



Clinical trial results:

Phase III multicentre randomised trial in patients with primary HIV-1 infection evaluating the impact on reservoirs (by quantification of HIV-1 DNA in PBMC) of a combination including either raltegravir, maraviroc, darunavir/r associated with Truvada® (emtricitabine/tenofovir), or darunavir/r associated with Truvada®

Summary

EudraCT number	2009-014742-28
Trial protocol	FR
Global end of trial date	16 December 2013

Results information

Result version number	v1 (current)
This version publication date	23 October 2025
First version publication date	23 October 2025
Summary attachment (see zip file)	Lancet publication (Lancet Infect Dis 2015 (15) 387-96.pdf)

Trial information

Trial identification

Sponsor protocol code	ANRS 147 OPTIPRIM
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01033760
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Inserm-ANRS
Sponsor organisation address	101 rue de Tolbiac, Paris, France, 75013
Public contact	Dr Antoine Chéret, Centre de Diagnostic et de Thérapeutique pluridisciplinaire CHU Point-à-Pitre, +33 5 90 89 17 40, antoine.cheret@aphp.fr
Scientific contact	Dr Antoine Chéret, Centre de Diagnostic et de Thérapeutique pluridisciplinaire CHU Point-à-Pitre, +33 5 90 89 17 40, antoine.cheret@aphp.fr

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	16 December 2013
Is this the analysis of the primary completion data?	Yes
Primary completion date	16 December 2013
Global end of trial reached?	Yes
Global end of trial date	16 December 2013
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The main objective of the trial is to evaluate the impact of 24 months of optimised antiretroviral therapy versus conventional triple-agent therapy on reservoirs, measured by HIV-DNA in PBMC, in patients treated for acute or recent primary HIV-1 infection.

Protection of trial subjects:

This study was conducted in accordance with the updated Declaration of Helsinki, in compliance with the approved protocol and its amendments, the International Council for Harmonisation guideline for Good Clinical Practice (ICH GCP), and French regulatory requirements.

A phone line (through the AIDS Information Service) was set up to allow participants to ask questions about the protocol, the drugs and the HIV infection in general.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	26 April 2010
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	France: 90
Worldwide total number of subjects	90
EEA total number of subjects	90

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	90
From 65 to 84 years	0

85 years and over	0
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Subject disposition

Recruitment

Recruitment details:

Patients were recruited from April 2010 to July 2011 in France, in 31 participating sites.

Pre-assignment

Screening details:

Main criteria:

Inclusion: at least 18 years old, acute or primary HIV-1 infection, symptomatic primary infection or CD4<500/mm³.

Non-inclusion: prior post exposure antiretroviral treatment within six months before enrolment, HIV-2 infection, pregnancy or breast-feeding.

Period 1

Period 1 title	Overall trial (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Intensive cART regimen

Arm description:

Regimen consisting of raltegravir, maraviroc, tenofovir disoproxil fumarate plus emtricitabine, darunavir and ritonavir.

Arm type	Experimental
Investigational medicinal product name	Raltegravir
Investigational medicinal product code	
Other name	Isentress®
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

One 400 mg tablet twice daily.

Investigational medicinal product name	Maraviroc
Investigational medicinal product code	
Other name	Celsentri®
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

One 150 mg tablet morning and evening.

Investigational medicinal product name	Darunavir
Investigational medicinal product code	
Other name	Prezista®
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

Two 400 mg tablet once daily with a meal.

