

STATISTICAL ANALYSIS PLAN

Study Title: An Umbrella Phase 1b, Open-label, Multi-Cohort Study to

Evaluate Safety, Pharmacokinetics, and Antiviral Activity of Novel Antiretrovirals in Participants With HIV-1 Sub study 02:

GS-1720

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CONFIDENTIAL AND PROPRIETARY INFORMATION

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LIST OF ABBREVIATIONS

AE adverse event

ALT alanine aminotransferase ART antiretroviral therapy

ARV antiretroviral

AST aspartate aminotransferase BLQ below the limit of quantitation

BMI body mass index

BVY Biktarvy® (bictegravir/emtricitabine/tenofovir alafenamide)

CCG eCRF Completion Guidelines CD4 cluster of differentiation type 4

CI confidence interval CK creatine kinase

COVID-19 coronavirus disease 2019
CSR clinical study report
ECG electrocardiogram

eCRF electronic Case Report Form

eGFR_{CG} estimated glomerular filtration rate (Cockcroft Gault formula)

ET early termination
FAS full analysis set
FIH first-in-human
Hb hemoglobin

HIV-1 human immunodeficiency virus type 1

HLT high-level term

ICH International Conference on Harmonization (of Technical Requirements for Registration of

Pharmaceuticals for Human Use)

ID identification

INSTI integrase strand-transfer inhibitor

LLT lower-level term

LOQ limit of quantitation

mAbs monoclonal Antibodies

MedDRA Medical Dictionary for Regulatory Activities

MST MedDRA search term
NLP natural language processing

NNRTI non-nucleoside reverse transcriptase inhibitor

NRTI nucleoside/nucleotide reverse transcriptase Inhibitors

PD pharmacodynamic

PEP post-exposure prophylaxis

PI protease inhibitor PK pharmacokinetic

PrEP	pre-exposure	nronh	vlovic
LILL	pre-exposure	propn	ylanis

PT preferred term PWH people with HIV

Q1, Q3 first quartile, third quartile

RNA ribonucleic acid

SAP statistical analysis plan SD standard deviation

SE standard error

SMQ standardized MedDRA query

SOC system organ class SRT safety review team

TEAE treatment-emergent adverse event

TFLs tables, figures, and listings
ULN upper limit of normal
WBC white blood cell

WHO World Health Organization

%CV coefficient of variation, defined as ratio of standard deviation to the mean

PHARMACOKINETIC ABBREVIATIONS

AUC area under the plasma/serum concentration versus time curve

AUC_{last} area under the concentration versus time curve from time zero to the last quantifiable

concentration

AUC_{inf} area under the concentration versus time curve from time zero to infinity

%AUC_{exp} Percentage of AUC extrapolated between AUC_{last} and AUC_{inf}

C_{last} last observed quantifiable concentration of the drug

C_{max} maximum observed concentration of drug

C_t concentration at time t

CL/F apparent oral clearance after administration of the drug:

 $CL/F = Dose/AUC_{inf}$, where "Dose" is the dose of the drug

$$\begin{split} T_{last} & \text{time (observed time point) of } C_{last} \\ T_{max} & \text{time (observed time point) of } C_{max} \end{split}$$

 $t_{1/2}$ estimate of the terminal elimination half-life of the drug, calculated by dividing the natural log of

2 by the terminal elimination rate constant (λ_z)

V_z/F apparent volume of distribution of the drug

 λ_z terminal elimination rate constant, estimated by linear regression of the terminal elimination

phase of the concentration of drug versus time curve

1. INTRODUCTION

This statistical analysis plan (SAP) describes the statistical analysis methods and data presentations to be used in tables, figures, and listings (TFLs) in the clinical study report (CSR) for Study GS-US-544-5905-02 (Master Protocol GS-US-544-5905, Substudy 02). This SAP is based on the Study GS-US-544-5905 master protocol Amendment 2 dated 24 February 2023, Substudy GS-US-544-5905-02 protocol Amendment 2 dated 05 May 2023, and the electronic case report form (eCRF) for Study GS-US-544-5905-02. The SAP will be finalized before Study GS-US-544-5905-02 database finalization. Any changes made after the finalization of the SAP will be documented in the GS-US-544-5905-02 CSR.

1.1. Study Objectives

The primary objective of this substudy is to evaluate the short-term antiviral activity of GS-1720 with respect to the change from baseline in plasma HIV-1 RNA (log₁₀ copies/mL) on Day 11 in people with HIV-1 (PWH) who are antiretroviral (ARV) treatment naive or treatment experienced but naive to the integrase strand-transfer inhibitor (INSTI) class, and have not received any antiretroviral therapy (ART) within 12 weeks of screening including medications received for pre-exposure prophylaxis (PrEP) or postexposure prophylaxis (PEP).

The secondary objectives of this substudy are as follows:

- To evaluate the short-term antiviral activity of GS-1720 in reducing plasma HIV-1 RNA (log₁₀ copies/mL)
- To investigate the safety and tolerability of GS-1720 by dose cohort
- To characterize the plasma pharmacokinetics (PK) of GS-1720
- To characterize the PK/pharmacodynamic (PD) relationship between the exposure of GS-1720 and the viral dynamics of HIV-1
- To determine the number and percentage of participants who achieve HIV-1 RNA < 50 copies/mL of the HIV-1 RNA assay by Day 11 at each dose level
- To examine the emergence of resistance to the INSTI drug class

1.2. Study Design

This is an open-label Phase 1b, single or multiple dose, multicenter, substudy to an umbrella study designed to evaluate safety, PK, and antiviral activity of GS-1720 given as monotherapy in PWH who are either treatment-naive or treatment experienced but naive to the study drug class, and have not received any ART within 12 weeks of screening, including medications received for preexposure prophylaxis (PrEP) or postexposure prophylaxis (PEP). Any current or prior receipt of long-acting parenteral ARVs including: monoclonal antibodies (mAbs) targeting HIV-1, injectable cabotegravir, or injectable rilpivirine, is exclusionary.

This umbrella study will consist of a master protocol describing information relevant to all substudies; and each novel compound will have its own substudy. GS-1720 will be the second substudy protocol (GS-US-544-5905-02). This flexible clinical study design allows for opening new substudies as new agents become available and closing substudies with study drugs that demonstrate minimal clinical activity and/or unacceptable toxicity.

After screening and meeting all eligibility criteria, study drug dosing will be initiated on Day 1 in the clinic for each participant. Participants will be required to return to the clinic for visits on Days 2, 3, 4, 7, 8, 9, 10, and 11 (primary endpoint assessment). After assessments on Day 11 or upon early termination (ET), participants will initiate a regimen of Biktarvy® (bictegravir/emtricitabine/tenofovir alafenamide; BVY) provided by the sponsor or an alternative standard-of-care (SOC) ART regimen selected by the investigator. If participants are switching to BVY, a sufficient supply will be given to provide coverage for the remainder of the study. Participants will be required to return to the clinic for follow-up visits on Days 25, 39 and 60.

Following study completion, the participant's care will transferred to a primary health care provider who will determine the participant's HIV long-term treatment plan. For participants who complete the study, 6 and 12 months (± 1 month) after enrollment the investigator (or delegate) will contact the participant's primary health care provider to request and record all available plasma HIV-1 RNA and resistance testing results and, if applicable, changes in HIV treatment regimen with date of change. At each time point, the investigator (or delegate) should make and document at least 3 attempts of contact over a period of 4 weeks.

This substudy will enroll up to approximately 5 cohorts with at least 6 participants in each cohort. Participants will be enrolled in Cohort 1 initially and then dosing in subsequent cohorts will proceed after safety review team (SRT) review of emerging data.

The dose level and dosing regimen for study drug in each cohort will be selected based on a review of available PK, cumulative safety and HIV-1 RNA data through the primary endpoint (Day 11) for this substudy, and/or relevant and available safety and PK data from the ongoing Phase 1a first-in-human (FIH) study for GS-1720.

Assessments will be conducted per the schedule of assessment table (see Schedule of Assessments, Appendix 1).

