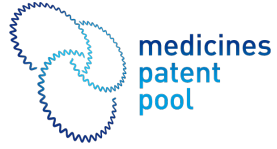
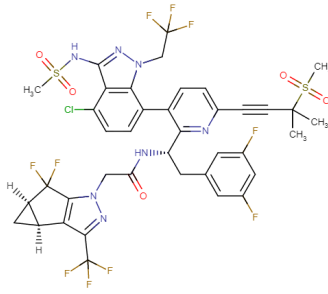


Developed by



Supported by



Lenacapavir 6-Monthly

Developer(s)

Gilead Sciences Inc.

Originator

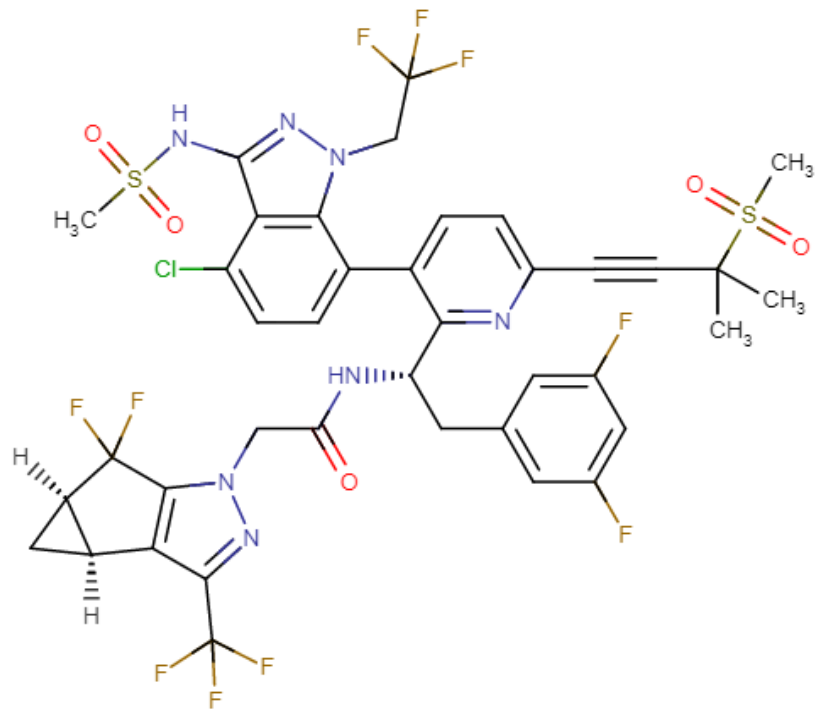
<https://www.gilead.com/>

United States



Gilead Sciences, Inc. is a multinational biopharmaceutical company that develops and manufactures innovative medicines for life-threatening diseases, including anti-viral therapeutics for HIV/AIDS, Hepatitis B, Hepatitis C and Covid-19. Headquartered in Foster City, California, Gilead was originally founded in 1987 and is currently listed on both the S&P 500 and the NASDAQ Biotechnology Index.

Drug structure



Lenacapavir Chemical Structure

Sourced from DrugBank

Drug information

Associated long-acting platforms

Aqueous Solution, Oral solid form

Administration route

Subcutaneous, Oral

Therapeutic area(s)

HIV

Use case(s)

Pre-Exposure Prophylaxis (PrEP)

Treatment

Prevention

Use of drug

Ease of administration

Administered by a nurse

To be determined

Frequency of administration

Every 6 months

User acceptance

Not provided

Dosage

Available dose and strength

Oral lead-in LEN tablets 300 mg; Each injection contains 927 mg of lenacapavir in solution.

Maximum dose

Not provided

Recommended dosing regimen

For PrEP: Initiation Option 1: Day 1: 927 mg by subcutaneous injection and 600 mg orally (2 x 300-mg tablets). Day 2: 600 mg orally (2 x 300-mg tablets). Initiation Option 2: Day 1: 600 mg orally (2 x 300-mg tablets). Day 2: 600 mg orally (2 x 300-mg tablets). Day 8: 300 mg orally (1 x 300-mg tablet). Day 15: 927 mg by subcutaneous injection. Maintenance: 927 mg by subcutaneous injection every 26 weeks +/- 2 weeks from date of last injection. For the treatment indication, lenacapavir is administered as part of a full treatment regimen with the relevant associated medicines.

Additional comments

Not provided

Dosage link(s)

https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/215973s000lbl.pdf

Drug information

Drug's link(s)

<https://go.drugbank.com/drugs/DB15673>

Generic name

Lenacapavir

Brand name

Sunlenca

Compound type

Small molecule

Drug class/category

Not provided

Summary

Six monthly lenacapavir (LEN) is a subcutaneous injectable formulation used for the treatment of multi-drug resistant HIV-1 infection in combination with other antiretrovirals and is currently being studied as potential HIV pre-exposure prophylaxis (PrEP). Two large Phase III clinical trials (PURPOSE 1 & 2) and three Phase II trials (PURPOSE 3, 4 & 5) are currently evaluating the safety and efficacy of subcutaneous lenacapavir for PrEP. Six-monthly LEN is administered subcutaneously every 26 weeks (+/- 2 weeks from date of last injection) following an initial two day oral-loading period

of 600 mg (2 x 300-mg tablets). LEN was approved in the EU for the treatment of HIV-positive adults with multidrug resistance in Aug 2022, and received approval from the U.S. FDA in Dec 2022.

Approval status

Lenacapavir (SUNLENCA) 463.5mg/3ml subcutaneous injection with 300mg oral lead-in tablets are approved for use in the United States, United Kingdom, Canada, UAE, South Korea, Hong Kong, Japan, Australia, Israel, and the European Union (27-member states of the European Union, as well as Norway, Iceland and Liechtenstein) for HIV-1 treatment under certain conditions. For PrEP: Gilead submitted an application to the US FDA for Lenacapavir in December 2024 and was granted priority review with a decision expected by June 19, 2025. It is also under review in Brazil, EU (+EEA) and South Africa.

Regulatory authorities

US FDA granted Breakthrough Therapy Designation for SUNLENCA in combination with other antiretroviral drugs for heavily treatment-experienced patients (HTE) adults with multi-drug resistant (MDR) HIV-1 infection failing their current antiretroviral regimen due to resistance, intolerance, or safety considerations. A European Marketing Authorization was issued for the use of SUNLENCA and it has also been classified as 'Fast-Track Reimbursement' by the Ministry of Health, Labour and Welfare, Japan, and 'Part 1- Schedule 1 & Schedule 3 Poison' by the Department of Health, Hong Kong.

Delivery device(s)

No delivery device

Scale-up and manufacturing prospects

Scale-up prospects

Compound is commercially manufactured.

Tentative equipment list for manufacturing

Equipment: Stainless steel pharmaceutical reactors, glass-lined reactors, rotary evaporator (rotovap), flash chromatography columns, stainless steel autoclave, cooling bath, silica gel chromatography columns, vacuum distillation apparatus, simulated moving bed chromatography system, Chiralpak columns.

Manufacturing

Storage of injectable lenacapavir in borosilicate vials is contraindicated due to issues with chemical compatibility. Instead, it is recommended that vials are made from aluminosilicate glass.

Specific analytical instrument required for characterization of formulation

Proton nuclear magnetic resonance (^1H NMR), High-performance liquid chromatography (HPLC), Ultra-Performance Liquid Chromatography (UPLC).

Clinical trials

CAPELLA

Identifier

NCT04150068

Link

<https://clinicaltrials.gov/ct2/show/NCT04150068>

Phase

Phase II/III

Status

Active, not recruiting

Sponsor

Gilead Sciences

More details

Not provided

Purpose

Evaluate the antiviral activity of Lenacapavir (formerly GS-6207) administered as an add-on to a failing regimen (functional monotherapy) in people living with HIV with

multi-drug resistance.