Investigational medicinal product name	Ritonavir
Investigational medicinal product code	
Other name	Norvir®
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details: One 100 mg tablet once daily with a meal.	
Investigational medicinal product name	Emtricitabine/Tenofovir
Investigational medicinal product code	
Other name	Truvada®
Pharmaceutical forms	Tablet
Routes of administration	Oral use
Dosage and administration details: One 300/200 mg tablet once daily.	
Arm title	Standard cART regimen
Arm description: Regimen consisting of tenofovir disproxil fumarate plus emtricitabine, darunavir and ritonavir.	
Arm type	Active comparator
Investigational medicinal product name	Darunavir
Investigational medicinal product code	
Other name	Prezista®
Pharmaceutical forms	Tablet
Routes of administration	Oral use
Dosage and administration details: Two 400 mg tablet once daily with a meal.	
Investigational medicinal product name	Ritonavir
Investigational medicinal product code	
Other name	Norvir®
Pharmaceutical forms	Tablet
Routes of administration	Oral use
Dosage and administration details: One 100 mg tablet once daily with a meal.	
Investigational medicinal product name	Emtricitabine/Tenofovir
Investigational medicinal product code	
Other name	Truvada®
Pharmaceutical forms	Tablet
Routes of administration	Oral use
Dosage and administration details: One 300/200 mg tablet once daily.	

Number of subjects in period 1	Intensive cART regimen	Standard cART regimen
Started	45	45
Completed	39	43
Not completed	6	2
Consent withdrawn by subject	2	1
Lost to follow-up	1	-
Discontinued strategy	3	1

Baseline characteristics

Reporting groups

Reporting group title	Intensive cART regimen
Reporting group description:	
Regimen consisting of raltegravir, maraviroc, tenofovir disproxil fumarate plus emtricitabine, darunavir and ritonavir.	
Reporting group title	Standard cART regimen
Reporting group description:	
Regimen consisting of tenofovir disproxil fumarate plus emtricitabine, darunavir and ritonavir.	

Reporting group values	Intensive cART regimen	Standard cART regimen	Total
Number of subjects	45	45	90
Age categorical			
Adults			
Units: Subjects			
In utero			0
Preterm newborn infants (gestational age < 37 wks)			0
Newborns (0-27 days)			0
Infants and toddlers (28 days-23 months)			0
Children (2-11 years)			0
Adolescents (12-17 years)			0
Adults (18-64 years)			0
From 65-84 years			0
85 years and over			0
Age continuous			
Units: years			
median	36	35	
inter-quartile range (Q1-Q3)	30 to 47	26 to 43	-
Gender categorical			
Units: Subjects			
Female	2	5	7
Male	43	40	83

End points

End points reporting groups

Reporting group title	Intensive cART regimen
Reporting group description: Regimen consisting of raltegravir, maraviroc, tenofovir disproxil fumarate plus emtricitabine, darunavir and ritonavir.	
Reporting group title	Standard cART regimen
Reporting group description: Regimen consisting of tenofovir disproxil fumarate plus emtricitabine, darunavir and ritonavir.	

Primary: HIV DNA levels

End point title	HIV DNA levels
End point description: The primary endpoint is the comparison of HIV DNA levels in circulating peripheral blood lymphocytes after two years of treatment (M24).	
End point type	Primary
End point timeframe: At M24.	

End point values	Intensive cART regimen	Standard cART regimen		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	45	45		
Units: log10 per 10 ⁶ PBMCs				
median (inter-quartile range (Q1-Q3))	2.35 (2.05 to 2.50)	2.25 (1.71 to 2.55)		

Statistical analyses

Statistical analysis title	HIV DNA levels comparison
Comparison groups	Intensive cART regimen v Standard cART regimen
Number of subjects included in analysis	90
Analysis specification	Pre-specified
Analysis type	other
P-value	= 0.21
Method	Wilcoxon rank sum test

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

Participants reported adverse events during the entire trial.

Adverse event reporting additional description:

Non serious adverse events were not coded for this trial.

42/45 (225 events) participants experienced AE in the Intensive cART regimen and 44/45 (272 events) in the Standard cART regimen.

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	18.1
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Reporting groups

Reporting group title	Intensive cART regimen
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Reporting group description:

Regimen consisting of raltegravir, maraviroc, tenofovir disoproxil fumarate plus emtricitabine, darunavir and ritonavir.