1.3. Sample Size and Power

A sample size of 6 to 8 participants in each dose cohort will provide 83% to 94% power to detect a treatment difference of $1.0 \log_{10} \text{copies/mL}$ in change from baseline in HIV-1 RNA on Day 11 between at least one of the study drug dose groups and the historical placebo group (N = 21). In this power analysis, it is assumed that a standard deviation (SD) for the change from baseline in HIV-1 RNA on Day 11 is $0.662 \log_{10} \text{copies/mL}$ for each study drug dose group and $0.359 \log_{10} \text{copies/mL}$ for the placebo group, and a 2-sided t-test is conducted at an alpha level of 0.05. Standard deviations were estimated from historical Phase 1b studies conducted by the sponsor (GS-US-120-0104, GS-US-141-1219, and GS-US-200-4072). The maximum SD from treatment groups was used for the study drug dose group and SD from the pooled placebo group was used for the placebo group.

2. TYPE OF PLANNED ANALYSIS

2.1. Interim Analysis

Before the final analysis for each substudy, interim analyses may be conducted and the analyses may be submitted to regulatory agencies to seek guidance for the overall clinical development program of GS-1720.

2.2. Dose Escalation Analysis

A safety review team (SRT) will review the data from this substudy after all participants from Cohort 1 complete their Day 11 visit. The SRT review will include cumulative safety and HIV-1 RNA data through the primary endpoint (Day 11) and available PK data from Cohort 1 of this substudy; and/or relevant and available safety and PK data from the Phase 1a FIH study for GS-1720 (as appropriate). This initial SRT review will facilitate decision-making for dose level, dosing regimen (including whether GS-1720 study drug will be taken in a fasted state, or with a low-fat or high-fat meal) and timing of dosing for Cohorts 2 to 4. Cohort 5 will not be initiated per SRT decision. Further CCI reviews by the SRT may be needed to inform on dose selection for Cohorts 2 to 4 (and/or additional cohort[s], as applicable).

2.3. Final Analysis

The final analysis will be performed after all participants have completed the study, outstanding data queries have been resolved or adjudicated as unresolvable, and the data have been cleaned and finalized. The analysis of the primary endpoint (change from baseline in HIV-1 RNA [log₁₀ copies/mL] on Day 11) will be conducted at the time of the final analysis and will be tested at the 0.05 significance level (2-sided test).

3. GENERAL CONSIDERATIONS FOR DATA ANALYSES

Analysis results will be presented using descriptive statistics. For categorical variables, the number and percentage of participants in each category will be presented; for continuous variables, the number of participants (n), mean, SD or standard error (SE), median, first quartile (Q1), third quartile (Q3), minimum (Min), and maximum (Max) will be presented.

All statistical tests will be 2-sided and performed at the 5% significance level unless otherwise specified.

By-participant listings will be presented for all participants in the All Enrolled Analysis Set and will be sorted by participant identification (ID) number, visit date, and time (if applicable), unless otherwise specified. Data collected on log forms, such as AEs, will be presented in chronological order within participants. The treatment group to which participants were initially assigned will be used in the listings. Age, sex at birth, race, and ethnicity will be included in the listings, as space permits.

3.1. Analysis Sets

Analysis sets define the participants to be included in an analysis. Analysis sets and their definitions are provided in this section. The analysis set will be identified and included as a subtitle of each table, figure, and listing.

For each analysis set, the number and percentage of participants eligible for inclusion as well as the number and percentage of participants who were excluded and the reasons for their exclusion will be summarized by treatment group in the disposition table as detailed in Section 4. A listing of reasons for exclusion from analysis sets will be provided by participant.

3.1.1. All Enrolled Analysis Set

All Enrolled Analysis Set includes all participants who received a study participant ID number in the substudy after screening.

All Enrolled Analysis Set is the primary analysis set for by-participant listings.

3.1.2. Full Analysis Set

The Full Analysis Set (FAS) includes all participants who are enrolled and receive a full dose[s] of GS-1720 study drug in this substudy. Participants with major eligibility violations that are identifiable based on pre-enrollment characteristics may be excluded. Participants will be grouped according to the GS-1720 cohort assigned at enrollment.

Participants who were randomized and assigned to receive placebo from 3 historical Gilead Phase 1b studies (GS-US-120-0104, GS-US-141-1219, and GS-US-200-4072) will be used as a historical control through Study Day 11 for only the HIV-1 RNA endpoints.

The Full Analysis Set will be the primary analysis set for efficacy analyses.

3.1.3. Safety Analysis Set

The Safety Analysis Set includes all participants who took at least 1 dose of GS-1720 in this study. Participants who received treatment other than that assigned at enrollment will be analyzed according to the treatment that they received.

All data collected on/after first dose date of GS-1720 during the study will be included in the safety summaries.

The Safety Analysis Set is the primary analysis set for safety analyses.

3.1.4. Pharmacokinetic Analysis Set

The PK Analysis Set includes all participants who were enrolled in the study, received any dose of GS-1720 in this study, and have at least 1 nonmissing post baseline concentration value for GS-1720.

The PK Analysis Set is the primary analysis set for all PK analyses.

3.1.5. Pharmacokinetic/Pharmacodynamic Analysis Set

The PK/PD Analysis Set will include all participants who are in the FAS and have at least 1 nonmissing PK parameter of interest (ie, C_{D8}, C_{avg, D1-8}, C_{D11}, C_{avg, D1-11}) and at least 1 nonmissing value for change from baseline in plasma HIV-1 RNA (log10 copies/mL). This is the primary analysis set for PK/PD analyses.

 C_{D8} , C_{D11} will be the plasma concentration of GS-1720 on Day 8 and Day 11 separately. $C_{avg, D1-8}$ will be the average plasma concentration of GS-1720 up to Day 8. $C_{avg, D1-11}$ will be the average plasma concentration of GS-1720 up to Day 11.

3.2. Participant Grouping

For analyses based on the FAS, participants will be grouped according to the GS-1720 cohort to which they were enrolled. Data from participants who were randomized and assigned to receive placebo from 3 historical Gilead Phase 1b studies (GS-US-120-0104, GS-US-141-1219, and GS-US-200-4072) will be pooled to form a historical placebo group for HIV-1 RNA endpoints throughs Day 11. For all other analyses, participants will be grouped according to the actual GS-1720 treatment received in this study.

For enrollment, disposition, protocol deviations, demographics, baseline disease characteristics, AEs, vital signs, concomitant medications, and laboratory data summaries, an additional total column for all GS-1720 participants will be included.

For efficacy and PK summaries and the electrocardiogram (ECG) shift table, a total column for all GS-1720 participants will not be included.

3.3. Strata and Covariates

No covariates will be included in efficacy analyses.

3.4. Examination of Participant Subgroups

There are no prespecified participant subgroups for efficacy or safety analyses.

3.5. Multiple Comparisons

Adjustments for multiplicity will not be made in this proof-of-concept study.

3.6. Missing Data and Outliers

3.6.1. Missing Data

In general, missing data will not be imputed unless methods for handling missing data are specified. Exceptions are presented in this document.

The handling of missing or incomplete dates for AE onset is described in Section 7.1.6.2, and for prior and concomitant medications in Section 7.4.

3.6.2. Outliers

Outliers of non-PK will be identified during the data management and data analysis process, but no sensitivity analyses will be conducted. All data will be included in the data analysis.

3.7. Data Handling Conventions and Transformations

The following conventions will be used for the imputation of date of birth when it is partially missing or not collected:

- If only month and year of birth is collected, then "15" will be imputed as the day of birth
- If only year of birth is collected, then "01 July" will be imputed as the day and month of birth
- If year of birth is missing, then date of birth will not be imputed.

In general, age collected on Day 1 (in years) will be used for analyses and presented in listings. If age on Day 1 is not available for a participant, then age derived based on date of birth and the Day 1 visit date will be used instead. If an enrolled participant was not dosed with any study drug, the enrollment date will be used instead of the Day 1 visit date. For participant without an enrollment date the first informed consent was signed will be used for the age derivation. Age required for longitudinal and temporal calculations and analyses (eg, estimates of creatinine clearance, age at date of AE) will be based on age derived from date of birth and the date of the measurement or event, unless otherwise specified.