Interventions

Intervention 1

Drug: Oral Lenacapavir

Dosage: 300 mg

Intervention 2

Drug: Oral Lenacapavir Placebo

Dosage: 0 mg

Intervention 3

Drug: Subcutaneous Lenacapavir

Dosage: 927 mg

Intervention 4

Drug: Failing ARV Regimen

Intervention 5

Drug: Optimized Background Regimen (OBR)

Countries

United States of America

Canada

France

Germany

Italy

Japan

South Africa

Spain

Taiwan, Province of China

Thailand

Dominican Republic

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2019-11-21

Anticipated Date of Last Follow-up

2025-09-25

Estimated Primary Completion Date

Not provided

Estimated Completion Date

2027-01-01

Actual Primary Completion Date

2020-10-05

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Children
- Adolescents
- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

Adult aged ≥ 18 years (at all sites) or adolescent aged ≥ 12 and weighing ≥ 35 kg (at sites in North America and Dominican Republic). Currently receiving a stable failing ARV regimen for > 8 weeks. Have HIV-1 RNA ≥ 400 copies/mL at screening. Have multidrug resistance (resistance to ≥ 2 agents from ≥ 3 of the 4 main classes of ARV). Have no more than 2 fully active ARV remaining from the 4 main classes that can be effectively combined to form a viable regimen. Able and willing to receive an Optimized Background Regimen (OBR) together with Lenacapavir.

Health status

Positive to : HIV

Negative to : HCV

Study type

Interventional (clinical trial)

Enrollment

72

Allocation

Randomized

Intervention model

Sequential assignment

Intervention model description

Not provided

Masking

Quadruple-blind masking

Masking description

Quadruple (Participant, Care Provider, Investigator, Outcomes Assessor)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Oral

Use case

Treatment

Key resources

Type	Title	Content	Link
Link	Capsid Inhibition with Lenacapavir in Multidrug-Resistant HIV-1 Infection		https://www.nejm.org/doi/10.1056/NEJMoa2111111

PURPOSE 2

Identifier

NCT04925752

Link

<https://clinicaltrials.gov/study/NCT04925752>

Phase

Phase III

Status

Not provided

Sponsor

Gilead Sciences

More details

The goal of this clinical study is to test how well the study drug, lenacapavir (LEN), works in preventing the risk of HIV.

Purpose

Study of Lenacapavir for HIV Pre-Exposure Prophylaxis in People Who Are at Risk for HIV Infection

Interventions

Intervention 1

Oral Lenacapavir (LEN)

Dosage: 600 mg

Intervention 2

Oral F/TDF

Dosage: 200/300 mg

Intervention 3

Subcutaneous (SC) Lenacapavir (LEN)

Dosage: 927 mg

Intervention 4

Placebo SC LEN

Dosage: 0 mg

Intervention 5

Placebo to match F/TDF

Dosage: 0 mg

Countries

United States of America

Brazil

Puerto Rico

South Africa

Thailand

Argentina

Peru

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2021-06-28

Anticipated Date of Last Follow-up

2024-12-17

Estimated Primary Completion Date

2024-12-01

Estimated Completion Date

2028-05-01

Actual Primary Completion Date

2024-08-05

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Children
- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Yes

Comments about the studied populations

Key Inclusion Criteria: Incidence Phase * CGM, TGW, TGM, and GNB who have condomless receptive anal sex with partners assigned male at birth and are at risk for HIV infection. * HIV-1 status unknown at screening and no prior HIV-1 testing within the last 3 months. * Sexually active with ≥ 1 partner assigned male at birth (condomless receptive anal sex) in the last 12 months and 1 of the following: * Condomless receptive anal sex with ≥ 2 partners in the last 12 weeks. * History of syphilis, rectal gonorrhea, or rectal chlamydia in the last 24 weeks. * Self-reported use of stimulants with sex in the last 12 weeks. Randomized Phase * Negative local rapid fourth generation HIV-1/2 Ab/Ag, central fourth generation HIV-1/2 Ab/Ag, and HIV-1 RNA quantitative nucleic acid amplification

Health status

Considered high risk to : HIV

Negative to : HIV, HBV, HCV

Study type

Interventional (clinical trial)

Enrollment

3295

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Double-blind masking

Masking description

Double (Participant, Investigator)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Oral

Use case

PrEP

Key resources

Type	Title	Content	Link
Link	Proactive strategies to optimize engagement of Black, Hispanic/Latinx, transgender, and nonbinary individuals in a trial of a novel agent for HIV pre-exposure prophylaxis (PrEP)		https://pubmed.ncbi.nlm.nih
Link	Gilead's Twice-Yearly Lenacapavir for HIV Prevention Reduced HIV Infections by 96% and Demonstrated Superiority to Daily Truvada® in Second Pivotal Phase 3 Trial		https://www.gilead.com/news/details/2024/gileads-twiceyearly-lenacapavir-for-hiv-prevention-reduced-hiv-infections-by-96-and-demonstrated-superiority-to-daily-truvada

GS-US-536-5816

Identifier

NCT04811040

Link

<https://clinicaltrials.gov/ct2/show/NCT04811040>

Phase

Phase I

Status

Completed

Sponsor

Gilead Sciences

More details

Not provided

Purpose

Evaluate the safety and tolerability of a combination of the broadly neutralizing antibodies (bNAbs) teropavimab (formerly GS-5423) and GS-2872 in combination with the HIV capsid inhibitor lenacapavir

Interventions

Intervention 1

Drug: Oral Lenacapavir

Intervention 2

Drug: Subcutaneous Lenacapavir

Intervention 3

Biological: Teropavimab

Intervention 4

Biological: Zinlirvimab

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2021-04-08

Anticipated Date of Last Follow-up

2024-12-19

Estimated Primary Completion Date

Not provided

Estimated Completion Date

Not provided

Actual Primary Completion Date

2022-06-09

Actual Completion Date

2023-10-26

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

On first-line antiretroviral therapy (ART) for ≥ 2 years prior to screening. A change in ART regimen ≥ 28 days prior to screening for reasons other than virologic failure (VF) (eg, tolerability, simplification, drug-drug interaction profile) is allowed.

Health status

Positive to : HIV

Negative to : HBV, HCV

Other health status: No history of opportunistic infection or illness indicative of Stage 3 HIV disease; No comorbid condition(s) requiring ongoing immunosuppression.

Study type

Interventional (clinical trial)

Enrollment

32

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Double-blind masking

Masking description

Double (Participant, Investigator). Clinical pharmacologist and sponsor are not masked to treatment assignment.

Frequency of administration

Not provided

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Oral

Use case

Treatment

Key resources

Not provided

GS-US-200-4072

Identifier

NCT03739866

Link

<https://clinicaltrials.gov/ct2/show/NCT03739866>

Phase

Phase I

Status

Completed

Sponsor

Gilead Sciences

More details

Not provided

Purpose

Separately evaluate the short-term antiviral activity of both lenacapavir and tenofovir alafenamide with respect to plasma HIV-1 RNA reduction in antiretroviral or capsid inhibitor naïve patients

Interventions

Intervention 1

Drug: Lenacapavir Subcutaneous Injection

Dosage: 20 mg, 50 mg, 150 mg, 450 mg and 750 mg

Intervention 2

Drug: Placebo

Dosage: 0 mg

Intervention 3

Drug: B/F/TAF

Dosage: 50/200/25 mg

Intervention 4

Drug: TAF

Dosage: 200 mg and 600 mg

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2018-11-26

Anticipated Date of Last Follow-up

2021-03-16

Estimated Primary Completion Date

Not provided

Estimated Completion Date

Not provided

Actual Primary Completion Date

2019-11-14

Actual Completion Date

2020-06-15

Studied populations**Age Cohort**

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

No

Accepts lactating individuals

No

Accepts healthy individuals

No

Comments about the studied populations

Treatment naïve or experienced but CAI and integrase strand transfer inhibitor (INSTI) naïve, and have not received any antiretroviral therapy (ART) within 12 weeks of screening.

Health status

Positive to : HIV

Study type

Interventional (clinical trial)

Enrollment

53

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Double-blind masking

Masking description

Double (Participant, Investigator)

Frequency of administration

Other/Variable/Unknown : "Single dose "

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Type	Title	Content	Link
Link	Clinical targeting of HIV capsid protein with a long-acting small molecule		https://doi.org/10.1038/s415020-2443-1

PURPOSE 3

Identifier

NCT06101329

Link

<https://clinicaltrials.gov/study/NCT06101329>

Phase

Phase II

Status

Active, not recruiting

Sponsor

Gilead Sciences

More details

Not provided

Purpose

Evaluate the Pharmacokinetics, Safety, and Acceptability of Twice Yearly Long-acting Subcutaneous Lenacapavir for Pre-Exposure Prophylaxis in Cisgender Women in the United States.

