MAYO CLINIC LABORATORIES

Test Definition: FFTRO

Trofile DNA Phenotypic Corecept Tro

Overview

Useful For

To determine the co-receptor tropism (CCR5, CXCR4, or dual/mixed) of a patient's HIV-1 strain for selection of CCR5 co-receptor antagonist therapy, when patient's HIV-1 viral load is <1,000 copies/mL.

Method Name

CD4 cell culture assay for phenotypic recombinant-virus co-receptor tropism.

NY State Available

Yes

Specimen

Specimen Type

Whole Blood EDTA

Specimen Required

Draw 4 mL blood in a lavender-top (EDTA) tube(s), (Do not centrifuge.) Freeze and ship frozen.

Note: Trofile DNA is recommended for patients with undetectable viral loads.

Reject Due To

Hemolysis	NA
Lipemia	NA
Icterus	NA
Other	NA

Specimen Minimum Volume

3 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Whole Blood EDTA	Frozen (preferred)	14 days	

Clinical & Interpretive

Interpretation

Trofile DNA Viral Classification

CCR5 Tropic (R5) HIV-1:

Virus uses CCR5 to enter CD4+ cells.

CXCR4 Tropic (X4) HIV-1:

Virus uses CXCR4 to enter CD4+ cells.

DUAL /MIXED Tropic (D/M) HIV-1:

Dual-tropic viruses can use either CXCR4 or CCR5 to enter CD4+ cells. Mixed-tropic populations contain viruses with 2 or more tropisms.

Nonreportable:

Co-receptor tropism could not be determined. Common causes of nonreportable results are reduced viral fitness or compromised sample handling. Please note that Trofile DNA sample collection and handling instructions differ from Trofile and other Monogram assays.

Trofile uses the complete gp160 coding region of the HIV-1 envelope protein ensuring that all of the determinants of tropism are tested. Subtype is determined based on the HIV-1 gp41 envelope region.

Performance

Method Description

Co-receptor tropism is defined as an interaction of a virus with a specific co-receptor on the target cell. To gain entry into CD4+ cells, HIV must bind to the cell surface CD4 receptor and to one of two co-receptors, CCR5 or CXCR4. Trofile DNA uses the complete gp160 coding region of the HIV-1 envelope protein ensuring that all of the determinants of

tropism tested.

Trofile DNA meets the US standards for technical validation as established by the Clinical Laboratory Improvement Amendments. Trofile DNA is a single cycle pseudovirion based tropism assay that uses the complete gp160 coding region of HIV-1 to evaluate tropism. Instead of using HIV-1 RNA isolated from patient plasma, Trofile DNA uses cell associated viral DNA taken from whole blood cells infected with HIV. HIV-1 envelopes encoded by the viral DNA are tested in a cell-based viral infectivity assay in order to determine which co- receptor the HIV-1 virus population is capable of using: CCR5, CXCR4, or both, known as D/M (dual/mixed).

PDF Report

No

Performing Laboratory Location

Monogram Biosciences, Inc

Fees & Codes

Test Classification

CPT Code Information

87999

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
FFTRO	Trofile DNA Phenotypic Corecept Tro	53923-9

Result ID	Reporting Name	LOINC®
Z2283	Tropotype Result	53923-9
Z2284	Interpretation:	Not Provided