Non-PK data that are continuous in nature but are less than the lower limit of quantitation (LOQ) or above the upper LOQ will be imputed as follows:

- A value that is 1 unit less than the lower LOQ at the same precision level of the originally reported value will be used to calculate descriptive statistics if the datum is reported in the form of "< x" (where x is considered the lower LOQ). For example, if the values are reported as < 50 and < 5.0, values of 49 and 4.9, respectively, will be used to calculate summary statistics. An exception to this rule is any value reported as < 1 or < 0.1, etc. For values reported as < 1 or < 0.1, a value of 0.9 or 0.09, respectively, will be used to calculate summary statistics.
- A value that is 1 unit above the upper LOQ will be used to calculate descriptive statistics if the datum is reported in the form of "> x" (where x is considered the upper LOQ). Values with decimal points will follow the same logic as above.
- The lower or upper LOQ will be used to calculate descriptive statistics if the datum is reported in the form of " \leq x" or " \geq x" (where x is considered the lower or upper LOQ, respectively).

If methods based on the assumption that the data are normally distributed are not adequate, analyses may be performed on transformed data (eg, change from baseline in HIV-1 RNA will be performed on the \log_{10} transformed data) or nonparametric analysis methods may be used, as appropriate.

Data Handling for PK Summaries

Natural logarithm transformation will be used for analyzing non-BLQ concentrations and PK parameters in intensive PK samples. Concentration values that are BLQ will be presented as "BLQ" in the concentration data listing. Values that are below the limit of quantitation (BLQ) will be treated as 0 at predose and postdose time points for summary purposes. The number of samples will be summarized to reflect the actual number of samples assessed at that time point

At predose, if all concentration values are BLQ, then the mean, and order statistics (minimum, Q1, median, Q3, and maximum) will be displayed as 0 and the rest of the summary statistics (ie, SD and CV) will be missing. If any values are non-BLQ, then the number of samples, order statistics, and all summary statistics will be displayed.

At any given postdose time point, if more than one-third of the participants have a concentration value of BLQ, then only the number of samples and order statistics will be displayed; otherwise, order statistics and summary statistics will be displayed.

The following conventions will be used for the presentation of order statistics for intensive PK concentrations:

• If at least 1 participant has a concentration value of BLQ for the time point, the minimum value will be displayed as "BLQ."

- If more than 25% of the participants have a concentration data value of BLQ for a given time point, the minimum and Q1 values will be displayed as "BLQ."
- If more than 50% of the participants have a concentration data value of BLQ for a given time point, the minimum, Q1, and median values will be displayed as "BLQ."
- If more than 75% of the participants have a concentration data value of BLQ for a given time point, the minimum, Q1, median, and Q3 values will be displayed as "BLQ."
- If all participants have concentration data values of BLQ for a given time point, all order statistics (minimum, Q1, median, Q3, and maximum) will be displayed as "BLQ."

Concentration related PK parameters (eg, C_{last} , C_{max} , and C_{tau}) that are BLQ will be excluded before log transformation or statistical model fitting and displayed as described above.

3.8. Analysis Visit Windows

3.8.1. Definition of Predose, Postdose, Study Day

Study day will be calculated from the first dosing date of study drug (or first dose date of placebo for placebo historical control group [HIV-1 RNA data only]) and derived as follows:

- For postdose study days: Assessment Date First Dosing Date + 1
- For days prior to the first dose: Assessment Date First Dosing Date

Therefore, study day 1 is the day of first dose of study drug administration.

Baseline is defined as the last available value collected on or prior to the first dose date (and time, where applicable) of study drug (ie, prior to taking first dose of study drug).

Postbaseline is defined as any value collected after the first dose of study drug.

Last Study Date is the latest of clinic visit dates and laboratory visit dates, including all follow-up visits for participants who prematurely discontinued study or who completed study according to the Study Completion eCRF.

3.8.2. Analysis Visit Windows

Participant visits might not occur on protocol-specified days. Therefore, for the purpose of analysis, observations will be assigned to analysis windows.

The analysis windows for HIV-1 RNA are provided in Table 3-1; for hematology, chemistry, urinalysis, and eGFR_{CG} in Table 3-2; for vital signs and weight in Table 3-3; for ECGs and coagulation in Table 3-4; and CD4 cell count and percentage in Table 3-5.

Table 3-1. Analysis Visit Windows for HIV-1 RNA

		Visit Windo	w Study Day
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit
Baseline	1	(none)	1
Day 2	2	2	2
Day 3	3	3	3
Day 4	4	4	5
Day 7	7	6	7
Day 8	8	8	8
Day 9	9	9	9
Day 10	10	10	10
Day 11	11	11	11
Day 25	25	12	32
Day 39	39	33	49
Day 60	60	50	(none)

Each cohort for GS-1720 will be compared to the historical placebo control group through Study Day 11.

The percentage of participants with HIV-1 RNA < 50 copies/mL will be displayed by GS-1720 cohort on Day 11 (last value prior to starting standard of care) and on Days 25, 39 and 60.

Table 3-2. Analysis Visit Windows for Hematology, Chemistry (including Thyrotropin), Urinalysis and $eGFR_{CG}$

		Visit Windo	w Study Day
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit
Baseline	1	(none)	1
Day 3	3	2	5
Day 7	7	6	9
Day 11	11	10	11
Day 25	25	12	32
Day 39	39	33	49
Day 60	60	50	(none)

Table 3-3. Analysis Visit Windows for Vital Signs and Weight

		Visit Windo	w Study Day	
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit	
Baseline	1	(none)	1	
Day 2*	2	2	2	
Day 3	3	3	3	
Day 4*	4	4	5	
Day 7	7	6	9	
Day 11	11	10	11	
Day 25#	25	12	32	
Day 39	39	33	49	
Day 60	60	50	(none)	

^{*}Weight is not scheduled to be collected on Day 2 and Day 4 per protocol, so any weight collected on Day 2 will be considered for Day 3, any weight collected during Day 4 period will be considered for Day 7.

Table 3-4. Analysis Visit Windows for ECGs and Coagulation Tests

		Visit Window Study Day	
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit
Baseline	1	(none)	1
Day 7	7	2	9
Day 11	11	10	11
Day 60	60	12	(none)

Table 3-5. Analysis Visit Windows for CD4 Cell Count and Percentage

		Visit Windo	w Study Day
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit
Baseline	1	(none)	1
Day 11	11	2	11
Day 25	25	12	32
Day 39	39	33	49
Day 60	60	50	(none)

[#]Vital signs are not scheduled to be collected on Day 25 per protocol, so any vital signs collected during Day 25 will be considered for Day 39.

		Visit Window Study Day	
Nominal Visit	Nominal Study Day	Lower Limit	Upper Limit
Baseline	1	(none)	1
Day 7	7	2	9
Day 11	11	10	11
Day 60	60	12	(none)

Table 3-6. Analysis Visit Windows for Coagulation Tests

3.8.3. Selection of Data in the Event of Multiple Records in an Analysis Visit Window

Depending on the statistical analysis method, single values may be required for each analysis window. For example, change from baseline by visit usually requires a single value.

If multiple valid, nonmissing measurements exist in an analysis window, records will be chosen based on the following rules if a single value is needed:

- For baseline, the last nonmissing value on or prior to the first dose of study drug will be selected, unless specified differently. If there are multiple records with the same time or no time recorded on the same day, the baseline value will be the average of the measurements for continuous data (except for HIV-1 RNA, see below), or the measurement with the lowest severity (ie, normal will be selected over abnormal for safety ECG findings) for categorical data.
- For postbaseline values:
 - The record closest to the nominal day for that visit will be selected (with the exception of CD4+ cell count and CD4% in which the latest record will be selected and HIV-1 RNA level [see below]).
 - If there are 2 records that are equidistant from the nominal day, the later record will be selected.
 - If there is more than 1 record on the selected day, the average will be taken for continuous data (except for HIV-1 RNA, see below) and the worst severity will be taken for categorical data, unless otherwise specified.
- For baseline and postbaseline HIV-1 RNA, the latest (considering both date and time) record(s) in the window will be selected. If both "Roche COBAS 6800" and "Roche COBAS 6800 Repeat" (ie, the HIV-1 RNA result obtained from an additional aliquot of the original sample) are available with the same collection time, the results from the "Roche COBAS 6800 Repeat" will be selected for analysis purposes; otherwise, if there are multiple "Roche COBAS 6800" records with the same collection time, the geometric mean will be taken for analysis purposes.

4. PARTICIPANT DISPOSITION

4.1. Participant Enrollment and Disposition

A summary of key study dates will present the dates for: 1) first participant screened 2) first participant enrolled 3) last participant enrolled 4) last participant last visit for primary endpoint [Day 11] and 5) last participant last visit for clinical study report.