Interventions

Intervention 1

Drug: Lenacapavir Tablet

Dosage: 600 mg

Intervention 2

Drug: Long-acting Subcutaneous Lenacapavir Injection

Dosage: 927 mg

Intervention 3

Drug: Emtricitabine/Tenofovir Disoproxil Fumarate (F/TDF)

Dosage: 200/300 mg

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2023-11-17

Anticipated Date of Last Follow-up

2025-08-20

Estimated Primary Completion Date

2027-03-01

Estimated Completion Date

2028-10-01

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations**Age Cohort**

- Adults
- Older Adults

Genders

- Cisgender female

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Unspecified

Comments about the studied populations

Cisgender women aged 18 and older who report at least one episode of condomless vaginal or anal sex with a cisgender man in the twelve months prior to enrollment.

Health status

Negative to : HIV, HBV

Considered at low risk of : HIV

Study type

Interventional (clinical trial)

Enrollment

253

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Open label

Masking description

None (Open Label)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Oral

Use case

PrEP

Key resources

Not provided

PURPOSE 4

Identifier

NCT06101342

Link

<https://clinicaltrials.gov/study/NCT06101342>

Phase

Phase II

Status

Active, not recruiting

Sponsor

Gilead Sciences

More details

PWUD (People Who Use Drugs)

Purpose

Evaluate the Pharmacokinetics and Safety of Twice Yearly Long-Acting Subcutaneous Lenacapavir for Pre-Exposure Prophylaxis in People Who Inject Drugs.

Interventions

Intervention 1

Drug: Long-acting Subcutaneous Lenacapavir Injection

Dosage: 927 mg

Intervention 2

Drug: Lenacapavir Tablet

Dosage: 600 mg

Intervention 3

Drug: Emtricitabine/tenofovir disoproxil fumarate (F/TDF)

Dosage: 200/300 mg

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2023-12-13

Anticipated Date of Last Follow-up

2025-08-20

Estimated Primary Completion Date

2028-12-01

Estimated Completion Date

2028-12-01

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations**Age Cohort**

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Yes

Comments about the studied populations

Participant inclusion criteria requires a positive urine drug screen for any drug of misuse including (but not limited to) opioids (eg, fentanyl, heroin), stimulants (eg, cocaine, amphetamines), psychoactive drugs (eg, benzodiazepines), or a combination of these drugs. Participants must also display evidence of recent injection(s) (eg, track marks) and self-report of injection paraphernalia sharing within the last 30 days.

Health status

Negative to : HIV, HBV, TB

Considered high risk to : HIV

Study type

Interventional (clinical trial)

Enrollment

181

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Open label

Masking description

None (Open Label)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Oral

Use case

PrEP

Key resources

Not provided

GS-US-536-5939

Identifier

NCT05729568

Link

<https://clinicaltrials.gov/study/NCT05729568>

Phase

Phase II

Status

Not provided

Sponsor

Gilead Sciences

More details

Not provided

Purpose

Evaluate the Safety and Efficacy of bNAbs GS-5423 and GS-2872 in Combination With Lenacapavir as Long-Acting Treatment Dosed Every 6 Months in Virologically Suppressed Adults With HIV-1 Infection.

Interventions

Intervention 1

Drug: Teropavimab (Formerly GS-5423)

Intervention 2

Drug: Zinlirvimab (Formerly GS-2872)

Intervention 3

Drug: Lenacapavir Tablet

Dosage: 600 mg

Intervention 4

Drug: Lenacapavir Injection

Dosage: 927 mg

Intervention 5

Drug: Antiretroviral Therapy

Countries

United States of America

Australia

Canada

Puerto Rico

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2023-05-15

Anticipated Date of Last Follow-up

2025-06-26

Estimated Primary Completion Date

2025-03-01

Estimated Completion Date

2029-12-01

Actual Primary Completion Date

2024-07-02

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

Participants are required to be receiving a stable ART regimen with no clinically significant documented resistance (except isolated NRTI mutations). Plasma HIV-1 RNA < 50 copies/mL at screening visit 2 and documented plasma HIV-1 RNA < 50 copies/mL for \geq 12 months preceding screening visit 2.

Health status

Positive to : HIV

Negative to : HBV, HCV

Study type

Interventional (clinical trial)

Enrollment

83

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Open label

Masking description

None (Open Label)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Not provided

IMEA 070

Identifier

NCT06289361

Link

<https://clinicaltrials.gov/study/NCT06289361>

Phase

Marketed

Status

Not provided

Sponsor

Institut de Médecine et d'Epidémiologie Appliquée - Fondation Internationale Léon M'Ba

More details

Immunovirological follow-up and safety of HIV-infected patients receiving lenacapavir under compassionate access in France between 01/01/2021 and 12/31/2023

Purpose

Cohort IMEA 070 -Lenacapavir Compassional

Interventions

Not provided

Countries

France

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

2024-04-01

Actual Start Date

2024-04-01

Anticipated Date of Last Follow-up

2024-10-23

Estimated Primary Completion Date

2024-04-15

Estimated Completion Date

2024-11-30

Actual Primary Completion Date

2024-04-15

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

Not provided

Health status

Positive to : HIV

Study type

Observational studies (incl. patient registries)

Enrollment

58

Allocation

Not provided

Intervention model

Not provided

Intervention model description

Not provided

Masking

Not provided

Masking description

Not provided

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Not provided

PURPOSE 5

Identifier

NCT06513312

Link

<https://clinicaltrials.gov/study/NCT06513312>

Phase

Phase II

Status

Active, not recruiting

Sponsor

Gilead Sciences

More details

The goals of this clinical study are to learn more about the study drug lenacapavir (LEN), by comparing the consistent and continuous use of LEN and emtricitabine/tenofovir disoproxil fumarate (coformulated; Truvada®) (F/TDF), then by observing the safety of LEN and F/TDF, evaluating the acceptability of LEN injections and oral F/TDF, and observe how LEN moves throughout the body in people who would benefit from pre-exposure prophylaxis (PrEP). The primary objective of this study is to compare LEN and F/TDF consistent and continuous use among people who would benefit from PrEP.

Purpose

Study of Lenacapavir Taken Twice a Year for HIV Pre-Exposure Prophylaxis (PrEP)

Interventions

Intervention 1

Drug: Lenacapavir Injection

Dosage: 927 mg

Intervention 2

Drug: Lenacapavir Tablet

Dosage: 600 mg

Intervention 3

Drug: Emtricitabine/tenofovir disoproxil fumarate (F/TDF)

Dosage: 200/300 mg

Countries

France

United Kingdom

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

2024-09-01

Actual Start Date

2024-10-07

Anticipated Date of Last Follow-up

2025-06-18

Estimated Primary Completion Date

2026-05-01

Estimated Completion Date

2028-12-01

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All
- Cisgender female
- Cisgender male
- Transgender female
- Transgender male
- Gender non-binary

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Yes

Comments about the studied populations

Key Inclusion Criteria: - Able to comprehend and provide a signed written informed consent, which must be obtained prior to initiation of study procedures. - Cisgender men who have sex with men, transgender women, transgender men, cisgender women, and nonbinary people - Increased likelihood of HIV acquisition as indicated by at least one of the following: - Condomless sex with ≥ 2 partners in the past 6 months - Diagnosis of a bacterial sexually transmitted infection (STI) in the past 12 months - Engagement in sex work or transactional sex in the past 12 months - Use of ≥ 2 courses of nonoccupational HIV post-exposure prophylaxis (nPEP) in the past 12 months - Condomless sex with a partner living with HIV who has unknown or unsuppressed viral load (≥ 200 copies/mL) in the past 12 months

Health status

Negative to : HIV

Study type

Interventional (clinical trial)

Enrollment

268

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Open label

Masking description

None (Open Label)

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

PrEP

Key resources

Not provided

GS-US-200-6712

Identifier

NCT06749054

Link

<https://clinicaltrials.gov/study/NCT06749054>

Phase

Phase II

Status

Recruiting

Sponsor

Gilead Sciences

More details

The goal of this clinical study is to learn more about the study drug, lenacapavir (LEN). The study will assess the safety, tolerability, and efficacy of long-acting LEN when combined with other medicines in adolescents and children living with HIV-1 who weigh at least 35 kg and have been treated before for HIV-1. The study will also see how easy it is for participants to take LEN as injection or an oral pill. The primary objectives are to evaluate the pharmacokinetics and safety of LEN in combination with optimized background regimen (OBR) in TE pediatric participants with HIV-1.