Reporting group title	Standard cART regimen
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Reporting group description:

Regimen consisting of tenofovir disoproxil fumarate plus emtricitabine, darunavir and ritonavir.

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.

Justification: Other [Not Including Serious] Adverse Events were not assessed

Serious adverse events	Intensive cART regimen	Standard cART regimen	
Total subjects affected by serious adverse events			
subjects affected / exposed	12 / 45 (26.67%)	8 / 45 (17.78%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Investigations			
Blood creatine phosphokinase increased			
subjects affected / exposed	0 / 45 (0.00%)	3 / 45 (6.67%)	
occurrences causally related to treatment / all	0 / 0	0 / 4	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gamma-glutamyltransferase increased			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Presyncope			

subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Loss of consciousness			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Pancreatitis acute			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hepatobiliary disorders			
Hepatocellular injury			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholestasis of pregnancy			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
Lipohypertrophy			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Depression			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Suicide attempt			

subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Intentional overdose			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Meniscus injury			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Rhabdomyolysis			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Rotator cuff syndrome			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Acute hepatitis C			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Anogenital warts			
subjects affected / exposed	1 / 45 (2.22%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 1	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Chlamydial infection			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Eye infection syphilitic			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Human immunodeficiency virus transmission			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Lung abscess			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Proctitis infectious			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Shigella infection			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Viral infection			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Viral pharyngitis			
subjects affected / exposed	1 / 45 (2.22%)	0 / 45 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Hyperlipasaemia			
subjects affected / exposed	0 / 45 (0.00%)	1 / 45 (2.22%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	Intensive cART regimen	Standard cART regimen	
Total subjects affected by non-serious adverse events subjects affected / exposed	0 / 45 (0.00%)	0 / 45 (0.00%)	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
10 February 2010	The substantial modifications included in the amendment 1 of the protocol are: - to specify the conditions for resuming treatment for patients who have stopped treatment at the M24 visit according to the immunovirological criteria - to modify the quantity of blood planned for the biobank - to add patients who do not stop treatment at M24 to the analysis planned at M30 for the complementary immunological study "Analyse de la capacité de suppression virale des lymphocytes T CD8+ ex vivo" - to update the list of participating sites (closure of two investigating sites and change of address for another investigating site) - to add a new member to the scientific board - to identify a releasing site for one of the trial products (darunavir)
13 October 2010	The substantial modifications included in the amendment 2 of the protocol are: - to submit the protocol for carrying out the mucosal reservoir sub-study (rectal biopsy) with some modifications concerning the routing and the number of biopsies to be taken. This sub-study had been presented in the protocol, notably in the follow-up schedule, but the specific modalities of analysis were not yet specified. - to use the biological assessment dated less than 7 days before the D-8 visit as a pre-inclusion assessment (in order to be able to include patients in a shorter time frame) - to add HBV serology to the D-8 pre-inclusion assessment - to remove the inclusion criterion "inclusion within 10 weeks following the date of diagnosis of primary HIV infection" present in the protocol - to replace a member of the scientific board - to close two investigating centres and add a new one - to change the principal investigator of a centre - to change the formulation of one of the drug (Norvir) from capsules to tablets.
12 October 2011	The substantial modifications included in the amendment 3 of the protocol are: - to offer the complementary study "Analysis of deep reservoirs from rectal biopsies" at the M24 visit to all included patients from dedicated centres - to submit the self-questionnaires (D-8, M18 and M30) for the evaluation of the "OPTICE" device - to change the principal investigator at two sites.
11 April 2012	The substantial modifications included in the amendment 4 of the protocol are: - to change of trial sponsor - to update the list of members of the Scientific Council - a patient information note on the progress of the trial, the change of promotion and the complementary information and support system.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/25900157>

<http://www.ncbi.nlm.nih.gov/pubmed/25701561>

<http://www.ncbi.nlm.nih.gov/pubmed/23691172>

<http://www.ncbi.nlm.nih.gov/pubmed/23555774>