A summary of participant enrollment in this substudy will be provided by GS-1720 cohort (and overall) for each country, and investigator within country. This summary will present the number and percentage of participants enrolled. For each column, the denominator for the percentage calculation will be the total number of participants enrolled for that column.

A summary of participant disposition will present the number of participants screened for this substudy (denoted by an "B" contained within the participant screening number under the master protocol) and the number of participants who met all eligibility criteria but were not enrolled with the reasons that participants were not enrolled. An additional summary of participant disposition for participants in the All Enrolled Analysis Set will be provided by GS-1720 cohort and overall. The number and percentage of participants in each of the categories listed below will be summarized:

- All Enrolled Analysis Set
- Safety Analysis Set
- Full Analysis Set
- PK Analysis Set
- PK/PD Analysis Set
- Completed study drug
- Did not complete study drug with reasons for premature discontinuation of study drug
- Completed study
- Did not complete the study with reasons for premature discontinuation of study

For the status of study drug and study completion and reasons for premature discontinuation, the number and percentage of participants in each category will be provided. The denominator for the percentage calculation will be the total number of participants in the Safety Analysis Set corresponding to that column.

In addition, the total number of participants who were enrolled, and the number of participants in each of the disposition categories listed above will be displayed in a flowchart.

The randomization schedules used for the study will be provided as an appendix to the CSR.

The following by-participant listings will be provided by participant ID number in ascending order to support the above summary tables:

- Reasons for premature study drug or study discontinuation (including those related to coronavirus disease 2019 [COVID-19])
- Reasons for screen failure (will be provided by screening ID number in ascending order)
- Analysis set status (participants excluded from any of the analysis sets)

4.2. Extent of Study Drug Exposure and Adherence

A participant's extent of exposure to study drug data will be examined by assessing the total duration of exposure to study drug. Study drug administration was performed at the study site; adherence will not be summarized.

4.2.1. Study Drug Exposure and Duration on Study

Exposure to GS-1720 will be "Single dose of GS-1720 (Days 1 and 2)". Drug exposure will be 450 mg on Day 1 and Day 2 (fasted) for Cohort 1, 150 mg on Day 1 and Day 2 (fasted) for Cohort 2, 30 mg on Day 1 and Day 2 (fasted) for Cohort 3 and 900 mg on Day 1 and Day 2 (fasted) for Cohort 4. Cohort 5 was not initiated per study team's decision. Study drug exposure will be summarized based on data collected on the Study Drug Administration eCRF.

Duration on sponsor-provided Biktarvy® (BVY) as standard of care or alternative SOC will be summarized using descriptive statistics, and will be calculated as: (last dose date BVY or alternative SOC – first dose date of BVY or alternative SOC) + 1. The start and stop dates for BVY administered as standard of care are collected on the ARV eCRF with subcategory of "CURRENT". Records with a BVY or alternative SOC start date on or after the last date in study will be excluded from calculations.

The number (ie, cumulative counts) and percentage of participants on BVY or alternative SOC for at least the following number of days will be summarized: 7 days, 14 days, 21 days, 28 days, 35 days, 42 days, and 49 days. For the final analysis, $a \pm 2$ day window will be applied for the 49 days category (allows for the Day 60 [on Study] protocol specified visit window and participants starting BVY or alternative SOC on Day 11).

Duration on study (in days) will be defined as last date in study minus first dosing date plus 1. Last Study Date is the latest of clinic visit dates and laboratory visit dates, including all follow-up visits for participants who prematurely discontinued study or who completed study according to the Study Completion eCRF.

Duration on study (in days) will be summarized using descriptive statistics and using the number (ie, cumulative counts) and percentage of participants still on study through each study visit: ≥ 1 day, ≥ 2 days, ≥ 3 days, ≥ 4 days, ≥ 7 days, ≥ 8 days, ≥ 9 days, ≥ 10 days, ≥ 11 days, ≥ 25 days, ≥ 39 days, and ≥ 60 days. For the final analysis, a ± 2 day window will be applied for the ≥ 60 days category to allow for the Day 60 protocol specified visit window.

Summaries will be provided by GS-1720 cohort (and overall) for the Safety Analysis Set. Exposure data for GS-1720 study drug will be listed.

No formal statistical testing is planned.

BVY will be provided as standard of care by the Sponsor during the follow-up period and dispensing information will be recorded on the Accountability eCRF. Accountability data for BVY will be listed.

4.3. Protocol Deviations

A by participants listing will be provided for those participants who did not meet at least 1 eligibility (inclusion or exclusion) criteria. The listing will present the eligibility criterion (or criteria if more than 1 deviation) that the participant did not meet and related comments, if collected.

Important protocol deviations occurring after participants entered the study are documented during routine monitoring. Any important deviations identified will be included in a byparticipant listing. The number and percentage of participants with important protocol deviations by deviation category (eg, eligibility criteria, informed consent) will be summarized by GS-1720 cohort and overall for the Safety Analysis Set.

4.4. Assessment of COVID-19 Impact

This study was ongoing during the novel coronavirus (COVID-19) pandemic which has an impact on the study conduct. Some participants may not be able to attend onsite visits due to shelter in place guidelines, site closures, or other reasons. This section describes how special situations due to COVID-19 will be handled in the analysis.

4.4.1. Study Drug or Study Discontinuation Due to COVID-19

A by-participant listing of reasons for premature study drug or study discontinuation due to COVID-19 will be provided, if applicable.

4.4.2. Protocol Deviations Due to COVID-19

A by-participant listing will be provided for participants with important protocol deviations related to COVID-19, if applicable. A separate listing will be provided for participants with non-important protocol deviations related to COVID-19, if applicable.

4.4.3. Missed and Virtual Visits due to COVID-19

A by-participant listing of participants with missed or virtual visits due to COVID-19 will be provided by participant ID number in ascending order, if applicable.

Information regarding missed or virtual visits due to COVID-19 will be collected as free text in the CRF comment fields. The determination of missed or virtual visits due to COVID-19 will be done using Natural Language Processing (NLP) to search the CRF comment fields. A detailed explanation of the algorithm is given in Appendix 3.

4.4.4. Adverse Events Due to COVID-19

AEs of COVID-19 will be included in analyses of AEs if applicable, which will be determined through a COVID-19 Standardized MedDRA Query (SMQ) narrow search or MedDRA Search Term (MST). A by-participant listing of AEs of COVID-19 will be provided, if applicable.

5. BASELINE CHARACTERISTICS

5.1. Demographics and Baseline Characteristics

Participant demographic variables (ie, age, sex, race, and ethnicity) and baseline characteristics (body weight [in kg], height [in cm], body mass index [BMI; in kg/m²]) will be summarized by GS-1720 cohort and overall using descriptive statistics for continuous variables and using number and percentage of participants for categorical variables. The summary of demographic data will be provided for the Safety Analysis Set.

A by-participant demographic listing, including the informed consent date, will be provided by participant ID number in ascending order.

5.2. Other Baseline Characteristics

Other baseline characteristics include HIV-1 RNA (log₁₀ copies/mL), CD4 cell count (/µL), CD4 percentage (%), mode of infection (HIV risk factors), HIV disease status (AIDS, asymptomatic, or symptomatic HIV infection), years since HIV-1 diagnosis, years since starting HIV-1 treatment, resistance to any of the 4 ARV classes (yes, no) with a count of the number of subjects with resistance to each ARV class [NRTI, NNRTI, PI, and/or INSTI]), and ART status (ART-experienced or ART-naïve). These baseline characteristics will be summarized by GS-1720 dose group and for all GS-1720 participants using descriptive statistics for continuous variables, and using number and percentage of participants for categorical variables. The summary of these baseline characteristics will be provided for the Safety Analysis Set. No formal statistical testing is planned.

Note: If only the month and year are collected for "date of HIV-1 diagnosis" and/or "start date of HIV-1 treatment", the day will be set to '01' when imputing the full date. If both the day and month are missing, then '01 July' will be used for the day and month unless the full imputed date is after the first dose date of GS-1720 study drug. If HIV-1 diagnosis date or HIV-1 treatment start date is imputed to be after the first dose date of GS-1720 study drug, set the imputed HIV-1 diagnosis date or treatment start date to the date of first dose of GS-1720 to avoid having a negative duration.

