and specimen availability

Figure 16: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 17: Geometric Mean Titers of Rectal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 18: Geometric Mean Titers of Vaginal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 19: Geometric Mean Titers of Vaginal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 20: Geometric Mean Titers of Oropharyngeal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 21: Geometric Mean Titers of Oropharyngeal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 22: Geometric Mean Titers of Serum IgA Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 23: Geometric Mean Titers of Serum IgA Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

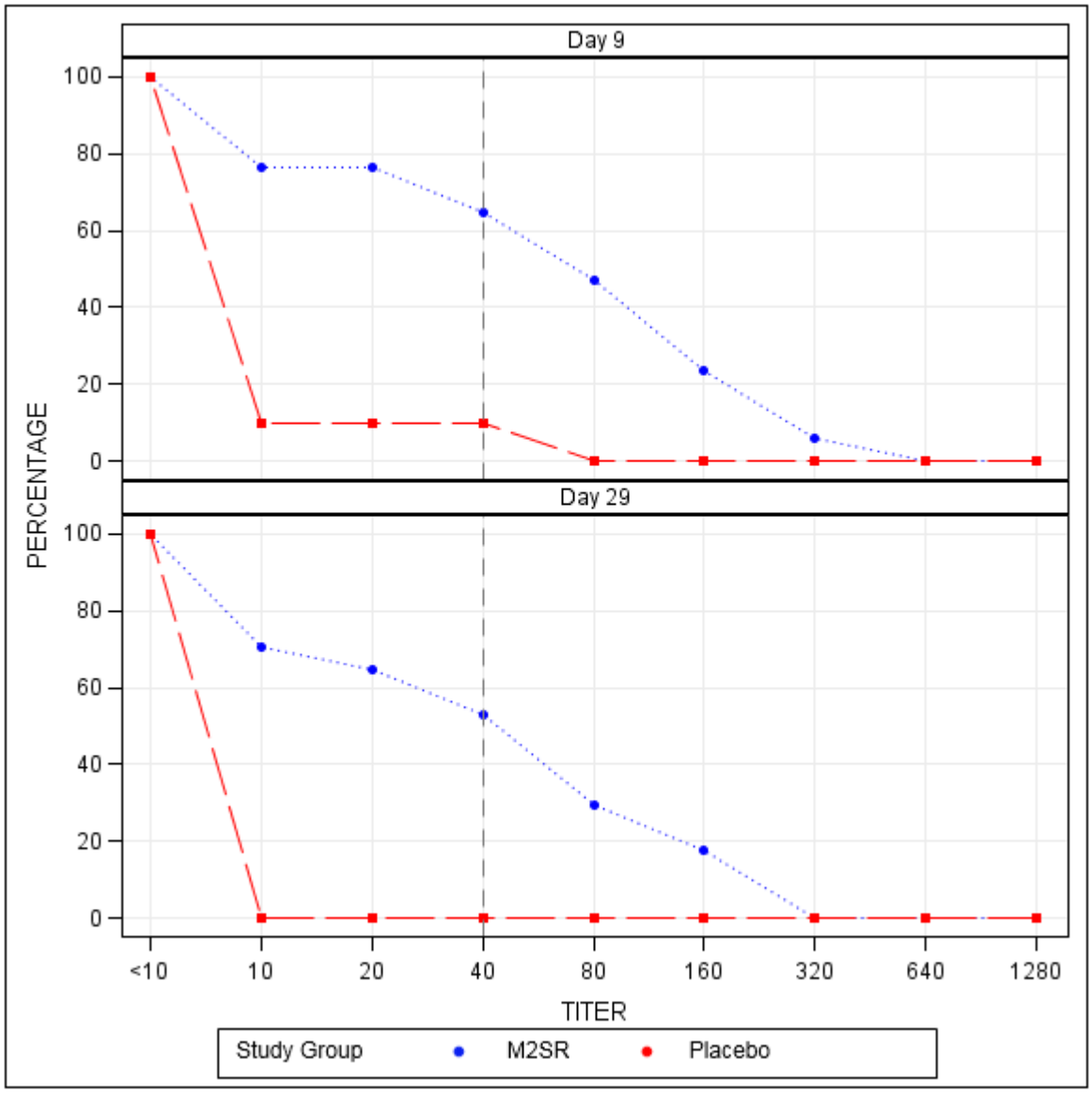
Figure 24: Geometric Mean Titers of Serum IgA Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 25: Geometric Mean Titers of Serum IgA Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 26: Geometric Mean Titers of Rectal Mucosal IgA Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 40: Reverse Cumulative Distribution of Rectal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

[Implementation Note: An example figure is shown below. The figures for each antigen (OMV98, OMV1291, and OMV20) will have one column with time points (Day 1, Day 15, Day 29, Day 43, Day 57, Day 181). There will be 3x6 panels in this figure. Study arms will be plotted with different marker/line colors.]



Figures with similar format:

Figure 41: Reverse Cumulative Distribution of Rectal Mucosal IgG Antibody Against OMV by Day and Treatment Group - Per-Protocol Population

Figure 42: Reverse Cumulative Distribution of Serum IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 43: Reverse Cumulative Distribution of Serum IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 44: Reverse Cumulative Distribution of Serum IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 45: Reverse Cumulative Distribution of Serum IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 46: Reverse Cumulative Distribution of Vaginal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 47: Reverse Cumulative Distribution of Vaginal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 48: Reverse Cumulative Distribution of Oropharyngeal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 49: Reverse Cumulative Distribution of Oropharyngeal Mucosal IgG Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Following analysis (Figure 50-73) will be performed based on the results of the interim analysis and specimen availability

Figure 50: Reverse Cumulative Distribution of Rectal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 51: Reverse Cumulative Distribution of Rectal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 52: Reverse Cumulative Distribution of Vaginal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 53: Reverse Cumulative Distribution of Vaginal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

Figure 54: Reverse Cumulative Distribution of Oropharyngeal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 55: Reverse Cumulative Distribution of Oropharyngeal Mucosal IgG Antibody Against NHBA by Study Day and Treatment Group - Per-Protocol Population