Purpose

Evaluation of Long-Acting Lenacapavir for the Treatment of HIV-1 in Treatment-experienced Adolescents and Children

Interventions

Intervention 1

Oral Lenacapavir

Intervention 2

Subcutaneous Lenacapavir

Intervention 3

Optimized Background Regimen (OBR)

Countries

United States of America

South Africa

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2025-03-26

Anticipated Date of Last Follow-up

2025-12-01

Estimated Primary Completion Date

2026-10-01

Estimated Completion Date

2027-04-01

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations**Age Cohort**

- Children
- Adolescents

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

Key Inclusion Criteria: * Body weight at screening \geq 35 kg. * On a stable failing antiretroviral (ARV) regimen for $>$ 8 weeks before screening and willing to continue the regimen until Day 1. * Plasma HIV-1 RNA \geq 400 copies/mL on at least 2 consecutive occasions spanning at least 6 months, including at screening. * Have

previously changed their ARV regimen due to treatment failure. * ARV treatment options limited due to resistance, tolerability, contraindications, safety, drug access. * Able and willing to commit to taking LEN in combination with their OBR. * The following laboratory parameters at screening: 1. Estimated glomerular filtration rate (eGFR) \geq 60 mL/min/1.73 m² using Bedside Schwartz Formula. 2. Absolute neutrophil count $>$ 0.50 GI/L ($>$ 500 cells/mm³). 3. Hemoglob

Health status

Negative to : TB, HBV, HCV

Study type

Interventional (clinical trial)

Enrollment

12

Allocation

Not provided

Intervention model

Single group assignment

Intervention model description

Not provided

Masking

Open label

Masking description

Not provided

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Not provided

10002211

Identifier

NCT06819176

Link

<https://clinicaltrials.gov/study/NCT06819176>

Phase

Phase I

Status

Recruiting

Sponsor

National Institute of Allergy and Infectious Diseases (NIAID)

More details

To test a lenacapavir in people with HIV who are on effective ART. This is a treatment intensification study designed to ascertain the effects of lenacapavir intensification in people with HIV (PWH) with viral suppression on effective antiretroviral therapy (ART). Primary Objective: To investigate the effect of the presence or absence of lenacapavir on intact HIV proviral DNA reservoirs in PWH who had been receiving virologically suppressive (<40 copies/mL) ART for greater than 3 years. Secondary Objectives: To investigate the effect of the presence or absence of lenacapavir on residual plasma viremia (<40 copies/mL) in PWH who have been receiving virologically suppressive

ART for greater than 3 years.

Purpose

Lenacapavir Intensification to Disrupt HIV Reservoirs in Virologically Suppressed People Living With HIV Receiving Antiretroviral Therapy

Interventions

Intervention 1

Lenacapavir

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

2025-08-17

Actual Start Date

2026-01-20

Anticipated Date of Last Follow-up

2026-01-22

Estimated Primary Completion Date

2028-09-01

Estimated Completion Date

2029-01-24

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

* INCLUSION CRITERIA: To be eligible to participate in this study, an individual must meet all of the following criteria: 1. Able to provide informed consent. 2. Stated willingness to comply with all study procedures and availability for the duration of the study. 3. Aged 18 years to 75 years. 4. In generally good health with an identified primary health care provider for medical management of HIV infection and willing to maintain a relationship with a primary health care provider while participating in the study. 5. Confirmed HIV-1 infection. 6. Total HIV DNA reservoir size greater than 300

copies/10⁶ CD4+ T cells. 7. CD4+ T cell count >200 cells/mm³ at screening. 8. Documentation of continuous ART treatment >3 years with suppression of plasma viral level below the limit of quantita

Health status

Not provided

Study type

Interventional (clinical trial)

Enrollment

50

Allocation

Randomized

Intervention model

Parallel Assignment

Intervention model description

Not provided

Masking

Single blind masking

Masking description

Not provided

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Not provided

CLARITY

Identifier

NCT06970223

Link

<https://clinicaltrials.gov/study/NCT06970223>

Phase

Phase I

Status

Active, not recruiting

Sponsor

ViiV Healthcare

More details

This study will evaluate the tolerability and acceptability of injection site reactions (ISRs) of two long-acting (LA) injectables. Additional characteristics of the ISRs will be investigated and described as well as safety outcomes.

Purpose

A Study to Investigate if Long Acting Cabotegravir (CAB) and Lenacapavir (LEN) Injections Are Tolerable and Acceptable When Administered to Healthy Adults Without

HIV

Interventions

Intervention 1

Cabotegravir long-acting

Intervention 2

Lenacapavir long-acting

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2025-04-22

Anticipated Date of Last Follow-up

2025-11-21

Estimated Primary Completion Date

2025-07-30

Estimated Completion Date

2026-07-10

Actual Primary Completion Date

2025-07-15

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Yes

Comments about the studied populations

Inclusion Criteria: Participants are eligible to be included in the study only if all the following criteria apply: 1. At the time of obtaining informed consent, 18 years of age. 2. Body weight 50 kg and BMI within the range 18 to 32 kg/m² (inclusive). 3. Participants who are overtly healthy as determined by medical evaluation by a responsible and experienced physician, including medical history, physical examination, laboratory tests and cardiac monitoring. 4. A participant with a significant clinical abnormality or laboratory parameter(s) which is/are not specifically listed in the inclusion or exclusion criteria, outside the reference range for the population being studied may be included if the investigator determines and documents that the finding is unlikely to introduce additional

Health status

Not provided

Study type

Interventional (clinical trial)

Enrollment

65

Allocation

Randomized

Intervention model

Cross-over assignment

Intervention model description

Not provided

Masking

Open label

Masking description

Not provided

Frequency of administration

Not provided

Studied LA-formulation(s)

Not provided

Studied route(s) of administration

Not provided

Use case

Not provided

Key resources

Not provided

LENAddON

Identifier

NCT06799338

Link

<https://clinicaltrials.gov/study/NCT06799338>

Phase

Marketed

Status

Recruiting

Sponsor

Centre de Recherches et d'Etude sur la Pathologie Tropicale et le Sida

More details

For most people with HIV (PWH), an effective antiretroviral regimen can be devised. However, some PWH have multiple treatment failures due to viral resistance or unacceptable side effects to medication and no longer have durable viral suppression. People with multidrug-resistant HIV-1 are at increased risk for hospitalization, progression to acquired immunodeficiency syndrome, and death. Lenacapavir (LEN) is a first-in-class capsid inhibitor and has been evaluated through the CAPELLA phase 3 trial in PWH with replicative multidrug-resistant HIV-1. In this trial, LEN combined with an optimized background regimen (OBR) led to high levels of viral suppression, as

more than 80% of participants achieved undetectable plasma HIV-RNA, associated with increasing in CD4 T cell counts. LEN has beco

Purpose

Real World Use of Lenacapavir, as an add-on to an Optimized Background Regimen in France

Interventions

Intervention 1

Lenacapavir Injection + Optimized Background Regimen

Countries

France

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

Not provided

Actual Start Date

2025-03-03

Anticipated Date of Last Follow-up

2025-05-21

Estimated Primary Completion Date

2025-08-31

Estimated Completion Date

2025-12-31

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations

Age Cohort

- Adults
- Older Adults

Genders

- All

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

No

Comments about the studied populations

Not provided

Health status

Positive to : HIV

Study type

Interventional (clinical trial)

Enrollment

80

Allocation

Non-randomized

Intervention model

Single group assignment

Intervention model description

Not provided

Masking

Open label

Masking description

Non-Probability Sample

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

Treatment

Key resources

Not provided

INCLUSION

Identifier

NCT07218211

Link

<https://clinicaltrials.gov/study/NCT07218211>

Phase

Marketed

Status

Not yet recruiting

Sponsor

Duke University

More details

The purpose of this project is to test a culturally-tailored, community-delivered long-acting injectable PrEP (lenacapavir) program for Latine gay and bisexual men (GBM) and transgender women (TGW). The objective is to evaluate whether this intervention demonstrates greater persistence on lenacapavir for Latine GBM and TGW compared with what has been observed historically at the Duke PrEP Clinic.