A by-participant listing of other baseline characteristics will be provided by participant ID number in ascending order.

5.3. Medical History

General medical history data will be collected at screening and listed only. General medical history data will be coded using the MedDRA dictionary.

A by-participant listing of general medical history will be provided by participant ID number in ascending order. The listing will include relevant medical condition or procedure reported term, onset date, ongoing status, and resolution date (if applicable).

6. EFFICACY ANALYSES

6.1. Primary Efficacy Endpoint

The primary efficacy endpoint is the change from baseline in plasma HIV-1 RNA ($log_{10} copies/mL$) on Day 11.

Historical HIV-1 RNA data for placebo participants from 3 sponsor Phase 1b studies (GS-US-120-0104, GS-US-141-1219, and GS-US-200-4072) will be combined to form a single placebo group for the purpose of HIV-1 RNA analysis through Study Day 11. For Study GS-US-200-4072, HIV-1 RNA (log₁₀ copies/mL) collected on Day 10 will be used for "Day 11" since HIV-1 RNA was not collected on Day 11 for this study. Each GS-1720 cohort will be compared to the pooled placebo group with respect to the primary efficacy endpoint, the change from baseline in plasma HIV-1 RNA (log₁₀ copies/mL) on Day 11, using the 2 sided t-test conducted at an alpha level of 0.05. The analysis will be conducted using the FAS.

6.2. Secondary Efficacy Endpoints

6.2.1. Change from Baseline in Plasma HIV-1 RNA (log₁₀ copies/mL) on Day 8

The secondary efficacy endpoint change from baseline in plasma HIV-1 RNA (log₁₀ copies/mL) on Day 8 will be analyzed using the same methods used for the primary endpoint. For study GS-US-120-0104, HIV-1 RNA (log₁₀ copies/mL) collected on Day 7 will be used for "Day 8" since HIV-1 RNA was not collected on Day 8 for this study.

6.2.2. Percentage of Participants Ever Achieving HIV-1 RNA < 50 copies/mL Postbaseline up to Day 11

The number and percentage of participants ever achieving HIV-1 RNA < 50 copies/mL postbaseline up to Day 11 will be summarized by GS-1720 cohort and for the placebo control group (using the FAS). For historical placebo control participants in study GS-US-120-0104 with HIV-1 RNA values analyzed using the HIV PCR Stand., 1.5 Cobas-CL assay with a LLOQ of 400 copies/mL, a value less than LLOQ (ie, < 400 copies/mL) was counted as meeting the endpoint (HIV-1 RNA < 50 copies/mL). A Fisher's exact test will be used to compare each GS-1720 cohort to the historical placebo group if at least 1 participant has HIV-1 RNA < 50 copies./mL postbaseline up to Day 11.

6.2.3. Analysis of Other Efficacy Endpoints

Maximum Reduction in Plasma HIV-1 RNA Postbaseline to Day 11

The maximum postbaseline reduction in plasma HIV-1 RNA (log₁₀ copies/mL) from Day 2 through Day 11 will be analyzed using the same statistical methods used for the primary endpoint analysis. Baseline value, lowest post-baseline HIV-1 RNA value from Day 2 to Day 11,

and the lowest change from baseline in HIV-1 RNA (log₁₀ copies/mL) from Day 2 to Day 11 for each participant will be summarized by GS-1720 cohort and for the historical placebo group.

Change from Baseline in HIV-1 RNA by Visit

Baseline value, HIV-1 RNA (log₁₀ copies/mL), and change from baseline in HIV-1 RNA (log₁₀ copies/mL) will be summarized descriptively by visit for each GS-1720 cohort and for the historical placebo control group through Day 11.

Mean \pm 95% confidence interval (CI) and median (Q1, Q3) of the change from baseline in HIV-1 RNA (log₁₀ copies/mL) at each visit will be plotted through Day 11 using a line plot with a separate line displayed for each GS-1720 cohort and for the historical placebo group. Placebo data will be displayed for participants with a measurement collected in the analysis visit window.

Change from Baseline in CD4 by Visit

Baseline values, values at each postbaseline visit (Day 11, 25, 39 and 60), and the change from baseline in CD4 cell count (μ L) and CD4 percentage by visit will be summarized by GS-1720 cohort.

Percentage of Participants with HIV-1 RNA < 50 copies/mL by Visit from Day 11 to Day 60

The number and percentage of participants with HIV1 RNA < 50 copies/mL (split into categories "< 20 copies/mL" [with subcategories "< 20 copies/mL Detectable", "< 20 copies/mL Not Detectable"] and "20 to < 50 copies/mL") by visit using the Cobas 6800 assay will be displayed for each GS-1720 cohort and overall using the missing = excluded method at the last visit prior to adding SOC (Day 11) and at visits after adding SOC (Days 25, 39 and 60).

For participants who did not meet the criteria HIV-1 RNA < 50 copies/mL at the visit, the number and percentage of participants with HIV-1 RNA in the following categories will be summarized:

- 50 to < 200 copies/mL
- $\geq 200 \text{ copies/mL}$

Missing data will be excluded in the computation of percentages (ie, missing data points will be excluded from both numerator and denominator in the computation). The denominator for percentages at a visit is the number of participants in the FAS with nonmissing HIV-1 RNA value at that visit. No statistical testing is planned.

All efficacy endpoints will include participants in the FAS.

7. SAFETY ANALYSES

7.1. Adverse Events and Deaths

7.1.1. Adverse Event Dictionary

Clinical and laboratory adverse events (AEs) will be coded using the current version of MedDRA version 26.1. System organ class (SOC), high-level group term (HLGT), high-level term (HLT), preferred term (PT), and lower-level term (LLT) will be provided in the AE dataset.

7.1.2. Adverse Event Severity

Adverse events were graded by the investigator as Grade 1, 2, 3, or 4 according to toxicity criteria specified in the protocol. A Grade 5 event indicates death. The severity grade of events for which the investigator did not record severity will be categorized as "missing" for tabular summaries and data listings. The missing category will be listed last in summary presentation.

7.1.3. Relationship of Adverse Events to Study Drug

Related AEs are those for which the investigator selected "Related" on the AE CRF to the question of "Related to Study Treatment." Relatedness will always default to the investigator's choice, not that of the medical monitor. Events for which the investigator did not record relationship to study drug will be considered related to study drug for summary purposes. However, by-participant data listings will show the relationship as missing.

7.1.4. Relationship of Adverse Events to Study Procedure

Study procedure related AEs are those for which the investigator selected "Yes" on the AE CRF to the question of "Related to Study Procedures." Relatedness will always default to the investigator's choice, not that of the medical monitor. Events for which the investigator did not record relationships to study procedure will be considered related to study procedure for summary purposes. However, by-participant data listings will show the relationship as missing from that captured on the CRF.

7.1.5. Serious Adverse Events

Serious adverse events (SAEs) will be identified and captured as SAEs if the AE met the definition of an SAE that was specified in the study protocol. SAEs captured and stored in the clinical database will be reconciled with those in the Gilead Patient Safety database before data finalization.

7.1.6. Treatment-Emergent Adverse Events

7.1.6.1. Definition of Treatment-Emergent Adverse Events

Treatment-emergent adverse events (TEAEs) are defined as any AEs with an onset date on or after the study drug start date. If the AE onset date is the same as the date of study drug start date then the AE onset time must be on or after the study drug start time. If the AE onset time is missing when the start dates are the same the AE will be considered treatment emergent.

7.1.6.2. Incomplete Dates

If the onset date of the AE is incomplete and the AE stop date is not prior to the first dosing date of study drug, then the month and year (or year alone if month is not recorded) of onset determine whether an AE is treatment emergent. The event is considered treatment emergent if the AE onset is the same as or after the month and year (or year) of the first dosing date of study drug.

An AE with completely missing onset and stop dates, or with the onset date missing and a stop date later than the first dosing date of study drug, will be considered to be treatment emergent. In addition, an AE with the onset date missing and incomplete stop date with the same or later month and year (or year alone if month is not recorded) as the first dosing date of study drug will be considered treatment emergent.

7.1.7. Summaries of Adverse Events and Deaths

Treatment-emergent AEs will be summarized based on the Safety Analysis Set.