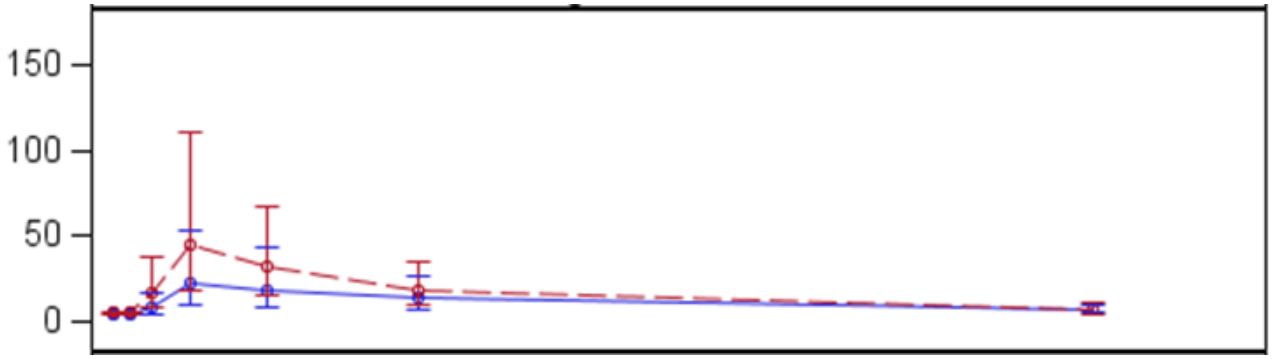
Figure 56: Reverse Cumulative Distribution of Rectal Mucosal IgA Antibody Against OMV by Study Day and Treatment Group - Immunogenicity Population

Figure 57: Reverse Cumulative Distribution of Rectal Mucosal IgA Antibody Against OMV by Study Day and Treatment Group - Per-Protocol Population

Figure 58: Reverse Cumulative Distribution of Rectal Mucosal IgA Antibody Against NHBA by Study Day and Treatment Group - Immunogenicity Population

Figure 74: Frequencies and Function of Memory B Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Immunogenicity Population

[Implementation Note: A generic sample figure is shown below. Planned study day is plotted along the x-axis, with visit labels as tick labels. Titer/frequency is plotted on the y-axis (Scale will be determined for NZ98, Ng1291 and CNG20 from OMV or NHBA separately based on the distribution of the data received). Frequency will be plotted at each visit with upper and lower error bars for the 95% CI for each study arm with different marker shapes/colors for each study arm.]



Figures with similar format:

Figure 75: Frequencies and Function of Memory B Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Per-Protocol Population

Figure 76: Frequencies and Function of Peripheral Blood T Cells Specific for OMV Antigens by Time Point and Treatment Group - Immunogenicity Population

Figure 77: Frequencies and Function of Peripheral Blood T Cells Specific for OMV Antigens by Time Point and Treatment Group - Per-Protocol Population

Figure 78: Frequencies and Function of Peripheral Blood T Cells Specific for NHBA Antigens by Time Point and Treatment Group - Immunogenicity Population

Figure 79: Frequencies and Function of Peripheral Blood T Cells Specific for NHBA Antigens by Time Point and Treatment Group - Per-Protocol Population

Figure 80: Frequencies and Function of Peripheral Blood CD4+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Immunogenicity Population

Figure 81: Frequencies and Function of Peripheral Blood CD4+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Per-Protocol Population

Figure 82: Frequencies and Function of Peripheral Blood CD8+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Immunogenicity Population

Figure 83: Frequencies and Function of Peripheral Blood CD8+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Per-Protocol Population

Figure 84: Frequencies and Function of Rectal Mucosal CD4+ T Cells Specific for OMV and NHBA Antigens by Time Point and Treatment Group - Immunogenicity Population

Figure 88: Number and Severity of Adverse Events by MedDRA System Organ Class and Treatment Group

