



# Evaluate the Pharmacokinetics and Safety of Etavopivat in Pediatric Patients with Sickle Cell Disease

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## Main Information

**Primary registry identifying number**

LBCTR2022095118

**Protocol number**

4202-HEM-202

**MOH registration number**

**Study registered at the country of origin**

No

**Study registered at the country of origin: Specify**

Poor pool of patients with Sickle Cell Disease

**Type of registration**

Prospective

**Type of registration: Justify**

N/A

**Date of registration in national regulatory agency**

26/09/2022

**Primary sponsor**

Forma Therapeutics, Inc.

**Primary sponsor: Country of origin**

United States of America

**Date of registration in primary registry**

25/10/2022

**Date of registration in national regulatory agency**

26/09/2022

**Public title**

Evaluate the Pharmacokinetics and Safety of Etavopivat in Pediatric Patients with Sickle Cell Disease

**Acronym**

**Scientific title**

A Single Arm, Open Label, Phase 1/2 Study to Evaluate the Pharmacokinetics and Safety of Etavopivat in Pediatric Patients with Sickle Cell Disease

**Acronym**

**Brief summary of the study: English**

This clinical trial is a Phase 1/2 study that will evaluate the Pharmacokinetics and Safety of Etavopivat (FT-4202) in Pediatric Patients from 12 to 18 years with Sickle Cell Disease to improve the amount of hemoglobin in the blood and to reduce the number of vaso-occlusive crises (times when the blood vessels become blocked and cause pain).

**Brief summary of the study: Arabic**

في مرضى الأطفال الذين Etavopivat (FT-4202) التي ستقيم الحرائك الدوائية وسلامة 1/2 هذه التجربة السريرية هي دراسة المرحلة عامًا المصابين بمرض الخلايا المنجلية لتحسين كمية الهيموجلوبين في الدم وتقليل العدد من أزمات انسداد 18 و 12 تتراوح أعمارهم بين الأوعية الدموية (الأوقات التي يتم فيها انسداد الأوعية الدموية وتسبب الألم).

**Health conditions/problem studied: Specify**

Sickle Cell Disease

**Interventions: Specify**

Drug: Etavopivat (FT-4202)

**Key inclusion and exclusion criteria: Inclusion criteria**

Type of Participant and Disease Characteristics

1. Patient has confirmed diagnosis of SCD





- Documentation of SCD genotype (HbSS, HbS $\beta$ 0-thalassemia or other sickle cell syndrome variants) based on prior history of laboratory testing. Molecular genotyping is not required. SCD genotype may be determined from the results of Hb electrophoresis, high-performance liquid chromatography (HPLC), or similar testing. Note that Hb electrophoresis is performed by the local laboratory at Screening.
- 2. Hemoglobin  $\geq$  5.5 and  $<$  10.5 g/dL
- 3. Adolescent patients with severe SCD, as defined by at least 1 of the following:
  - Two or more VOCs in the past 12 months, defined as a previously documented episode of acute chest syndrome (ACS) or acute painful crisis (for which there was no explanation other than VOC) which required prescription or healthcare professional-instructed use of analgesics for moderate to severe pain
  - Hospitalization for any SCD-related complication in the last 12 months
  - Proteinuria, defined as an albumin:creatinine ratio (ACR)  $>$  100 mg/g on 2 measures (separated by  $\geq$  1 month) as an indicator of early renal disease
  - History of a conditional TCD in the last 12 months, but not currently being treated with chronic transfusion therapy. Conditional TCD is defined as a TAMMV of 170-199 cm/s by TCD or 155-184 cm/s by imaging TCD (TCDi).
- 4. For participants taking HU, the dose of HU (mg/kg) must be stable (no more than a 20% change in dosing) for at least 90 days prior to start of study treatment with no anticipated need for dose adjustments during the study, in the opinion of the Investigator
- 5. Patients on crizanlizumab or L-glutamine treatment at the time of consent may be eligible if they:
  - Have been on a stable dose for  $\geq$  12 months at the time of consent (ie, no changes to the dose except for changes to weight or for safety reasons)
  - For patients on crizanlizumab, have been  $\geq$  80% compliant