7.1.7.1. Summaries of AE Incidence in Combined Severity Grade Subsets

A brief, high-level summary of the number and percentage of participants who experienced at least 1 TEAE in the categories described below will be provided by GS-1720 cohort and overall for events with an onset date up to Day 11 (prior to adding SOC) and for the entire study.

- TEAEs
- TEAEs with Grade 3 or higher
- TEAEs with Grade 2 or higher
- TE treatment-related AEs
- TE procedure-related AEs
- TE treatment-related AEs with Grade 3 or higher
- TE treatment-related AEs with Grade 2 or higher

- TE SAEs
- TE treatment-related SAEs
- TEAEs leading to premature discontinuation of study drug
- TEAEs leading to premature discontinuation of study
- TEAEs leading to death (ie, outcome of death)

The number and percentage of participants who experienced at least 1 TEAE will be provided and summarized by SOC, PT, and GS-1720 cohort (and overall):

- TEAEs, by maximum severity
- TEAEs up to Day 11, by maximum severity
- TEAEs with Grade 3 or higher, by maximum severity
- TE treatment-related AEs, by maximum severity
- TE procedure-related AEs, by maximum severity
- TE treatment-related AEs with Grade 3 or higher, by maximum severity
- TE SAEs
- TE treatment-related SAEs
- TEAEs leading to premature discontinuation of study

Multiple events will be counted only once per participant in each summary. Adverse events will be summarized and listed first in alphabetic order of SOC and then by PT in descending order of total frequency within each SOC. For summaries by severity grade, the most severe grade will be used for those AEs that occurred more than once in an individual participant during the study.

In addition to the above summary tables, all TEAEs and TE treatment-related AEs will be summarized by PT only, in descending order of total frequency.

In addition, data listings will be provided for the following:

- All AEs, indicating whether the event is treatment emergent
- All SAEs
- All Deaths

- All AEs with severity of Grade 3 or higher
- All AEs leading to premature discontinuation of study drug or study

7.2. Laboratory Evaluations

Laboratory data collected during the substudy will be analyzed and summarized using both quantitative and qualitative methods. Summaries of laboratory data will be provided for the Safety Analysis Set and will include all data collected after the first dose date of study drug unless stated otherwise. The analysis will be based on values reported in conventional units. When values are below the LOQ, they will be listed as such, and the closest imputed value will be used for the purpose of calculating summary statistics as specified in Section 3.7.

A by-participant listing for laboratory test results will be provided by participant ID number and visit in chronological order for hematology, serum chemistry, coagulation, and urinalysis separately. Values falling outside of the relevant reference range and/or having a severity grade of 1 or higher on the DAIDS Toxicity Grading Scale for Severity of Adverse Events and Laboratory Abnormalities will be flagged in the data listings, as appropriate. For AEs associated with laboratory abnormalities, the event should be graded on the basis of the clinical severity in the context of the underlying conditions; this may or may not be in agreement with the grading of the laboratory abnormality.

No formal statistical testing is planned.

7.2.1. Summaries of Numeric Laboratory Results

Descriptive statistics will be provided by GS-1720 cohort (and overall) for selected laboratory tests specified in the study protocol as follows:

- Baseline values
- Values at each postbaseline visit
- Change from baseline at each postbaseline visit

A baseline laboratory value will be defined as the last measurement obtained on or prior to the date/time of first dose of study drug. Change from baseline to a postbaseline visit will be defined as the visit value minus the baseline value. The mean, median, Q1, Q3, minimum, and maximum values will be displayed to the reported number of digits; SD values will be displayed to the reported number of digits plus 1.

In the case of multiple values in an analysis window, data will be selected for analysis as described in Section 3.8.3

7.2.2. Graded Laboratory Values

The DAIDS Toxicity Grading Scale for Severity of Adverse Events and Laboratory Abnormalities will be used to assign toxicity grades (0 to 4) to laboratory results for analysis. Grade 0 includes all values that do not meet the criteria for an abnormality of at least Grade 1. For laboratory tests with criteria for both increased and decreased levels, analyses for each direction (ie, increased, decreased) will be presented separately.

7.2.2.1. Treatment-Emergent Laboratory Abnormalities

Treatment-emergent laboratory abnormalities are defined as values that increase at least 1 toxicity grade from baseline at any time postbaseline. If the relevant baseline laboratory value is missing, any abnormality of at least Grade 1 observed postbaseline will be considered treatment emergent.

7.2.2.2. Summaries of Laboratory Abnormalities

Laboratory data that are categorical will be summarized using the number and percentage of participants in the study with the given response at baseline and each scheduled postbaseline visit.

The following summaries (number and percentage of participants) for treatment-emergent laboratory abnormalities will be provided by lab test and GS-1720 cohort (and overall); participants will be categorized according to the most severe postbaseline abnormality grade for a given lab test:

- Graded laboratory abnormalities
- Graded laboratory abnormalities collected up to Study Day 11 (prior to the participant initiating standard of care therapy on Day 11)
- Grade 3 or 4 laboratory abnormalities

For all summaries of laboratory abnormalities, the denominator is the number of participants with ≥ 1 nonmissing postbaseline value.

A by-participant listing of treatment-emergent laboratory abnormalities and a listing of treatment-emergent Grade 3 or 4 laboratory abnormalities will be provided by participant ID number and visit in chronological order. These listingss will include all test results that were collected throughout the study for the lab test of interest, with all applicable severity grades and abnormal flags displayed.

7.3. Body Weight, Height, and Vital Signs

Descriptive statistics will be provided by GS-1720 cohort (and overall) for body weight, BMI, and vital signs as follows:

- Baseline value
- Value at each postbaseline time point [visit]
- Change from baseline at each postbaseline time point [visit]

A baseline value will be defined as the last available value collected on or prior to the date of first dose of study drug. Change from baseline to a postbaseline visit will be defined as the postbaseline value minus the baseline value.

In the case of multiple values in an analysis window, data will be selected for analysis as described in Section 3.8.3. No formal statistical testing is planned.

A by-participant listing of vital signs will be provided by participant ID number and visit in chronological order. Body weight, height, and BMI will be included in the vital signs listing if space permits. If not, they will be provided separately.

7.4. Prior and Concomitant Medications and Disease Specific Medications

Prior and concomitant medications (ie, non-antiretroviral [non-ARV] medications) collected at screening and during the study will be coded using the current version of the World Health Organization (WHO) Drug Dictionary.

Disease-specific medications (ie, nonstudy drug ARV) used prior to, during, or after the study (if collected) will be coded using the Gilead-modified WHO Drug Dictionary.

7.4.1. Prior and Disease-Specific Prior Medications

Prior and disease-specific prior medications are defined as any medications taken before a participant took their first dose of study drug.

A summary of prior or disease-specific prior medications will not be provided.

7.4.2. Concomitant Medications

Concomitant medications are defined as medications taken on or after first dose date of study drug. Use of concomitant medications will be summarized by preferred name using the number and percentage of participants for each GS-1720 cohort (and overall). A participant reporting the same medication more than once will be counted only once when calculating the number and percentage of participants who received that medication. The summary will be ordered by preferred term in descending overall frequency. For drugs with the same frequency, sorting will be done alphabetically.

For the purposes of analysis, any medications with a start date prior to or on the first dosing date of study drug that continued to be taken after the first dosing date, or medications started after the first dosing date of study drug will be considered to be concomitant medications. Medications started and stopped on the same day as the first dosing date of study drug will also be considered concomitant. Medications with a stop date prior to the date of first dosing date of study drug will be excluded from the concomitant medication summary. If a partial stop date is entered, any medication with the month and year (if day is missing) or year (if day and month are missing) prior to the date of first study drug administration will be excluded from the concomitant medication summary. If a partial start date is entered, any medication with the month and year (if day is missing) or year (if day and month are missing) on or after the study drug start date will be included in the concomitant medication summary. Medications with completely missing start and stop dates will be included in the concomitant medication summary, unless otherwise specified. Summaries will be based on the Safety Analysis Set. No formal statistical testing is planned.

All prior and concomitant medications (other than per-protocol study drugs) and all nonstudy drug ARV medications will be provided in by-participant listings sorted by participant ID number and administration date in chronological order.

7.5. Electrocardiogram Results

Summaries of investigator assessment of ECG readings will be provided for the Safety Analysis Set for each scheduled visit. No formal statistical testing is planned.