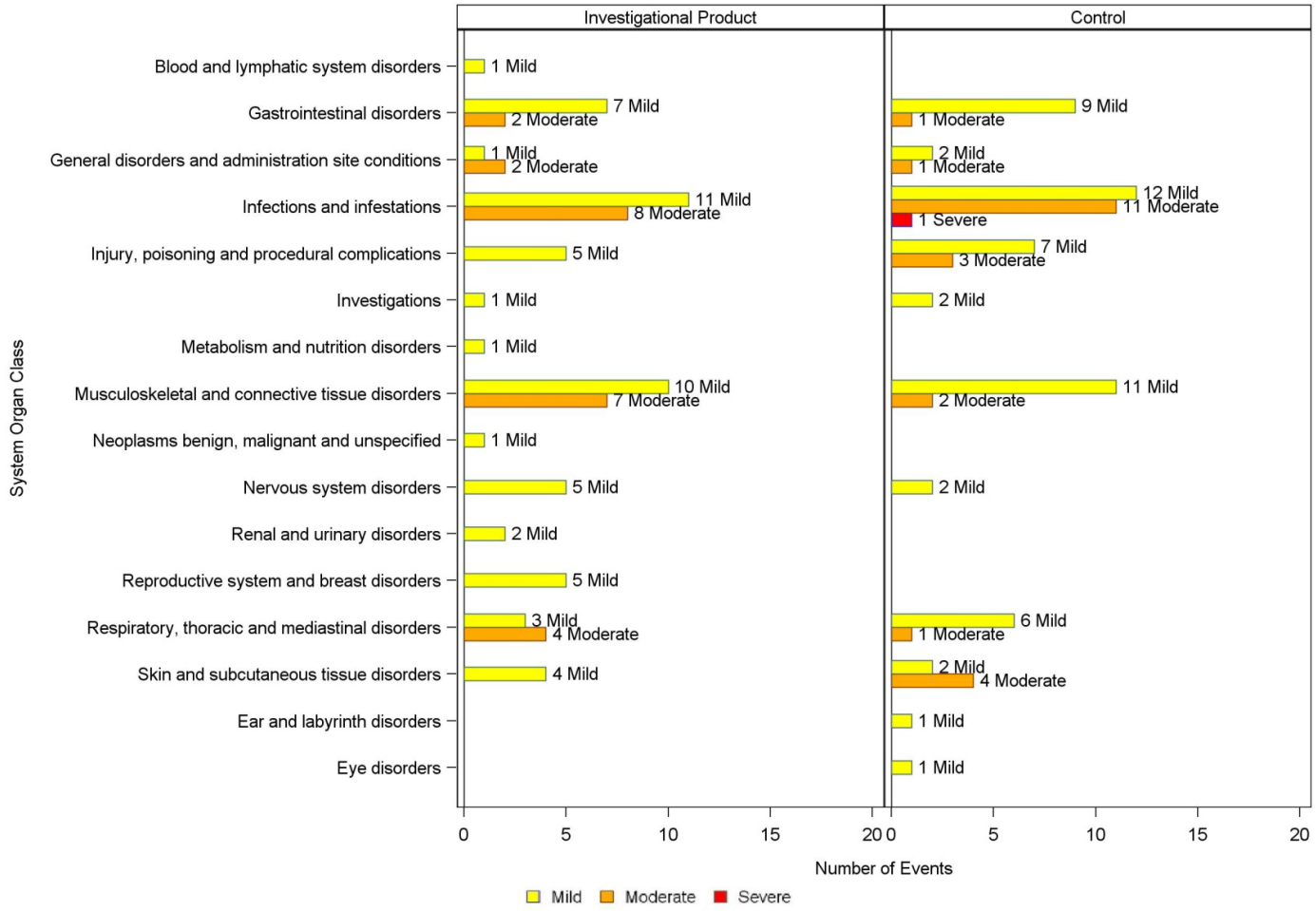


Figure 89: Maximum Severity of Solicited Events by Reaction and Treatment Group

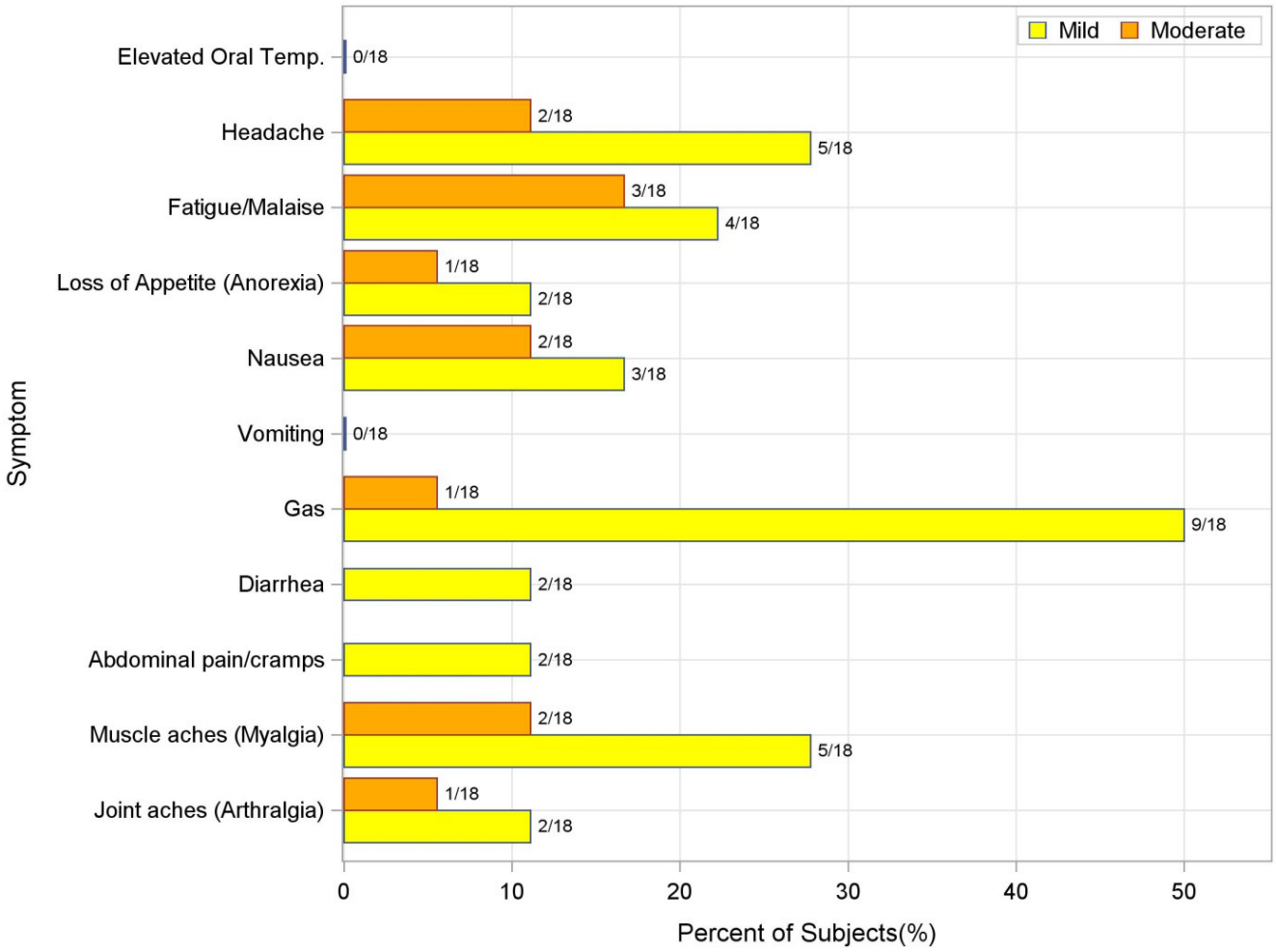


Figure 90: Maximum Severity of Solicited Events per Participant by Days Post Treatment and Treatment Group