**Key inclusion and exclusion criteria: Gender**

Both

**Key inclusion and exclusion criteria: Specify gender**

**Key inclusion and exclusion criteria: Age minimum**

12

**Key inclusion and exclusion criteria: Age maximum**

18

**Key inclusion and exclusion criteria: Exclusion criteria**

Medical Conditions

1. More than 10 VOCs within the past 12 months that required a hospital, emergency room (ER), or clinic visit
2. Hospitalized for sickle cell crisis or other vaso-occlusive event within 14 days of Screening
3. Abnormal TCD in the prior 12 months

Prior/Concomitant Therapy

4. Patients receiving regularly scheduled blood (RBC) transfusion therapy (also termed chronic, prophylactic, or preventive transfusion)
5. Received any blood products within 30 days of starting study treatment
6. Receiving or use of concomitant medications that are strong inducers of cytochrome P450 (CYP) 3A4/5 within 2 weeks of starting study treatment
7. Use of voxelotor within 28 days prior to starting study treatment or anticipated need for this agent during the study
8. Receipt of erythropoietin or other hematopoietic growth factor treatment within 28 days of starting study treatment or anticipated need for such agents during the study
9. Receipt of prior cellular based therapy (eg, hematopoietic cell transplant, gene modification therapy)

**Type of study**

Interventional

**Type of intervention**

Pharmaceutical

**Type of intervention: Specify type**

N/A

**Trial scope**

Other

**Trial scope: Specify scope**

**Study design: Allocation**

Single Arm Study

**Study design: Masking**

Open (masking not used)

**Study design: Control**

Active

**Study phase**

1 to 2

**Study design: Purpose**

Treatment

**Study design: Specify purpose**

N/A

**Study design: Assignment**

Single

**Study design: Specify assignment**

N/A

**IMP has market authorization**

No

**IMP has market authorization: Specify**

**Name of IMP**

-

**Year of authorization****Month of authorization****Type of IMP**

Others

**Pharmaceutical class**

Antianaemics- Pyruvate kinase red blood cell isozyme (PKR) agonist

**Therapeutic indication**

Sickle Cell Disease

**Therapeutic benefit**

Etavopivat is an investigational, oral, small molecule activator of erythrocyte pyruvate kinase (PKR) in development for the treatment of sickle cell disease (SCD) and other hemoglobinopathies. PKR activation is proposed to ameliorate the sickling of SCD red blood cells (RBCs) through multiple mechanisms, including reduction of 2,3-diphosphoglycerate (2,3-DPG), which consequently increases hemoglobin (Hb)-oxygen affinity; increased binding of oxygen reduces sickle hemoglobin polymerization and sickling. In addition, PKR activation increases adenosine triphosphate (ATP) produced via glycolytic flux, which helps preserve membrane integrity and RBC deformability.

**Study model**

N/A

**Study model: Explain model**

N/A

**Study model: Specify model**

N/A

**Time perspective**

N/A

**Time perspective: Explain time perspective**

N/A

**Time perspective: Specify perspective**

N/A

**Target follow-up duration****Target follow-up duration: Unit****Number of groups/cohorts****Biospecimen retention**

Samples without DNA

**Biospecimen description**

PK and PD samples

**Target sample size**

8

**Actual enrollment target size****Date of first enrollment: Type**

Anticipated

**Date of first enrollment: Date**

15/11/2022

**Date of study closure: Type****Date of study closure: Date**



Anticipated	12/09/2026
<b>Recruitment status</b>	<b>Recruitment status: Specify</b>
Pending	
<b>Date of completion</b>	
<b>IPD sharing statement plan</b>	<b>IPD sharing statement description</b>
No	N/A
<b>Additional data URL</b>	
<b>Admin comments</b>	
<b>Trial status</b>	
Approved	