7.5.1. Investigator Electrocardiogram Assessment

A shift table of the investigators' assessment of ECG results at each visit compared with baseline values will be presented by GS-1720 cohort using the following categories: normal; abnormal, not clinically significant; abnormal, clinically significant; or missing. If all participants have a baseline value then no missing category will be presented at baseline. The number and percentage of participants in each cross-classification group of the shift table will be presented. Participants with a missing value at baseline or postbaseline will not be included in the denominator for percentage calculation.

No formal statistical testing is planned.

A by-participant listing for ECG assessment results will be provided by participant ID number and visit in chronological order.

7.6. Other Safety Measures

A by-participant listing of subject pregnancies during the study will be provided by participant ID number. No additional safety measures are specified in the protocol.

Although not necessarily related to safety, a by-participant listing of all comments received during the study on the comments eCRF will be provided by participant ID number, and eCRF form for which the comment applies.

7.7. Changes From Protocol-Specified Safety Analyses

There are no deviations from the protocol-specified safety analyses.

8. PHARMACOKINETIC (PK) ANALYSES

8.1. PK Sample Collection and Analyses

Intensive PK samples are planned to be collected at several timepoints for all cohorts: predose, 0.5, 1, 2, 3, 4, 5, 6, 8, and 12 hours postdose CCI) on respective days of dosing. For Cohorts 1-4, intensive PK visits will be required for Day 1 and Day 2. A single anytime PK collection will occur relative to study drug dosing on Day 1, at each postbaseline visit for all participants (on Days 2, 3, 4, 7, 8, 9, 10, 11, 25, 39, 60, or at early termination [if applicable]). Concentrations of GS-1720 in plasma will be determined using validated bioanalytical assays.

8.1.1. Estimation of PK Parameters

PK parameters will be estimated using Phoenix WinNonlin® software (version 8.2.0) using standard noncompartmental methods. The linear up/log down rule will be used in conjunction with the appropriate noncompartmental model, with input values for dose level, dosing time, plasma concentration, and corresponding real-time values, based on drug dosing times whenever possible. If the PK scientist identifies that another method is more appropriate, the reasons for this decision should be documented.

All predose sample times before time-zero will be converted to 0.

Area under the curve (AUC) will be calculated by the PK scientists. For AUC, samples BLQ of the bioanalytical assays occurring prior to the achievement of the first quantifiable concentration will be assigned a concentration value of zero to prevent overestimation of the initial AUC. Samples that are BLQ at all other time points will be treated as missing data in WinNonlin®. The nominal time point for a key event or dosing interval (τ) may be used to permit direct calculation of AUC over specific time intervals. The appropriateness of this approach will be assessed by the PK scientist on a profile-by-profile basis.

Pharmacokinetic parameters such as AUC_{tau} , λ_z and $t_{1/2}$ are dependent on an accurate estimation of the terminal elimination phase of drug. The appropriateness of calculating these parameters will be evaluated upon inspection of PK data on a profile-by-profile basis by the PK scientist.

8.1.2. PK Parameters

PK parameters will be generated for all participants for whom parameters can be derived in the PK Analysis Set. The analyte presented in Table 8-1 will be evaluated if data are available.

Table 8-1. Study Treatments and Associated Analyte

GS-1720 Cohort	Treatment	Analyte
All GS-1720 Cohorts	GS-1720	GS-1720

The analyte and parameters presented in Table 8-2 will be used to evaluate the PK objectives of the study. The PK parameters to be estimated in this study are listed and defined in the PK Abbreviations section.

Table 8-2. PK Parameters for Each Analyte

Analyte	Parameters
GS-1720	$AUC_{last}, AUC_{inf}, AUC_{0-t}, \%AUC_{exp}, C_{max}, C_{last}, C_t, C_{avg}, T_{max}, T_{last}, \lambda_z, CL/F, t_{1/2}, and V_z/F$

8.2. Statistical Analysis Methods

8.2.1. General considerations

Individual participant concentration data and individual participant PK parameters for GS-1720 will be listed and summarized using descriptive statistics by GS-1720 cohort. Summary statistics (number of participants, mean, SD, coefficient of variation [%CV], median, min, max, Q1, and Q3) will be presented for both individual participant concentration data by time point and individual participant PK parameters by GS-1720 cohort. Moreover, the geometric mean, 95% CI, %Geometric CV [%GCV], and the mean and SD of the natural log-transformed values will be presented for individual participant PK parameter data.

Individual concentration data listings and summaries will include all participants with concentration data. The sample size for each time point will be based on the number of participants with nonmissing concentration data at that time point. The number and percentage of participants with concentration BLQ, as well as an indicator if more than one-third of the participants are BLQ will be presented for each time point. For summary statistics, BLQ values will be treated as zero at predose and postdose time points. If more than one-third of the values at a postdose time point are BLQ then the mean and SD will not be presented at that time point Concentration values will be presented as received from the bioanalytical lab and summary statistics will be presented to three significant digits.

8.2.2. PK Analyses

Individual PK parameter data listings and summaries will include all participants for whom PK parameter(s) can be derived. The sample size for each PK parameter will be based on the number of participants with nonmissing data for that PK parameter. Data and summary statistics will be presented to three significant digits.

The following tables will be provided for GS-1720 by cohort:

- Individual estimates and summary statistics of plasma pharmacokinetic parameters
- Individual data and summary statistics of plasma concentration (ng/mL) at protocol-specified sampling times

The following figures will be provided for GS-1720 by cohort:

- Mean (± SD) concentration data versus time (on linear and semilogarithmic scales). If more than one-third of the values at a postdose time point are BLQ, then the mean and SD will not be presented at that time point and remaining points connected. If lower error bar (mean-SD) is < 0 at a timepoint then it will not be presented at that timepoint.
- Median (Q1, Q3) concentration data versus time (on linear and semilogarithmic scales). If
 more than one-third of the values at a postdose time point are BLQ then the median, Q1 and
 Q3 will not be presented at that time point and remaining points connected. If lower error bar
 (Q1) is BLQ at a timepoint then it will be presented as LLOQ at that timepoint.
- Individual participant concentration data versus time (on linear and semilogarithmic scales). Values of BLQ will be displayed as 0 on the linear scale and missing on the semi-logarithmic scale.

The following listings will be provided:

- Plasma PK sampling details by participant, including procedures, differences in scheduled and actual draw times, and sample age
- Individual data on determination of plasma half-life and corresponding regression correlation coefficient

8.2.3. PK/PD Analyses

No formal PK/PD analysis is planned.

To characterize the PK/PD relationship between the exposure of GS-1720 and the viral dynamics of HIV-1, following figures will be provided using the PK/PD Analysis Set:

- Relationship between reduction from baseline in HIV-1 RNA (log10 copies/mL) and GS-1720 concentration on Day 11
- Relationship between reduction from baseline in HIV-1 RNA (log10 copies/mL) and GS-1720 average concentration up to Day 11
- Relationship between reduction from baseline in HIV-1 RNA (log10 copies/mL) and GS-1720 concentration on Day 8
- Relationship between reduction from baseline in HIV-1 RNA (log10 copies/mL) and GS-1720 average concentration up to Day 8

8.3. Sensitivity Analysis

Sensitivity analysis may be conducted for the key PK analyses if the PK scientist identifies PK data as questionable. The sensitivity analysis will exclude specific data from analyses, if appropriate. If a sensitivity analysis is deemed necessary, a listing of the PK parameter(s) data being excluded, with associated reason(s) provided by the PK scientist, will be generated.

9. REFERENCES

Division of AIDS (DAIDS) Table for Grading the Severity of Adult and Pediatric Adverse Events (Version 2.1), July 2017, 5894

https://rsc.niaid.nih.gov/sites/default/files/daidsgradingcorrectedv21.pdf

10. SOFTWARE

 SAS^{\circledR} Software, SAS Institute Inc., Cary, NC, USA.

nQuery, Statsols, Cork, Ireland.