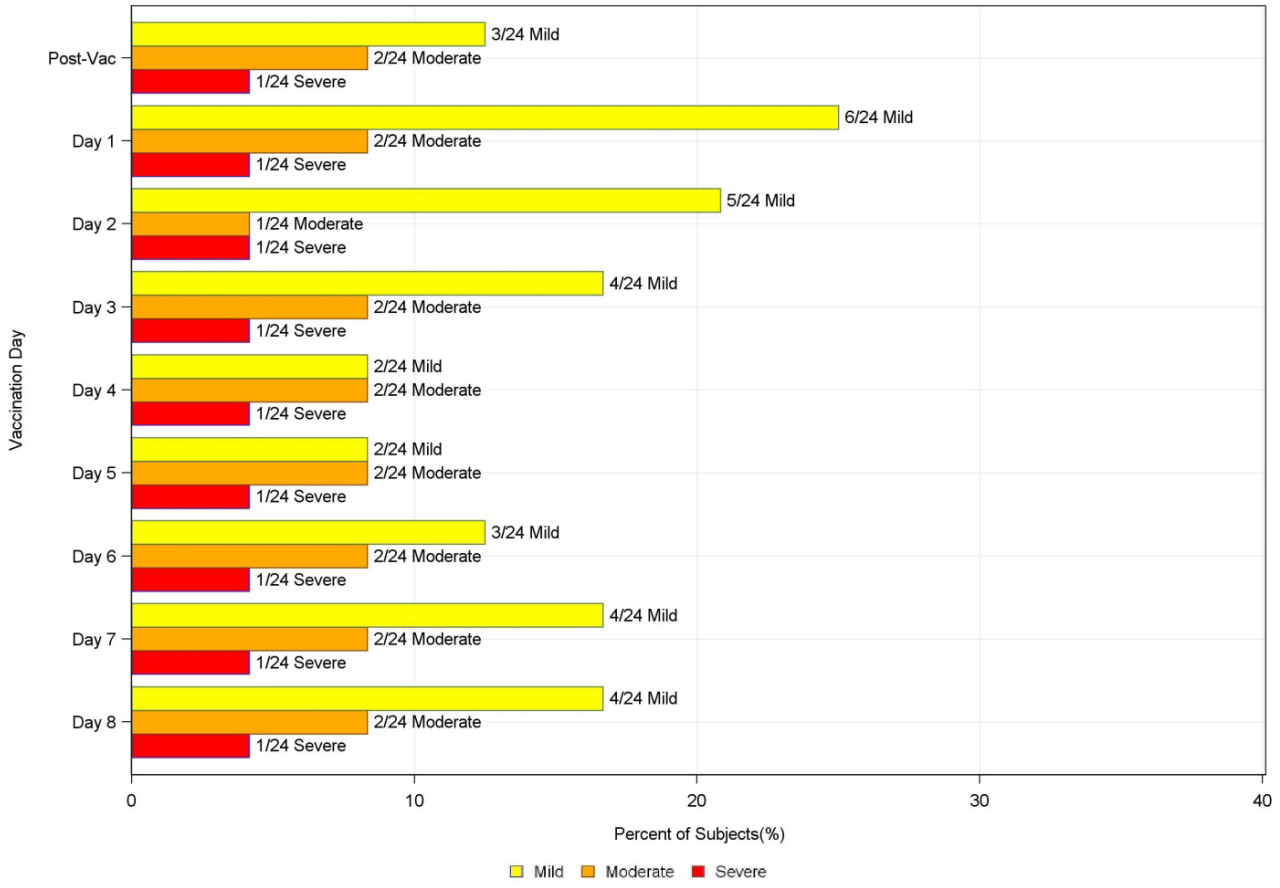


Figure 91: Number of Adverse Events by MedDRA System Organ Class and Severity

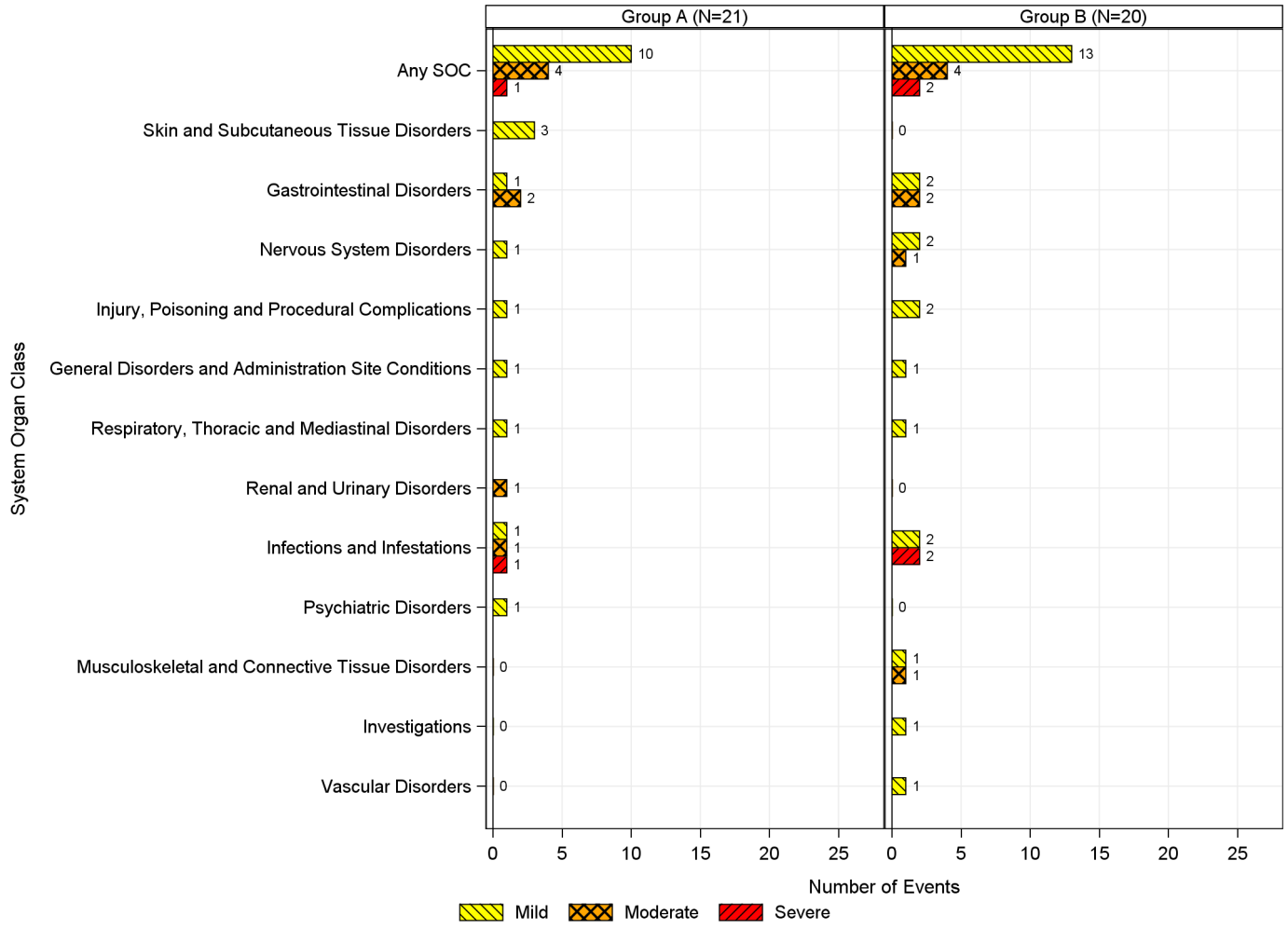


Figure 92: Number of and Percentage of Participants Experiencing Adverse Events by MedDRA System Organ Class and Maximum Severity

[Implementation Note: This figure includes serious and non-serious unsolicited adverse events deemed related to study product. The SOCs should be sorted in descending incidence; e.g., for this figure, "Infections and infestations" should be listed first.]