Secondary Identifying Numbers	
Full name of issuing authority	Secondary identifying number
N/A	N/A

Sources of Monetary or Material Support
Name
Forma Therapeutics, Inc. USA

Secondary Sponsors
Name
N/A



## Contact for Public/Scientific Queries

Contact type	Contact full name	Address	Country	Telephone	Email	Affiliation
Public	Mohamed Salloum	Saint Therese street, Beirut	Lebanon	+961 81967 578	mohamed.sallou m@iqvia.com	IQVIA
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## Centers/Hospitals Involved in the Study

Center/Hospital name	Name of principles investigator	Principles investigator speciality	Ethical approval
Nini Hospital s.a.l.	Dr. Adlette Inati	Hematology	Approved
American University of Beirut Medical Center	Dr. Miguel Abboud	Hematology	Pending

## Ethics Review

Ethics approval obtained	Approval date	Contact name	Contact email	Contact phone
Nini Hospital	26/08/2022	Dr. Elias Bitar	-	+9616431400

## Countries of Recruitment

Name
Lebanon
Canada

## Health Conditions or Problems Studied

Condition	Code	Keyword
Sickle Cell	Sickle-cell disorders (D57)	Hematology, Blood diseases, Sickle Cell

## Interventions

Intervention	Description	Keyword
Drug	Etavopivat (FT-4202)	-



## Primary Outcomes

Name	Time Points	Measure
To assess the PK of etavopivat in patients with SCD	-	Single-dose: maximum concentration (C <sub>max</sub> ), area under the concentration time curve (AUC) <sub>0-t</sub> , AUC <sub>0-inf</sub>
To assess the PK of etavopivat in patients with SCD	-	Steady-state etavopivat plasma exposure (C <sub>max,ss</sub> , AUC <sub>tau,ss</sub> , C <sub>avg,ss</sub> , C <sub>min,ss</sub> )
To assess the PK of etavopivat in patients with SCD	-	Estimated using population PK
To assess the safety and tolerability of etavopivat	During the 24-week primary treatment period	Incidence of adverse events (AEs), serious adverse events (SAEs), and AEs related to etavopivat
To assess the safety and tolerability of etavopivat	During the 24-week primary treatment period	Number of premature discontinuations, dose interruptions, and dose reductions

## Key Secondary Outcomes

Name	Time Points	Measure
To assess the safety and tolerability of etavopivat	during the 72-week treatment extension period	Incidence of AEs, SAEs, and AEs related to etavopivat
To assess the safety and tolerability of etavopivat	during the 72-week treatment extension period	Number of premature discontinuations, dose interruptions, and dose reductions
To assess the effects of etavopivat on hemoglobin (Hb) response	Weeks 12 and 24	Hb response rate (increase of > 1 g/dL from baseline)
To assess the effects of etavopivat on hemoglobin (Hb) response	Weeks 12 and 24	Change in Hb from baseline
To describe occurrence of vaso-occlusive crisis (VOCs) in enrolled patients	-	Change from baseline in incidence of VOCs during the treatment period of: Number of VOCs + Annualized Rate of VOC
To assess changes in fatigue of patients with SCD taking etavopivat	Weeks 12 and 24	Change from baseline in Patient-Reported Outcomes Measurement Information System (PROMIS) Fatigue Scale
To assess changes in cerebral blood flow in patients with SCD taking etavopivat	-	Change from baseline in time-averaged mean of the maximum velocity (TAMMV) by transcranial Doppler ultrasonography (TCD)



## Trial Results

**Summary results**

**Study results globally**

**Date of posting of results summaries**

**Date of first journal publication of results**

**Results URL link**

**Baseline characteristics**

**Participant flow**

**Adverse events**

**Outcome measures**

**URL to protocol files**