Purpose

Enhancing PrEP Uptake and Retention Among Latine TGW and GBM in the South Using Long-Acting Injectable PrEP

Interventions

Intervention 1

Lenacapavir long-acting

Countries

United States of America

Sites / Institutions

Not provided

Trials dates

Anticipated Start Date

2026-01-05

Actual Start Date

Not provided

Anticipated Date of Last Follow-up

2025-10-15

Estimated Primary Completion Date

2027-01-05

Estimated Completion Date

2028-01-05

Actual Primary Completion Date

Not provided

Actual Completion Date

Not provided

Studied populations**Age Cohort**

- Adults
- Older Adults

Genders

- Male
- Transgender female

Accepts pregnant individuals

Unspecified

Accepts lactating individuals

Unspecified

Accepts healthy individuals

Yes

Comments about the studied populations

Inclusion Criteria: * Participants must be assigned male sex at birth. * Report sexual activity with a someone assigned male at birth OR identify as GBM or TGW; be HIV-negative. * Identify as Hispanic and/or Latine . * Be able to provide informed consent in English or Spanish . * Be 18 years or older . * Weigh at least 77 lbs (35 kg) by self-reported weight. * Interested in PrEP and willing to undergo the study procedures.

Exclusion Criteria: * Individuals living with HIV. * Individuals assigned female sex at birth will be excluded. * Individuals who are currently taking oral PrEP from another source and are not willing to switch to lenacapavir for PrEP for the duration of the study will also be excluded. * Individuals who report a history of severe renal or hepatic disease or with clin

Health status

Negative to : HIV

Study type

Interventional (clinical trial)

Enrollment

100

Allocation

Not provided

Intervention model

Single group assignment

Intervention model description

Not provided

Masking

Open label

Masking description

Not provided

Frequency of administration

Every 6 months

Studied LA-formulation(s)

Injectable

Studied route(s) of administration

Subcutaneous

Use case

PrEP

Key resources

Not provided

Excipients

Proprietary excipients used

No proprietary excipient used

Novel excipients or existing excipients at a concentration above Inactive Ingredients Database (IID) for the specified route of administration

No novel excipient or existing excipient used

Residual solvents used

No residual solvent used

Patent info

Formulation patent families

Patent informations

Patent description	Representative patent	Categories	Patent holder	Licence with MPP	Patent source
Lenacapavir use to treat multidrug resistant HIV infection in heavily treatment-experienced Expiry date: 2039-07-15 The present disclosure relates to compounds of Formula (Ia) and (Ib) or a pharmaceutically acceptable salt thereof, which are useful in the treatment of an HIV infection in heavily treatment-experienced patients with multidrug resistant HIV infection.	WO2020018459	Use	Gilead Sciences, Inc	Yes	

Patent status

Patent status/countries	Low, Low- middle and upper-middle	High income
Granted		Australia, United States of America
Filed	China, Albania, Serbia, Türkiye, North Macedonia	Australia, Canada, Liechtenstein, Italy, Norway, Malta, Denmark, Belgium, United Kingdom, Greece, Netherlands, Hungary, Croatia, Switzerland, Spain, San Marino, Slovenia, Austria, Romania, Iceland, Cyprus, Finland, France, Bulgaria, Slovakia, Poland, Latvia, Ireland, Estonia, Germany, Luxembourg, Portugal, Czechia, Lithuania, Monaco, Sweden, Japan, Korea, Republic of, Taiwan, Province of China, United States of America

Patent status/countries	Low, Low- middle and upper-middle	High income
Not in force	World Intellectual Property Organization (WIPO), Morocco, Tunisia, Bosnia and Herzegovina, Cambodia, Montenegro, Moldova, Republic of	World Intellectual Property Organization (WIPO), Australia, Canada, Japan, Korea, Republic of

MPP Licence(s)

Bilateral licence on lenacapavir (LEN)

<https://www.gilead.com/-/media/gileadcorpredesign/pdf/Other/LEN-VL.pdf>

Patent informations

Patent description	Representative patent	Categories	Patent holder	Licence with MPP	Patent source
<p>Lenacapavir manufacturing processes and intermediates</p> <p>Expiry date: 2039-02-15</p> <p>The present disclosure relates to methods and intermediates useful for preparing a compound of formula (I): (I) or a co-crystal, solvate, salt or combination thereof.</p>	WO2019161280	Intermediate Process	Lead Sciences, Inc	Yes	

Patent status

Patent status/countries	Low, Low- middle and upper-middle	High income
Granted	China, Türkiye, India	Australia, Liechtenstein, Italy, Norway, Malta, Denmark, Belgium, United Kingdom, Greece, Netherlands, Switzerland, Spain, Slovenia, Austria, Finland, France, Bulgaria, Slovakia, Poland, Latvia, Ireland, Estonia, Germany, Luxembourg, Portugal, Czechia, Sweden, Japan, Korea, Republic of, Taiwan, Province of China, United States of America, Hong Kong
Filed	China, Albania, Serbia, Türkiye, North Macedonia, India	Australia, Canada, Liechtenstein, Italy, Norway, Malta, Denmark, Belgium, United Kingdom, Greece, Netherlands, Hungary, Croatia, Switzerland, Spain, San Marino, Slovenia, Austria, Romania, Iceland, Cyprus, Finland, France, Bulgaria, Slovakia, Poland, Latvia, Ireland, Estonia, Germany, Luxembourg, Portugal, Czechia, Lithuania, Monaco, Sweden, Korea, Republic of, Taiwan, Province of China, United States of America

Patent status/countries	Low, Low- middle and upper-middle	High income
Not in force	World Intellectual Property Organization (WIPO), Argentina, Morocco, Tunisia, Albania, Serbia, Bosnia and Herzegovina, Cambodia, Montenegro, Moldova, Republic of, North Macedonia	World Intellectual Property Organization (WIPO), Hungary, Croatia, San Marino, Romania, Iceland, Cyprus, Lithuania, Monaco, Bahamas

MPP Licence(s)

Bilateral licence on lenacapavir (LEN)

<https://www.gilead.com/-/media/gileadcorpredesign/pdf/Other/LEN-VL.pdf>

Patent informations

Patent description	Representative patent	Categories	Patent holder	Licence with MPP	Patent source
<p>Crystalline forms of Lenacapavir sodium salt</p> <p>Expiry date: 2038-08-16</p> <p>Lenacapavir solid forms, including pharmaceutically acceptable salts and cocrystals of the inhibitor, as well as crystalline forms of the salts and cocrystals, for use in the treatment of a Retroviridae viral infection including an infection caused by the HIV virus. The present disclosure also relates to pharmaceutical compositions containing the novel salts, cocrystals, and crystalline forms thereof, and methods of treating or preventing a Retroviridae viral infection.</p>	WO2019035904	Polymorphs	Gilead Sciences, Inc	Yes	

Patent status

Patent status/countries	Low, Low- middle and upper-middle	High income
Granted	Türkiye	Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Poland, Malta, Norway, Romania, Latvia, Lithuania, Slovenia, Australia, Canada, Japan, Korea, Republic of, Taiwan, Province of China, United States of America, Hong Kong

Patent status/countries	Low, Low- middle and upper-middle	High income
Filed	Türkiye, North Macedonia, Albania, Serbia, China, India	Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Monaco, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Hungary, Poland, Iceland, Malta, Norway, San Marino, Croatia, Romania, Latvia, Lithuania, Slovenia, Canada, Hong Kong
Not in force	World Intellectual Property Organization (WIPO), North Macedonia, Albania, Bosnia and Herzegovina, Montenegro, Serbia, Moldova, Republic of, Morocco, Tunisia, Cambodia, Argentina, Bangladesh	World Intellectual Property Organization (WIPO), Luxembourg, Denmark, Monaco, Finland, Cyprus, Bulgaria, Estonia, Hungary, Iceland, Malta, San Marino, Croatia, Romania, Latvia, Lithuania, Japan, Taiwan, Province of China

MPP Licence(s)

Bilateral licence on lenacapavir (LEN)

<https://www.gilead.com/-/media/gileadcorpredesign/pdf/Other/LEN-VL.pdf>

Patent informations

Patent description	Representative patent	Categories	Patent holder	Licence with MPP	Patent source
<p>Lenacapavir compound and its use in HIV (oral and parenteral)</p> <p>Expiry date: 2037-08-17</p> <p>The present disclosure relates to novel compounds for use in the treatment of a Retroviridae viral infection including an infection caused by the HIV virus. The present disclosure also relates to intermediates for its preparation and to pharmaceutical compositions containing said novel compound.</p>	WO2018035359	Compound	Gilead Sciences, Inc	Yes	