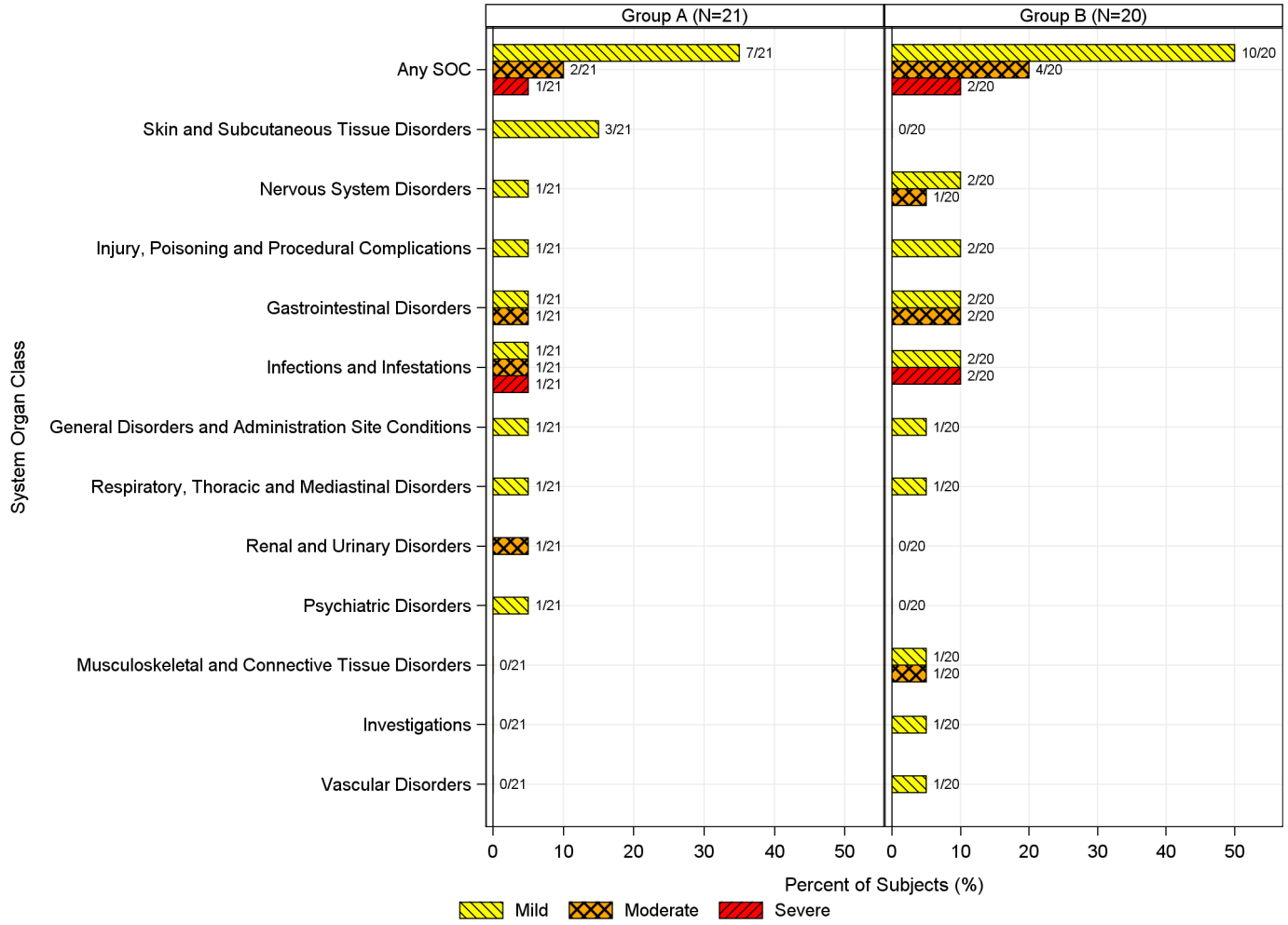


Figure 93: Number of Adverse Events by MedDRA System Organ Class and Relationship to Treatment

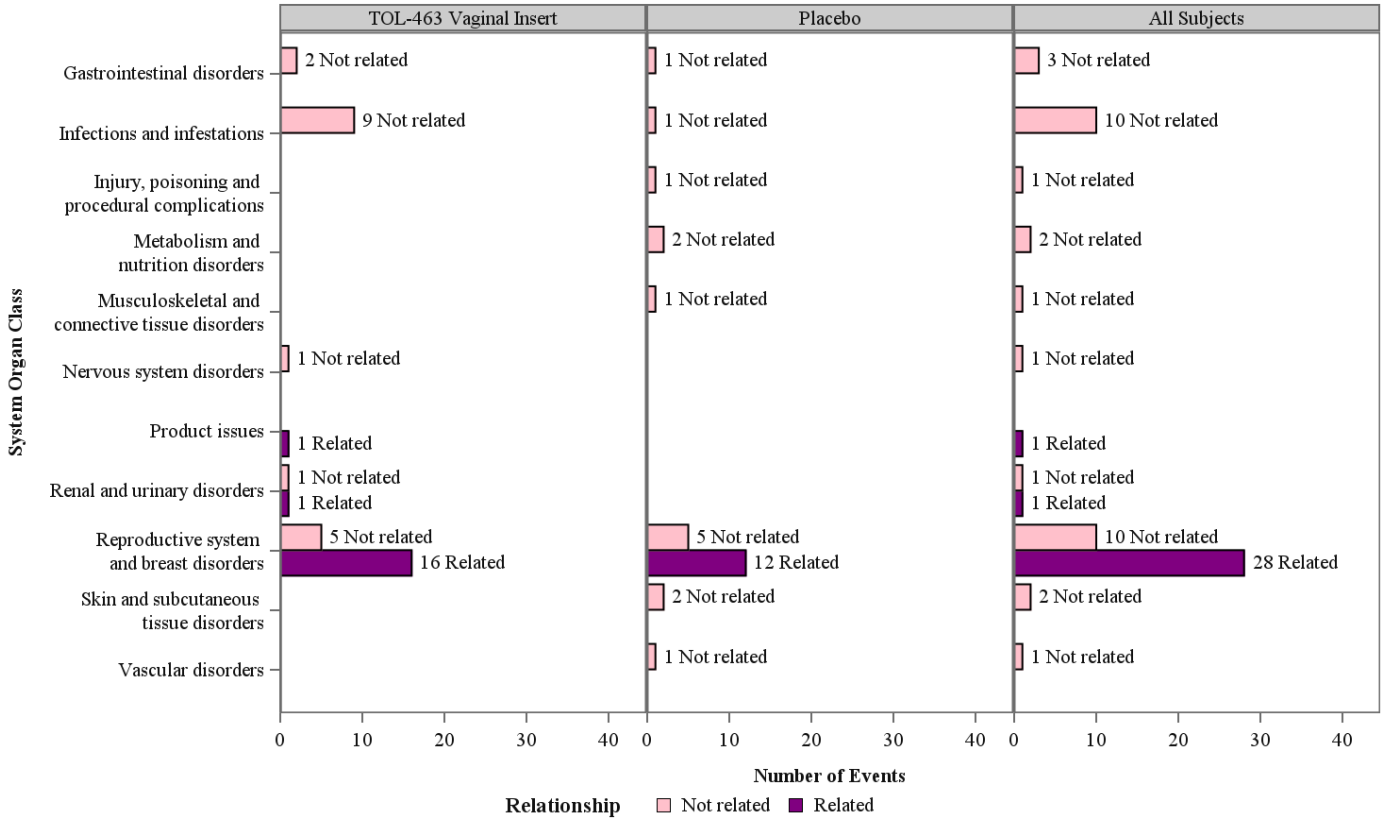
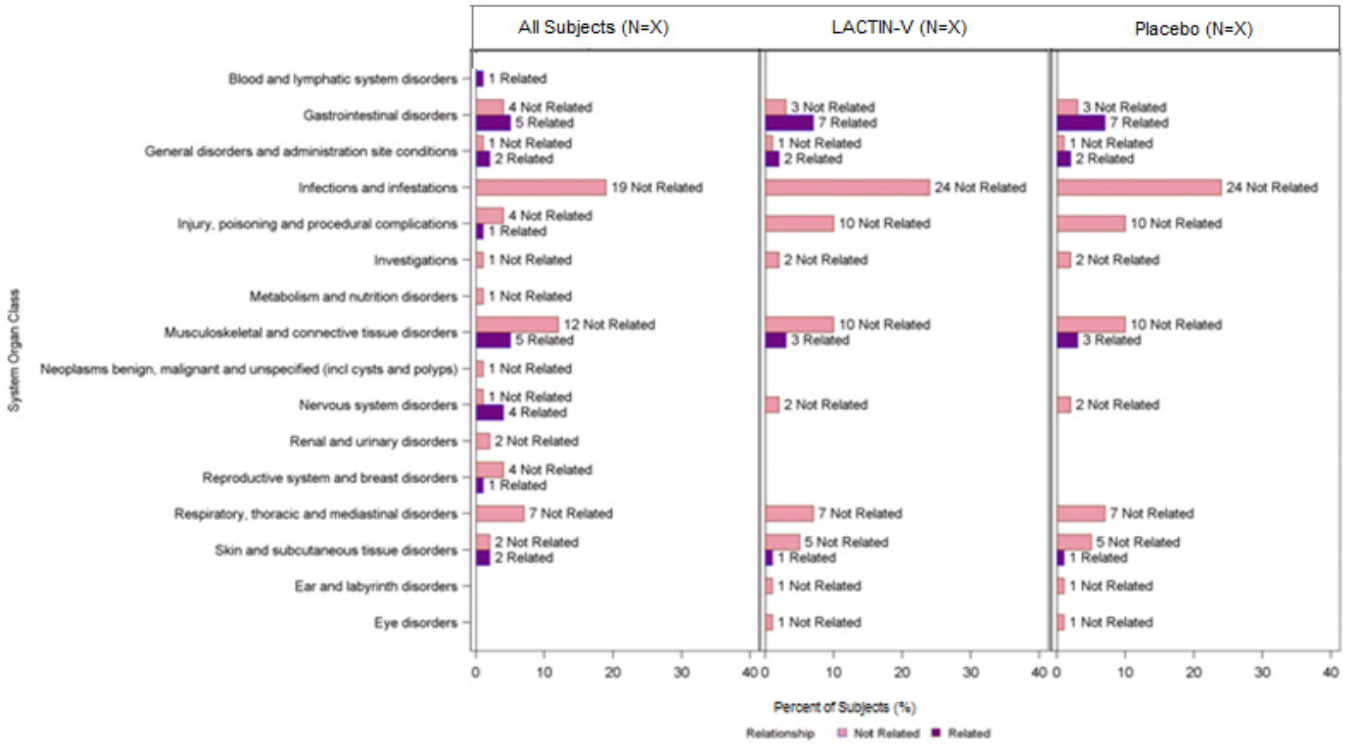