Phoenix WinNonlin® software, Certara, Radnor, PA, USA

11. SAP REVISION

Revision Date (DD MMM YYYY)	Section	Summary of Revision	Reason for Revision

12. APPENDICES

Appendix 1. Study Procedures Table

Study Procedure	Screeninga	D1b	D2	D3b	D4	D7b	D8	D9	D10	D11b	D25b	D39b	D60b	ETc
Visit Window											± 2D	± 2D	± 2D	
Written informed consent	х													
Medical history and demography	X													
Complete physical examination	X	X											Х	Х
Symptom-driven physical examination ^d			x		x	х				х				
Height	X													
Weight	X	X		X		X				х	X	X	Х	Х
Vital signs ^e	X	X	х	X	X	X				х		X	X	Х
HBV blood panel and HCV serology ^f	X													
CD4 cell count ^f	X	Х								х	х	х	Х	Х
Plasma sample for HIV-1 genotyping/phenotyping [£] §	x	х								х				
Plasma HIV-1 RNAf	х	Х	х	х	х	х	х	Х	х	х	х	х	Х	Х
Hematology ^f	X	Х		х		х				х	х	х	х	Х
Coagulation panel ^f	X	X				х				х			Х	Х
Chemistry ^f	X	X		х		х				х	х	x	Х	Х
Urinalysis ^f	X	Х		х		х				х	х	х	х	Х
Serum pregnancy test ^{£h}	X													
Urine pregnancy test ^{f.h.i}		X									Х		Х	Х
Serum FSH ^{f,j}	X													
12-Lead ECG	X	X				х				Х			х	Х
Intensive plasma PK ^{k,1}		х												

BVY or SOC self-administration										Хp				
PUTV SOC16 - Aministration										WD.				$\overline{}$
BVY dispensation										X				
Initiate study drug (GS-1720) dosing ^o		X												
Review AEs and concomitant medications ⁿ	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Single anytime plasma PK ^m			X	X	X	X	X	X	X	X	X	X	X	X

Investigator (or delegate) follow-up with primary health care provider

For participants who complete the study, 6 and 12 months (± 1 month) after enrollment the investigator (or delegate) will contact the participant's primary health care provider to request and record all available plasma HIV-1 RNA and resistance testing results and, if applicable, changes in HIV treatment regimen with date of change.

AE = adverse event; BVY = bictegravir/emtricitabine/tenofovir alafenamide (coformulated; Biktarvy®); D = Day; ECG = electrocardiogram; eCRF = electronic case report form; ET = early termination; FSH = follicle-stimulating hormone; HBV = hepatitis B virus; HCV = hepatitis C virus; PK = pharmacokinetic(s); SAE = serious adverse event; SOC = standard of care

- a Prospective participants should be screened no more than 28 days prior to administration of the first dose of study drug.
- b Overnight fasting (≥ 6 hours) is required.
- c ET assessments will be performed within 72 hours of prematurely discontinuing from the study or study drug, as applicable.
- d Symptom-driven physical examinations will be performed as needed, based on reported signs and symptoms.
- e Vital signs include blood pressure, heart rate, respiration rate, and body temperature. Participants should be sitting down for 5 minutes before vital sign measurements are obtained.
- f See detailed list of laboratory assessments in Section 6.3.7 of the master protocol.
- Participants who meet the criteria for virologic failure after Day 11 will be tested for the potential development of resistance against all components of the treatment regimen, including the evaluated compound. See Section 6.3.9.1.3 of the master protocol for management of virologic failure.
- h Participants assigned female at birth of childbearing potential only.
- i A negative urine pregnancy test is required prior to study drug dosing on Day 1. Positive urine pregnancy tests will be confirmed with a serum test.
- j Serum FSH test is required for participants assigned female at birth and < 54 years old, not on hormonal contraception, and who have stopped menstruating for ≥ 12 months but do not have documentation of hormonal ovarian failure.
- k Intensive PK samples should be collected at these time points for all cohorts: predose, 0.5, 1, 2, 3, 4, 5, 6, 8, and 12 hours postdose CCI) on respective days of dosing. Additional intensive PK visits may be required for cohorts with more than 1 day of dosing of GS-1720.
- 1 For Cohort 1, intensive PK visits will be required for Day 1 and Day 2.
- m Single anytime PK sampling will occur relative to study drug dosing on Day 1. Single anytime PK sampling will not be done if drug dosing and intensive PK sampling are performed on the same day.
- n From the time of obtaining informed consent through the first administration of study drug, record all SAEs, as well as any nonserious AEs related to protocol-mandated procedures, on the AE eCRF. All other untoward medical occurrences observed during the screening period, including exacerbation or changes in medical history, are to be captured on the medical history eCRF. See Section 7, Adverse Events and Toxicity Management, for additional details.
- o For Cohort 1, a single 450-mg dose of GS-1720 will be administered on both Day 1 and Day 2 in the fasted condition (Section 5.2.4). Subsequent cohort dose, dosing regimen (ie, single or multiple dose), meal requirements (fasted or with a low-fat or high-fat meal), and progression between cohorts will be adaptive and determined as summarized in Section 3.1.1.
- p BVY or SOC will be initiated on Day 11. Participants who discontinue study drug before Day 11 should start this regimen at the time of discontinuation (Section 6.4.1 of master protocol).

Appendix 2. Details for Statistical Programming

For continuous HIV-1 RNA endpoints change from baseline on Day 11, change from baseline on Day 8, and maximum change from baseline from Day 2 to Day 11, pairwise comparisons between each GS-1720 cohort and historical placebo group will be performed and p-values will be presented.

The following SAS code will be used to generate p-values:

```
**Assign treatment groups for testing**;
data trtgrp;
set trtgrp;
   if dose = '450 mg and meal='Fasted' then trt=1;
   else if dose ='150 mg and meal='Fasted' then trt=2;
   else if dose ='30 mg and meal='Fasted' then trt=3;
   else if dose = '900 mg' and meal='Fasted' then trt=4;
   else if treatment='Placebo' then trt5;
run;
ods output estimates=estimate;
proc mixed data = trtgrp;
class trt ;
model chg = trt / ddfm=kr;
/*least squares means*/
lsmeans trt / diff e;
/* p-values */
estimate 'Cohort 3 vs Placebo' trt 0 0 1 0 -1 / cl alpha=0.05;
estimate 'Cohort 4 vs Placebo' trt 0 0 0 1 -1 / cl alpha=0.05;
```

Appendix 3. Data Collection of COVID-19 Data

This appendix describes the clinical trial site collection of COVID-19 data pertaining to missed/virtual visits and the data processing algorithm that will be used to determine which visits are missing and which visits are virtual.

12.1. Data Collection

A COVID-19 supplement to the eCRF Completion Guidelines (CCG) was provided by Clinical Data Management to instruct clinical trial sites with data entry expectations pertaining to scenarios related to the COVID-19 pandemic. If a visit was missed, sites were instructed to enter "Visit missed due to COVID-19" and if an in-person visit was conducted virtually, sites were instructed to enter "Virtual visit due to COVID-19".

12.2. Determination of Missed and Virtual Visits

Natural Language Processing (NLP) will be used to search the CRF comment fields to identify instances of "COVID-19", "Virtual", or synonyms (see Table 12-1). The search terms will be maintained in a global lookup table and can be modified to tune the NLP model. Any comments with COVID-19 search terms, "Missed visit" or "Virtual visit will be assigned as follows:

- i) If COVID-19 terms are identified through NLP and the visit date is missing, then result is "Missed Visit"
- ii) If COVID-19 and Virtual terms are identified through NLP for a visit, then result is "Virtual Visit". When there are multiple records for the same participant and the same visit, if one record could be categorized as "Virtual Visit", all records associated with this participant and this visit will be categorized as "Virtual Visit"
- iii) Otherwise result is missing

Table 12-1. Example Search Terms for "COVID-19" and "Virtual" Used to Identify Missed/Virtual Visits.

Search Terms for "COVID-19"	Search Terms for "Virtual"
COVID19	VIRTUAL
CORONA	TELEMED
CORONAVIRUS	TELEHEALTH
PANDEMIC	TELEPHONE
OUTBREAK	REMOTE
CRISIS	TELEMEDICINE
LOCKDOWN	TELECONSULTATION
QUARANTINE	TELEPHONICALLY
SHELTER	PHONE
	HOME VISIT
	ZOOM
	SKYPE

GS-US-544-5905-02_SAP ELECTRONIC SIGNATURES

Signed by	Meaning of Signature	Server Date (dd-MMM- yyyy hh:mm:ss)
PPD	Clinical Development eSigned	16-May-2024 23:33:39
PPD	Biostatistics eSigned	17-May-2024 15:37:21
PPD	Clinical Pharmacology eSigned	17-May-2024 21:31:13