Patent status

Patent status/countries	Low, Low- middle and upper-middle	High income
Granted	Türkiye, Morocco, Brazil, China, Colombia, Dominican Republic, Turkmenistan, Belarus, Tajikistan, Kazakhstan, Azerbaijan, Kyrgyzstan, Armenia, Mexico, Peru, Philippines, Botswana, Gambia (the), Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Sierra Leone, Liberia, Sao Tome and Principe, Sudan, Eswatini, Tanzania, United Republic of, Zambia, Zimbabwe, Indonesia, Malaysia, Ukraine, South Africa, Uzbekistan	Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Hungary, Poland, Iceland, Malta, Norway, Croatia, Romania, Latvia, Lithuania, Slovenia, Australia, Canada, Costa Rica, Russian Federation, Hong Kong, Israel, Japan, Korea, Republic of, New Zealand, Singapore, Taiwan, Province of China, United States of America, Bahamas, Bahrain, Kuwait, Qatar, Saudi Arabia, Oman, United Arab Emirates, Macao, Panama

Patent status/countries	Low, Low- middle and upper-middle	High income
Filed	Türkiye, North Macedonia, Albania, Serbia, Morocco, Argentina, China, Jordan, Philippines, India, Uganda, Egypt, Guatemala, Indonesia, Nigeria, Thailand, Ukraine, Viet Nam	Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Monaco, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Hungary, Poland, Iceland, Malta, Norway, San Marino, Croatia, Romania, Latvia, Lithuania, Slovenia, Australia, Hong Kong, Korea, Republic of, Singapore, Taiwan, Province of China, United States of America, Saudi Arabia, Panama
Not in force	World Intellectual Property Organization (WIPO), North Macedonia, Albania, Bosnia and Herzegovina, Montenegro, Serbia, Moldova, Republic of, Morocco, Argentina, Colombia, Dominican Republic, Ecuador, Peru, Rwanda, Uganda, Bangladesh, Bolivia (Plurinational State of), Cuba, Egypt, Benin, Cameroon, Burkina Faso, Chad, Guinea-Bissau, Comoros, Mali, Senegal, Congo, Guinea, Gabon, Niger, Equatorial Guinea, Mauritania, Togo, Côte d'Ivoire, Central African Republic, Pakistan, Paraguay, El Salvador, Venezuela (Bolivarian Republic of)	World Intellectual Property Organization (WIPO), Monaco, Malta, San Marino, Chile, Japan, Korea, Republic of, Uruguay, Trinidad and Tobago

MPP Licence(s)

Bilateral licence on lenacapavir (LEN)

<https://www.gilead.com/-/media/gileadcorpredesign/pdf/Other/LEN-VL.pdf>

Patent informations

Patent description	Representative patent	Categories	Patent holder	Licence with MPP	Patent source
<p>Lenacapavir and analogues (Markush formula) and their use in HIV</p> <p>Expiry date: 2034-02-28</p> <p>Compounds of formula (I) or salts thereof are disclosed. Also disclosed are pharmaceutical compositions comprising a compound of formula I, processes for preparing compounds of formula I, intermediates useful for preparing compounds of formula I and therapeutic methods for treating a Retroviridae viral infection including an infection caused by the HIV virus.</p>	WO2014134566	Compound	Gilead Sciences, Inc	Yes	

Patent status

Patent status/countries	Low, Low- middle and upper-middle	High income
Granted	<p>Türkiye, North Macedonia, Albania, Bosnia and Herzegovina, Montenegro, Serbia, Brazil, China, Cuba, Turkmenistan, Belarus, Tajikistan, Kazakhstan, Azerbaijan, Kyrgyzstan, Armenia, Mexico, Peru, Philippines, Ukraine, Botswana, Gambia (the), Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Sierra Leone, Liberia, Rwanda, Sudan, Eswatini, Tanzania, United Republic of, Zambia, Zimbabwe, Benin, Cameroon, Burkina Faso, Chad, Guinea-Bissau, Comoros, Mali, Senegal, Congo, Guinea, Gabon, Niger, Equatorial Guinea, Mauritania, Togo, Côte d'Ivoire, Central African Republic, Colombia, Indonesia, Malaysia, Viet Nam, South Africa</p>	<p>Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Monaco, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Hungary, Poland, Iceland, Malta, Norway, San Marino, Croatia, Romania, Latvia, Lithuania, Slovenia, Australia, Canada, Chile, Costa Rica, Russian Federation, Hong Kong, Israel, Japan, Korea, Republic of, New Zealand, Singapore, Taiwan, Province of China, United States of America, Bahrain, Kuwait, Qatar, Saudi Arabia, Oman, United Arab Emirates, Macao, Panama</p>

Patent status/countries	Low, Low- middle and upper-middle	High income
Filed	Türkiye, North Macedonia, Albania, Serbia, Argentina, Ukraine, India, Egypt, Thailand	Belgium, Germany, France, Luxembourg, Netherlands, Switzerland, United Kingdom, Sweden, Italy, Austria, Liechtenstein, Greece, Spain, Denmark, Monaco, Portugal, Ireland, Finland, Cyprus, Bulgaria, Czechia, Estonia, Slovakia, Hungary, Poland, Iceland, Malta, Norway, San Marino, Croatia, Romania, Latvia, Lithuania, Slovenia, United States of America
Not in force	World Intellectual Property Organization (WIPO), North Macedonia, Albania, Bosnia and Herzegovina, Montenegro, Serbia, Argentina, Brazil, China, Moldova, Republic of, Peru, Uganda, Bolivia (Plurinational State of), Colombia, Ecuador, Malaysia, Paraguay, Pakistan, El Salvador, Venezuela (Bolivarian Republic of), Viet Nam, South Africa	World Intellectual Property Organization (WIPO), Luxembourg, Denmark, Monaco, Finland, Cyprus, Bulgaria, Estonia, Malta, San Marino, Croatia, Romania, Latvia, Lithuania, Australia, Canada, Costa Rica, Hong Kong, Japan, New Zealand, Singapore, United States of America, Uruguay, Bahamas

MPP Licence(s)

Bilateral licence on lenacapavir (LEN)

<https://www.gilead.com/-/media/gileadcorpredesign/pdf/Other/LEN-VL.pdf>

Supporting material

Publications

Link JO, Rhee MS, Tse WC, Zheng J, Somoza JR, Rowe W, Begley R, Chiu A, Mulato A, Hansen D, Singer E, Tsai LK, Bam RA, Chou CH, Canales E, Brizgys G, Zhang JR, Li J, Graupe M, Morganelli P, Liu Q, Wu Q, Halcomb RL, Saito RD, Schroeder SD, Lazerwith SE, Bondy S, Jin D, Hung M, Novikov N, Liu X, Villasenor AG, Cannizzaro CE, Hu EY, Anderson RL, Appleby TC, Lu B, Mwangi J, Liclican A, Niedziela-Majka A, Papalia GA, Wong MH, Leavitt SA, Xu Y, Koditek D, Stepan GJ, Yu H, Pagratis N, Clancy S, Ahmadyar S, Cai TZ, Sellers S, Wolckenhauer SA, Ling J, Callebaut C, Margot N, Ram RR, Liu YP, Hyland R, Sinclair GI, Ruane PJ, Crofoot GE, McDonald CK, Brainard DM, Lad L, Swaminathan S, Sundquist WI, Sakowicz R, Chester AE, Lee WE, Daar ES, Yant SR, Cihlar T: Clinical targeting of HIV capsid protein with a long-acting small molecule. *Nature*. 2020 Aug;584(7822):614-618. doi: <https://doi.org/10.1038/s41586-020-2443-1>. Epub 2020 Jul 1.

Oral antiretroviral agents provide life-saving treatments for millions of people living with HIV, and can prevent new infections via pre-exposure prophylaxis¹⁻⁵. However, some people living with HIV who are heavily treatment-experienced have limited or no treatment options, owing to multidrug resistance⁶. In addition, suboptimal adherence to oral daily regimens can negatively affect the outcome of treatment-which contributes to virologic failure, resistance generation and viral transmission-as well as of pre-exposure prophylaxis, leading to new infections^{1,2,4,7-9}. Long-acting agents from new antiretroviral classes can provide much-needed treatment options for people living with HIV who are heavily treatment-experienced, and additionally can improve adherence¹⁰. Here we describe GS-6207, a small molecule that disrupts the functions of HIV capsid protein and is amenable to long-acting therapy owing to its high potency, low in vivo systemic clearance and slow release kinetics from the subcutaneous injection site. Drawing on X-ray crystallographic information, we designed GS-6207 to bind tightly at a conserved interface between capsid protein monomers, where it

interferes with capsid-protein-mediated interactions between proteins that are essential for multiple phases of the viral replication cycle. GS-6207 exhibits antiviral activity at picomolar concentrations against all subtypes of HIV-1 that we tested, and shows high synergy and no cross-resistance with approved antiretroviral drugs. In phase-1 clinical studies, monotherapy with a single subcutaneous dose of GS-6207 (450 mg) resulted in a mean log₁₀-transformed reduction of plasma viral load of 2.2 after 9 days, and showed sustained plasma exposure at antivirally active concentrations for more than 6 months. These results provide clinical validation for therapies that target the functions of HIV capsid protein, and demonstrate the potential of GS-6207 as a long-acting agent to treat or prevent infection with HIV.