Figure 94: Number of and Percentage of Participants Experiencing Adverse Events by MedDRA System Organ Class and Relationship to Treatment



APPENDIX 3. LISTINGS MOCK-UPS

LISTINGS

Table of Listings (continued)

Listing 1: Participants Receiving Investigational Product

Treatment Group	Participant ID	Product Received Study Vaccination 1	Product Received Study Vaccination 2

Listing 2: Early Terminations or Discontinued Participants

[Implementation Note: Category will be either "Early Termination" or "Treatment Discontinuation." In the "Reason" column, concatenate any "specify" fields, including AE number and DV number. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, alphabetically by Category (in the case a participant both terminates early and discontinues treatment).]

Treatment Group	Participant ID	Category	Reason for Early Termination or Treatment Discontinuation	Study Day
Note. Participants who early terminated or discontinued due to Covid-19 are highlighted with yellow color code.				

Listing 3: Participant-Specific Protocol Deviations

[Implementation Note: In the "Deviation" column, concatenate any and all "specify" fields (including visit number, etc.). If "Reason for Deviation" is "Other," concatenate "specify" field, separate by a colon, e.g., "Other: Participant refusal." In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, DV Number.]

Treatment Group	Participant ID	DV Number	Deviation	Deviation Category	Study Day	Reason for Deviation	Deviation Resulted in AE?	Deviation Resulted in Participant Termination?	Deviation Affected Product Stability?	Deviation Resolution	Comments
Note. Participants who had a protocol deviation due to Covid-19 are highlighted with yellow color code.											

Listing 4: Non-Participant-Specific Protocol Deviations

[Implementation Note: In the "Deviation" column, concatenate any and all "specify" fields (including visit number, etc.). If "Reason for Deviation" is "Other," concatenate "specify" field, separate by a colon, e.g., "Other: Participant refusal." Sort order: Site, Start Date.]

Site	Start Date	Deviation	End Date	Reason for Deviation	Deviation Resulted in Participant Termination?	Deviation Affected Product Stability?	Deviation Category	Deviation Resolution	Comments
Note. Protocol deviations due to Covid-19 are highlighted with yellow color code.									

Listing 5: Participants Excluded from Analysis Populations

[Implementation Note: This data in this listing should be congruent with the "Analysis Populations by Treatment Group" table. The reasons included here should match the SAP text that describes who will be excluded from analyses. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification.] Sort order: Treatment Group, Participant ID.]

Treatment Group	Participant ID	Analyses in which Participant is Included	Analyses from which Participant is Excluded	Results Available?	Reason Participant Excluded
		[e.g., Safety, immunogenicity, PP]	[e.g., Safety, , immunogenicity, PP]		
Note: "Yes" in the "Results available" column indicates that available data were removed from the analysis. "No" indicates that no data were available for inclusion in the analysis.					

Listing 6: Demographic Data

[Implementation Note: If a participant is multi-racial, in "Race" column, note "Multiple: (list races, separated by a comma)."

In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification.] Sort order: Treatment Group, Participant ID.]