Zhuang S, Torbett BE: Interactions of HIV-1 Capsid with Host Factors and Their Implications for Developing Novel Therapeutics. *Viruses*. 2021 Mar 5;13(3). pii: v13030417. doi: <https://doi.org/10.3390/v13030417>

The Human Immunodeficiency Virus type 1 (HIV-1) virion contains a conical shell, termed capsid, encasing the viral RNA genome. After cellular entry of the virion, the capsid is released and ensures the protection and delivery of the HIV-1 genome to the host nucleus for integration. The capsid relies on many virus-host factor interactions which are regulated spatiotemporally throughout the course of infection. In this paper, we will review the current understanding of the highly dynamic HIV-1 capsid-host interplay during the early stages of viral replication, namely intracellular capsid trafficking after viral fusion, nuclear import, uncoating, and integration of the viral genome into host chromatin. Conventional anti-retroviral therapies primarily target HIV-1 enzymes. Insights of capsid structure have resulted in a first-in-class, long-acting capsid-targeting inhibitor, GS-6207 (Lenacapavir). This inhibitor binds at the interface between capsid protein subunits, a site known to bind host factors, interferes with capsid nuclear import, HIV particle assembly, and ordered assembly. Our review will highlight capsid structure, the host factors that interact with capsid, and high-throughput screening techniques, specifically genomic and proteomic approaches, that have been and can be used to identify host factors that interact with capsid. Better structural and mechanistic insights into the capsid-host factor interactions will

significantly inform the understanding of HIV-1 pathogenesis and the development of capsid-centric antiretroviral therapeutics.

Bester SM, Wei G, Zhao H, Adu-Ampratwum D, Iqbal N, Courouble VV, Francis AC, Annamalai AS, Singh PK, Shkriabai N, Van Blerkom P, Morrison J, Poeschla EM, Engelman AN, Melikyan GB, Griffin PR, Fuchs JR, Asturias FJ, Kvaratskhelia M: Structural and mechanistic bases for a potent HIV-1 capsid inhibitor. *Science*. 2020 Oct 16;370(6514):360-364. doi: <https://doi.org/10.1126/science.abb4808>

The potent HIV-1 capsid inhibitor GS-6207 is an investigational principal component of long-acting antiretroviral therapy. We found that GS-6207 inhibits HIV-1 by stabilizing and thereby preventing functional disassembly of the capsid shell in infected cells. X-ray crystallography, cryo-electron microscopy, and hydrogen-deuterium exchange experiments revealed that GS-6207 tightly binds two adjoining capsid subunits and promotes distal intra- and inter-hexamer interactions that stabilize the curved capsid lattice. In addition, GS-6207 interferes with capsid binding to the cellular HIV-1 cofactors Nup153 and CPSF6 that mediate viral nuclear import and direct integration into gene-rich regions of chromatin. These findings elucidate structural insights into the multimodal, potent antiviral activity of GS-6207 and provide a means for rationally developing second-generation therapies.

Singh K, Gallazzi F, Hill KJ, Burke DH, Lange MJ, Quinn TP, Neogi U, Sonnerborg A: GS-CA Compounds: First-In-Class HIV-1 Capsid Inhibitors Covering Multiple Grounds. *Front Microbiol*. 2019 Jun 20;10:1227. doi: <https://doi.org/10.3389/fmicb.2019.01227>

Recently reported HIV-1 capsid (CA) inhibitors GS-CA1 and GS-6207 (an analog of GS-CA1) are first-in-class compounds with long-acting potential. Reportedly, both compounds have greater potency than currently approved anti-HIV drugs. Due to the limited access to experimental data and the compounds themselves, a detailed mechanism of their inhibition is yet to be delineated. Using crystal structures of capsid-hexamers bound to well-studied capsid inhibitor PF74 and molecular modeling, we predict that GS-CA compounds bind in the pocket that is shared by previously

reported CA inhibitors and host factors. Additionally, comparative modeling suggests that GS-CA compounds have unique structural features contributing to interactions with capsid. To test their proposed binding mode, we also report the design of a cyclic peptide combining structural units from GS-CA compounds, host factors, and previously reported capsid inhibitors. This peptide (Pep-1) binds CA-hexamer with a docking score comparable to GS-CA compounds. Affinity determination by MicroScale thermophoresis (MST) assays showed that CA binds Pep-1 with a ~7-fold better affinity than well-studied capsid inhibitor PF74, suggesting that it can be developed as a possible CA inhibitor.

Margot N, Ram R, Rhee M, Callebaut C: Absence of Lenacapavir (GS-6207) Phenotypic Resistance in HIV Gag Cleavage Site Mutants and in Isolates with Resistance to Existing Drug Classes. *Antimicrob Agents Chemother.* 2021 Feb 17;65(3). pii: AAC.02057-20. doi: <https://doi.org/10.1128/aac.02057-20>. Print 2021 Feb 17

Lenacapavir (LEN; GS-6207) is a potent first-in-class inhibitor of HIV-1 capsid with long-acting properties and the potential for subcutaneous dosing every 3 months or longer. In the clinic, a single subcutaneous LEN injection (20 mg to 750 mg) in people with HIV (PWH) induced a strong antiviral response, with a >2.3 mean log₁₀ decrease in HIV-1 RNA at day 10. HIV-1 Gag mutations near protease (PR) cleavage sites have emerged with the use of protease inhibitors (PIs). Here, we have characterized the activity of LEN in mutants with Gag cleavage site mutations (GCSMs) and mutants resistant to other drug classes. HIV mutations were inserted into the pXXLAI clone, and the resulting mutants (n = 70) were evaluated using a 5-day antiviral assay. LEN EC₅₀ fold change versus the wild type ranged from 0.4 to 1.9 in these mutants, similar to that for the control drug. In contrast, reduced susceptibility to PIs and maturation inhibitors (MIs) was observed. Testing of isolates with resistance against the 4 main classes of drugs (n = 40) indicated wild-type susceptibility to LEN (fold change ranging from 0.3 to 1.1), while reduced susceptibility was observed for control drugs. HIV GCSMs did not impact the activity of LEN, while some conferred resistance to MIs and PIs. Similarly, LEN activity was not affected by naturally occurring variations in HIV Gag, in contrast to the reduced susceptibility observed for MIs. Finally, the activity of LEN was not

affected by the presence of resistance mutations to the 4 main antiretroviral (ARV) drug classes. These data support the evaluation of LEN in PWH with multiclass resistance.

Swanstrom, A.E. *et al.* (2023). Long-acting lenacapavir protects macaques against intravenous challenge with simian-tropic HIV. *eBioMedicine*, 95, p. 104764. DOI: [10.1016/j.ebiom.2023.104764](https://doi.org/10.1016/j.ebiom.2023.104764).

Background

Long-acting subcutaneous lenacapavir (LEN), a first-in-class HIV capsid inhibitor approved by the US FDA for the treatment of multidrug-resistant HIV-1 with twice yearly dosing, is under investigation for HIV-1 pre-exposure prophylaxis (PrEP). We previously derived a simian-tropic HIV-1 clone (stHIV-A19) that encodes an HIV-1 capsid and replicates to high titres in pigtail macaques (PTM), resulting in a nonhuman primate model well-suited for evaluating LEN PrEP in vivo.

Methods

Lenacapavir potency against stHIV-A19 in PTM peripheral blood mononuclear cells in vitro was determined and subcutaneous LEN pharmacokinetics were evaluated in naïve PTMs in vivo. To evaluate the protective efficacy of LEN PrEP, naïve PTMs received either a single subcutaneous injection of LEN (25 mg/kg, N = 3) or vehicle (N = 4) 30 days before a high-dose intravenous challenge with stHIV-A19, or 7 daily subcutaneous injections of a 3-drug control PrEP regimen starting 3 days before stHIV-A19 challenge (N = 3).