Treatment Group	Participant ID	Sex	Age at Enrollment (years)	Ethnicity	Race

Listing 7: Pre-Existing and Concurrent Medical Conditions

[Implementation Note: "Condition Start Day" and "Condition End Day" are relative to enrollment (which is Day 1, day before enrollment is Day -1). Rather than use exact study days, categorize as follows:

- 5 years prior to enrollment
- 1-5 years prior to enrollment
- 1-12 months prior to enrollment
- Within 1 month of enrollment
- During study
- If ongoing, display "Ongoing" in the "Condition End Day" column
- Within 1 month of enrollment
- During study
- If ongoing, display "Ongoing" in the "Condition End Day" column

It may be appropriate to add another category, based on exclusion criteria that restrict conditions within a particular time period (e.g., within 3 years prior to enrollment). In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, MH Number.]

Treatment Group	Participant ID	MH Number	Medical History Term	Condition Start Day	Condition End Day	MedDRA System Organ Class	MedDRA Preferred Term

Listing 8: Treatment Compliance Data

Treatment Group	Participant ID	Dose Number	Planned Study Days	Actual Study Days Administered	Compliant or Non-compliant
					~~Yes/No~~ Compliant / Non-compliant

Listing 9: Immunogenicity Response Data ELISA– Rectal Mucosal

[Implementation Note: Update as appropriate for your study assay/strain and endpoints. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification.] Listing should be sorted by Treatment Group, Participant ID, Planned Time Point.]

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	IgG Titer		IgA Titer	
				OMV Ng1291	OMV CNG20	OMV Ng1291	OMV CNG20

Listings with similar format: (for Serum specimens, include NZ98, Ng1291 and CNG20, for mucosal specimens, only include Ng1291 and CNG20)

Listing 10: Immunogenicity Response Data ELISA – Serum against OMV and NHBA antigens

Listing 11: Immunogenicity Response Data ELISA – Vaginal Mucosal against OMV and NHBA antigens

Listing 12: Immunogenicity Response Data ELISA – Oropharyngeal Mucosal against OMV and NHBA antigens

Listing 13: Immunogenicity Response Data ELISA – Serum Bactericidal against *N.* gonorrhoeae

Listing 14: Immunogenicity Response Data ELISA – Serum Bactericidal against *N. meningitidis*

Listing 15: Immunogenicity Response Data -Frequencies of Immuno-cells Specific for OMV Antigens– ELISpot

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Memory B cells			Peripheral blood T cells		
				NZ98 OMV	Ng1291 OMV	CNG20 OMV	IFNg NZ98 OMV	IFNg 1291 OMV	IFNg CNG20 OMV

Listing 16: Immunogenicity Response Data -Frequencies of Immuno-cells Specific for NHBA Antigens - ELISpot

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Memory B cells			Peripheral blood T cells		
				NZ98 NHBA	1291 NHBA	CNG20 NHBA	NZ98 NHBA peptide pool	1291 NHBA peptide pool	CNG20 NHBA peptide pool

Listing 17: Immunogenicity Response Data - Frequencies of Peripheral Blood T cells Specific

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Memory B cells			Peripheral blood T cells		
				NZ98 OMV	1291 OMV	CNG20 OMV	NZ98 NHBA	1291 NHBA	CNG20 NHBA

Listing 18: Immunogenicity Response Data – Frequencies of Peripheral Blood CD4+ T Cells Specific for Antigens - ICS

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	NZ98 OMV			Ng1291 OMV			CNG20 OMV		
				IL17+ as a % of CD4+	TNFa+ as a % of CD4+	IFNG+ as a % of CD4+	IL17+ as a % of CD4+	TNFa+ as a % of CD4+	IFNG+ as a % of CD4+	IL17+ as a % of CD4+	TNFa+ as a % of CD4+	IFNG+ as a % of CD4+

Listings with similar format:

Listing 19: Immunogenicity Response Data – Frequencies of Peripheral Blood CD8+ T Cells Specific for Antigens– ICS

Listing 20: Immunogenicity Response Data – Frequencies of Rectal Mucosal CD4+ T Cells Specific for Antigens– ICS

Listing 21: Immunogenicity Response Data – Frequencies of Rectal Mucosal CD8+ T Cells Specific for Antigens– ICS

Listing 22: Immunogenicity Response Data – Gonococcal Adhesion to Human Cervical Cell Line (ME180) by Mucosal Antibodies at Day 43

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Percent inhibition (%)		
				BAA_98	BAA_1291	BAA_20

Listing 23: Solicited Events – Systemic Symptoms

[Implementation Note: This listing is not color-coded. To indicate severity for quantitative symptoms (e.g., temperature, measurements), include the grade in parentheses after the number, e.g., 100.7 (Mild). This listing includes baseline assessments in addition to post-treatment assessments. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, Dose Number, Post Dose Day, Symptom.]

Treatment Group	Participant ID	Dose Number	Post Dose Day	Assessment[a]	Symptom	Severity	Attributed to Alternate Etiology?[b]	Alternate Etiology
				MA				
				Clinic				

Note:
[a] Clinic = Data collected by clinic staff during physical exam or symptom assessment (treatment administration record, in-clinic assessment, etc.)
MA = Data reported by participant on the Memory Aid and reviewed by clinic staff and reported in Solicited Events eCRF.
[b] Grade 3 events only.

Listing 24: Solicited Events – Local Symptoms

[Implementation Note: This listing is not color-coded. To indicate severity for quantitative symptoms (e.g., temperature, measurements), include the grade in parentheses after the number, e.g., 100.7 (Mild). We are not indicating the "side" or arm assessed. If the arm assessed was wrong (not the arm that received treatment), then note this error in a footnote to the listing. This listing includes baseline assessments in addition to post-treatment assessments. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, Dose Number, Post Dose Day, Symptom.]

Treatment Group	Participant ID	Dose Number	Post Dose Day	Assessment[a]	Symptom	Severity
				MA		
				Clinic		

[a] MA = Data reported by participant on the Memory Aid and reviewed by clinic staff and reported in Solicited Events eCRF.
Note: Clinic = Data collected by clinic staff during physical exam or symptom assessment (treatment administration record, in-clinic assessment, etc.)

Listing 25: Listing of Unsolicited Adverse Events

[Implementation Note: If the event is ongoing (no stop date), indicate "ongoing" in the "Duration" column. In the "If Not Related, Alternate Etiology" column, merge the 2 data fields for collecting alternate etiology, separate by a colon. This listing includes all unsolicited adverse events. If there are no comments for an event, populate 'Comments' row with 'None'. Add columns for MedDRA HLT or LLT depending on halting criteria or other study needs. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, Associated with Dose No., No. of Days Post Associated Dose. If the table will be multi-page, move the footnote/explanation to the footer so that it repeats for each page of the table.]

Adverse Event	Associated with Dose No.	No. of Days Post Associated Dose (Duration)	Severity	SAE?	Relationship to Study Treatment	In Not Related, Alternative Etiology	Action Taken with Study Treatment	Participant Discontinued Due to AE	Outcome	MedDRA System Organ Class	MedDRA Preferred Term	MAAE (Yes/No)
Treatment Group: , Participant ID: , AE Number:												
Comments:												
Treatment Group: , Participant ID: , AE Number:												
Comments:												
Note: For additional details about SAEs, see Table 52.												

Listing 26: Listing of Laboratory Assessment – Serology – Safety Population

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	RPR Results	HIV Antibody
				Negative/Positive/Missing	Negative/Positive/Missing
				Negative/Positive/Missing	Negative/Positive/Missing
				Negative/Positive/Missing	Negative/Positive/Missing

Listing 27: Listing of Laboratory Assessment – STI Testing – Safety Population

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Chlamydia NAAT Genitourinary	Chlamydia NAAT Rectal	Chlamydia NAAT Pharyngeal	Gonorrhea NAAT Genitourinary	Gonorrhea NAAT Rectal	Gonorrhea NAAT Pharyngeal	Trichomonas
				Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing
				Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing	Negative/ Positive/ Missing

Listing 28: Abnormal Laboratory Result - Hematology – Safety Population

Participant ID	Treatment Group	Sex	Age (years)	Planned Time Point	Actual Study Day	Laboratory Parameter (Units)	Result (Severity)	Relationship to Treatment	If Not Related, Alternate Etiology	Action Taken with Study Treatment	Participant Discontinued Due to Result?

Listing with similar format:

Listing 29: Abnormal Laboratory Result - Coagulation – Enrolled Participants

Listing 30: Abnormal Vital Sign Findings

[Implementation Note: This listing includes all vital sign assessments, scheduled and unscheduled. These listings are not color-coded, but the severity should be included in parentheses after the result for abnormal assessments, e.g., 100.7 (Mild). In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, Planned Time Point.]

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Temperature (°F)	Systolic Blood Pressure (mmHg)	Diastolic Blood Pressure (mmHg)	Pulse (beats/min)	Respiratory Rate (breaths/min)	Weight (kg)	Height (cm)

Listing 31: Abnormal Physical Exam Findings

[Implementation Note: This listing includes all physical exam findings, scheduled and unscheduled. If a participant does not have any findings upon examination, they will not be included in this listing. If reported as an AE, display "Yes" with the AE Number in parentheses, e.g., "Yes (7)". In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification.] Sort order: Treatment Group, Participant ID, Planned Time Point.]

Treatment Group	Participant ID	Planned Time Point	Actual Study Day	Body System	Abnormal Finding	Reported as an AE? (AE Description; Number)

Listing 32: Concomitant Medications

[Implementation Note: "Medication Start Day" and "Medication End Day" are relative to enrollment (which is Day 1, day before enrollment is Day -1). For medication start dates that are > 30 days prior to enrollment, rather than use exact study days, categorize as follows:

- 5 years prior to enrollment
- 1-5 years prior to enrollment
- 1-12 months prior to enrollment

If ongoing, display "Ongoing" in the "Medication End Day" column. If taken for an AE or MH, display "Yes" with the AE or MH Number in parentheses, e.g., "Yes (7)". In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, and CM Number.]

Treatment Group	Participant ID	CM Number	Medication	Medication Start Day	Medication End Day	Indication	Taken for an AE? (AE Description; Number)	Taken for a condition on Medical History? (MH Description; Number)	ATC Level 1 (ATC Level 2)

Listing 33: Pregnancy Reports – Maternal Information

[Implementation Note: Only include the "Pregnancy Number" column if a participant has more than 1 pregnancy. Date of Conception will be calculated based on estimated delivery date. BMI will be calculated based on pre-pregnancy height and weight. Mother's weight gain will be calculated based on pre-pregnancy weight and end of pregnancy weight. If a major congenital anomaly with previous pregnancy, display "Yes" and the text from the "specify" field, separated by a colon. If any substance use is reported, include a listing of substance use. If autopsy revealed an alternate etiology, display "Yes" and the text from the "specify" field, separated by a colon. If abnormality in product of conception, display "Yes" and the text from the "specify" field, separated by a colon. In the CSR, Participant ID should be USUBJID (not PATID) for purposes of de-identification. Sort order: Treatment Group, Participant ID, Pregnancy Number.]

Treatment Group	Participant ID	Pregnancy Number	Study Day Corresponding to Estimated Date of Conception	Source of Maternal Information	Pregnancy Status	Mother's Pre-Pregnancy BMI	Mother's Weight Gain During Pregnancy	Tobacco, Alcohol, or Drug Use During Pregnancy?	Medications During Pregnancy?	Maternal Complications During Pregnancy?	Maternal Complications During Labor, Delivery, or Post-Partum?
Note: Maternal Complications are included in the Adverse Event listing. Medications taken during pregnancy are included in the Concomitant Medications Listing.											

Listing 34: Pregnancy Reports – Gravida and Para

			Live Births												
Participant ID	**Pregnancy Number**	**Gravida**	**Extremely PB[a]**	**Very Early PB[a]**	**Early PB[a]**	**Late PB[a]**	**Early TB[b]**	**Full TB[b]**	**Late TB[b]**	**Post TB[b]**	**Still Births**	**Spontaneous Abortion/ Miscarriage**	**Elective Abortions**	**Therapeutic Abortions**	**Major Congenital Anomaly with Previous Pregnancy?**

Note: Gravida includes the current pregnancy, para events do not.
[a] Preterm Birth
[b] Term Birth

Listing 35: Pregnancy Reports – Live Birth Outcomes

Participant ID	Pregnancy Number	Fetus Number	Pregnancy Outcome (for this Fetus)	Fetal Distress During Labor and Delivery?	Delivery Method	Gestational Age at Live Birth	Size for Gestational Age	Apgar Score, 1 minute	Apgar Score, 5 minutes	Cord pH	Congenital Anomalies?	Illnesses/ Hospitalizations within 1 Month of Birth?

Note: Congenital Anomalies are included in the Adverse Event listing.

Listing 36: Pregnancy Reports – Still Birth Outcomes

Participant ID	Date of Initial Report	Fetus Number	Pregnancy Outcome (for this Fetus)	Fetal Distress During Labor and Delivery?	Delivery Method	Gestational Age at Still Birth	Size for Gestational Age	Cord pH	Congenital Anomalies?	Autopsy Performed?	If Autopsy, Etiology for Still Birth Identified?

Listing 37: Pregnancy Reports – Spontaneous, Elective, or Therapeutic Abortion Outcomes

Participant ID	Date of Initial Report	Fetus Number	Pregnancy Outcome (for this Fetus)	Gestational Age at Termination	Abnormality in Product of Conception?	Reason for Therapeutic Abortion