Findings

In vitro, LEN showed potent antiviral activity against stHIV-A19, comparable to its potency against HIV-1. In vivo, subcutaneous LEN displayed sustained plasma drug exposures in PTMs. Following stHIV-A19 challenge, while all vehicle control animals became productively infected, all LEN and 3-drug control PrEP animals were protected

from infection.

Interpretation

These findings highlight the utility of the stHIV-A19/PTM model and support the clinical development of long-acting LEN for PrEP in humans.

Cantos VD, Ramírez BC, Kelley CF, Rio CD, Grinsztejn B. **Lenacapavir: a potential game changer for HIV prevention in the Americas, if the game is played equitably.** *Lancet Reg Health Am.* 2025;47:101146. Published 2025 Jun 10. doi:10.1016/j.lana.2025.101146

Lenacapavir, a first in class long-acting capsid inhibitor has near 100% efficacy in preventing HIV. As such, it has the potential to curb the rising HIV incidence in Latin America, a region with stark intra- and inter-country PrEP uptake disparities. In this viewpoint, we summarize the current efforts to scale up lenacapavir access globally and the necessary steps to include Latin America in these endeavours.

Lynch S, Cohen RM, Kavanagh M, et al. **Lessons for long-acting lenacapavir: catalysing equitable PrEP access in low-income and middle-income countries** . *Lancet HIV.* Published online July 11, 2025. doi:10.1016/S2352-3018(25)00161-4

Despite substantial advances in biomedical HIV prevention, including long-acting injectable pre-exposure prophylaxis (PrEP) options such as cabotegravir, barriers to widespread adoption and scale-up persist in low-income and middle-income countries. Long-acting injectable lenacapavir is a potentially transformative HIV prevention tool, providing an unprecedented opportunity to accelerate progress. However, the global HIV response is under threat like never before, with drastic funding cuts undermining the gains of the past 25 years. The challenges of introducing and scaling up long-acting lenacapavir and other PrEP innovations are numerous. Without deliberate policy, programmatic, and financing interventions, new prevention technologies risk following slow adoption patterns of previous innovations, weakening a needed

transformation of the HIV response. Drawing on lessons from the scale-up of antiretroviral therapy, and experience with previous biomedical prevention tools, a new ten-point framework should be adopted to accelerate individual and epidemiological impact-even at this time of extraordinary uncertainty.

Schmidt HA, Prochazka M, Ingold H, et al. **Seizing the moment: the potential of PrEP choice and innovation to transform HIV prevention.** *J Int AIDS Soc.* 2025;28 Suppl 2(Suppl 2):e26498. doi:10.1002/jia2.26498

Introduction: The potential of pre-exposure prophylaxis (PrEP), as a highly effective and empowering HIV prevention intervention, has not yet been realized. Despite the recent acceleration in the scale-up of oral PrEP, there is a substantial unmet PrEP need, and the world is not on track to meet the 2025 prevention targets. New PrEP products, and service delivery approaches, could support greater access, uptake, persistence and effective use. This commentary discusses how offering choice in PrEP products and service delivery innovations could transform global HIV prevention efforts.

Discussion: Although oral PrEP accounts for almost all PrEP use to date, slow rollout and challenges in effective use and persistence have limited the global impact. Innovative products like long-acting injectable cabotegravir and injectable lenacapavir can overcome some of the challenges associated with oral PrEP. Expanding PrEP choices is also essential for addressing diverse individual preferences and maximizing prevention outcomes. Real-world evidence suggests that offering increased options can drive demand and increase coverage of prevention. Equally critical is tailoring service delivery through differentiated service delivery (DSD) models that prioritize accessibility and user needs and preferences, including integration of PrEP within other valued services. DSD models, including peer-led, pharmacy-based and telehealth approaches, have demonstrated success and acceptability for oral PrEP, but innovation is needed to adapt to long-acting injectable options. For example, regulatory and policy support are essential to support task-sharing with community health worker involvement may enable broader reach. Programmatic challenges, including PrEP product and service delivery costs, updating monitoring and evaluation and ensuring

stakeholder support, must also be addressed. Scaling up new PrEP products using a precision prevention lens could help to optimize approaches for achieving impact.

Conclusions: The new era of PrEP choice, with new long-acting PrEP products and DSD options, presents countries with an extraordinary opportunity to amplify prevention access, achieve higher prevention coverage and drive the meaningful reductions in new HIV acquisitions needed to end the HIV epidemic. Without coordinated and concerted efforts within countries and supported at the global level to leverage choice and embed it within the HIV prevention response, we risk prolonging the HIV epidemic.

Johnson JE, Brotherton AL, Rossi MR, Sanchez MC, Beckwith CG. **Long-Acting Injectable Antiretroviral Therapy for Treatment of Human Immunodeficiency Virus: A Review.** *Curr HIV/AIDS Rep.* 2025;22(1):31. Published 2025 Apr 23. doi:10.1007/s11904-025-00741-4

Purpose of review: Long-acting injectable (LAI) antiretroviral therapy (ART) for treatment of HIV-1 are approved both as a complete treatment regimen (cabotegravir/rilpivirine) and as an additional treatment option (lenacapavir) for those with multidrug resistant HIV-1. Here, we review the data supporting these approvals, pharmacokinetics, and additional patient populations that many benefit from LAI ART.

Recent findings: Persons with HIV and adherence challenges as well as those in low-and-middle income countries have high rates of adherence and viral suppression with LAI ART. LAI cabotegravir/rilpivirine (CAB/RPV) offers an alternative treatment approach to daily oral ART for people with HIV-1 infection that is associated with high rates of patient satisfaction when compared to daily oral ART. LAI CAB/RPV is currently only approved in those with HIV-1 viral suppression, however recent data support the use of LAI ART in populations with adherence challenges. Furthermore, given high rates of NNRTI resistance globally, CAB/RPV is not recommended in low-and-middle income countries presently, although this recommendation is likely to change based on recently published data. More research is needed among groups that may benefit from long-acting treatments for HIV-1.

Additional documents

No documents were uploaded

Useful links

- [Gilead Announces First Global Regulatory Approval of Sunlenca® \(Lenacapavir\)](#)
- [PURPOSE PrEP Studies Overview: Prevention With a Purpose](#)
- [An Overview of Lenacapavir for PrEP Trials \(AVAC\)](#)
- [Global Fund, PEPFAR Announce Coordinated Effort to Reach 2 Million People with Lenacapavir for PrEP to Significantly Reduce Global HIV Infections - Dec 2024](#)
- [Capsid Inhibition with Lenacapavir in Multidrug-Resistant HIV-1 Infection](#)
- [CROI 2022: Lenacapavir: 54 week results in treatment-naïve participants of CALIBRATE study](#)
- [Lenacapavir administered every 26 weeks or daily in combination with oral daily antiretroviral therapy for initial treatment of HIV: a randomised, open-label, active-controlled, phase 2 trial](#)
- [Interim Resistance Analysis of Long-Acting Lenacapavir in Treatment-Naïve People with HIV at 28 Weeks](#)
- [Various Resources related to PURPOSE trials](#)
- [Twice-Yearly Lenacapavir or Daily F/TAF for HIV Prevention in Cisgender Women](#)
- [Proactive strategies to optimize engagement of Black, Hispanic/Latinx, transgender, and nonbinary individuals in a trial of a novel agent for HIV pre-exposure prophylaxis \(PrEP\)](#)

- [Gilead's Twice-Yearly Lenacapavir for HIV Prevention Reduced HIV Infections by 96% and Demonstrated Superiority to Daily Truvada® in Second Pivotal Phase 3 Trial](#)
 - [Clinical targeting of HIV capsid protein with a long-acting small molecule](#)
 - [Potential Demand for LEN for PrEP](#)
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Access principles

Collaborate for development



Consider on a case by case basis, collaborating on developing long acting products with potential significant public health impact, especially for low- and middle-income countries (LMICs), utilising the referred to long-acting technology

Not provided

Share technical information for match-making assessment



Provide necessary technical information to a potential partner, under confidentiality agreement, to enable preliminary assessment of whether specific medicines of public health importance in LMICs might be compatible with the referred to long-acting technology to achieve a public health benefit

Not provided

Work with MPP to expand access in LMICs



In the event that a product using the referred to long-acting technology is successfully developed, the technology IP holder(s) will work with the Medicines Patent Pool towards putting in place the most appropriate strategy for timely and affordable access in low and middle-income countries, including through licensing

Not provided

Comment & Information

Not provided