

## MEDICAL POLICY

POLICY TITLE	VIRAL TROPISM TESTING
POLICY NUMBER	MP 2.208

CLINICAL BENEFIT	<input type="checkbox"/> MINIMIZE SAFETY RISK OR CONCERN. <input type="checkbox"/> MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. <input type="checkbox"/> ASSURE APPROPRIATE LEVEL OF CARE. <input type="checkbox"/> ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. <input checked="" type="checkbox"/> ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. <input type="checkbox"/> ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	RETIRED 2/1/2026

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### I. POLICY

HIV tropism testing (see Policy Guidelines section for testing methods) may be considered **medically necessary** for either of the following indications:

- Selecting patients for treatment with HIV coreceptor antagonists such as maraviroc when there is an immediate plan to prescribe a coreceptor antagonist; or
- An individual who has experienced virologic failure while receiving therapy that contains a CCR5 antagonist.

HIV tropism testing without immediate plans to prescribe HIV coreceptor antagonists such as maraviroc is **not medically necessary**. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with these procedures.

The following procedures are considered **investigational**, as there is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with these procedures.

- Repeat HIV tropism testing during coreceptor antagonist treatment
- HIV tropism testing to predict disease progression (irrespective of co-receptor antagonist treatment).

### Policy Guidelines

HIV tropism testing does not have its own specific code but may use a variety of procedure codes, including, but not limited to, genotype/phenotype drug resistance testing codes. This policy will only apply if requests are actually for co-receptor tropism analysis.

Testing should be conducted immediately before intended prescribed use of maraviroc to obtain the most accurate prediction of tropism at the start of treatment.

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Either phenotypic or V3 population genotypic testing may be used to determine HIV tropism; both are not necessary.

V3 population genotypic testing may be conducted by either standard V3 sequencing via Sanger methods (amplification and population sequence analysis of patient-derived V3 region) OR V3 deep sequencing methods (synonyms: ultra-deep sequencing; pyrosequencing; next-generation sequencing). In the U.S., the only currently commercially available plasma HIV DNA coreceptor genotypic test (requires HIV viral load of 1000 copies/mL or more) includes stepwise testing, with an initial standard sequencing with reflex to V3 deep sequencing if standard sequencing detects only CCR5-tropic virus.

A proviral DNA tropism assay can be utilized for patients with HIV RNA <1,000 copies/mL.

### II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. Please see additional information below.

**FEP PPO-** Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at: <https://www.fepblue.org/benefit-plans/benefit-plans-brochures-and-forms>

### III. DESCRIPTION/BACKGROUND

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#### HIV

HIV-1, which causes AIDS, uses coreceptor proteins (either CCR5 or CXCR4) on the surface of target cells to enter and infect the cells. The most commonly transmitted strains of HIV-1 bind to CCR5 and are said to have “tropism” for CCR5-expressing cells. Dual or mixed (D/M) tropic viruses can bind to either receptor type. It is estimated that around 85% of treatment-naïve patients harbor CCR5-tropic virus only, around 15% harbor D/M virus, and less than 1% are infected with CXCR4-tropic virus alone. CXCR4-tropic virus is associated with immunosuppression and later stages of disease. Coreceptor antagonists have been designed to interfere with the interaction between HIV-1 and its coreceptors.

#### HIV Coreceptor Antagonists

Maraviroc (Selzentry) is the first coreceptor antagonist to be approved by the U.S. Food and Drug Administration (FDA). Maraviroc is a selective, slowly reversible, small-molecule antagonist of the interaction between human cell surface CCR5 and HIV-1 gp120, also necessary for HIV-1 cell infection. Blocking this interaction prevents CCR5-tropic HIV-1 entry into cells. However, CXCR4-tropic HIV-1 entry is not prevented. According to the drug’s original label, maraviroc, in combination with other antiretroviral agents, is indicated for adults who are infected with only CCR5-tropic detectable HIV-1, who have evidence of viral replication and HIV-1 strains resistant to multiple antiretroviral agents.

The currently approved maraviroc label indicates that maraviroc is indicated for combination antiretroviral treatment for adults infected with only CCR5-tropic HIV-1, without discussion of the

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presence of viral replication. The FDA-approved full prescribing information for the drug states: “Tropism testing must be conducted on a current sample with a highly sensitive tropism assay that has demonstrated the ability to identify patients appropriate for use of SELZENTRY.” Testing is needed because efficacy was not demonstrated in a phase 2 study of maraviroc in patients with D/M or CXCR4-tropic HIV-1. Due to potential adverse events (hepatic and cardiac toxicity), maraviroc should only be used in indicated patients.

### HIV Tropism Testing

HIV tropism testing is available by either phenotypic or genotypic methods. Tropism testing with a phenotypic assay, a cellular-based assay that functionally determines tropism, is available with the enhanced sensitivity Trofile® assay (ESTA; Monogram Biosciences, South San Francisco, CA). This phenotypic assay uses virus stocks pseudotyped with envelope sequences derived from patient plasma to infect cell lines engineered to express CCR5 or CXCR4 HIV-2 coreceptors. Genotypic tropism testing is based on sequencing the third variable (V3) loop of the HIV glycoprotein 120 gene; this is because the V3 loop interacts with the HIV co-receptor, and variants in V3 are associated with measurable changes in HIV tropism. Tropism assignment is derived from the sequence data using a bioinformatic algorithm such as geno2pheno. In the United States, Quest Diagnostics (Madison, NJ) offers the only commercially available genotypic HIV coreceptor tropism assay, which uses triplicate population sequencing with reflex to ultra-deep sequencing if only CCR5-tropic virus is detected. Quest Diagnostics also offers a proviral DNA tropism test (Trofile® DNA), which sequences the tropism of HIV-1 DNA that has integrated into the host genome of infected T lymphocytes via triplicate population sequencing, without the use of ultra-deep sequencing.

In patients with an undetectable viral load or detectable plasma HIV RNA <1,000 copies/mL, phenotypic co-receptor usage can be determined using proviral DNA obtained from peripheral blood mononuclear cells.

### REGULATORY STATUS

Clinical laboratories may develop and validate tests in-house and market them as a laboratory service; laboratory-developed tests must meet the general regulatory standards of the Clinical Laboratory Improvement Amendments. HIV tropism tests are available under the auspices of the Clinical Laboratory Improvement Amendments. Laboratories that offer laboratory-developed tests must be licensed by the Clinical Laboratory Improvement Amendments for high-complexity testing. To date, the FDA has chosen not to require any regulatory review of this test.

The FDA-approved full prescribing information for maraviroc (Selzentry™, Pfizer) states that: “Tropism testing must be conducted with a highly sensitive and specific tropism assay that has demonstrated the ability to identify patients appropriate for [maraviroc] use.”

## IV. RATIONALE

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### SUMMARY OF EVIDENCE

For individuals who have HIV infection who are being considered for HIV coreceptor antagonist therapy who receive HIV tropism testing, the evidence includes RCTs. The relevant outcomes are overall survival, disease-specific survival, morbid events, quality of life, hospitalizations, medication use, and treatment-related morbidity. RCTs on treatment-naïve and treatment-

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experienced HIV-infected patients have provided evidence that selection of candidates for HIV coreceptor antagonist therapy using HIV tropism testing results in higher rates of treatment success compared with HIV coreceptor antagonist therapy without HIV tropism testing. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with HIV infection receiving HIV coreceptor antagonist therapy or who have failed coreceptor antagonist therapy who receive HIV tropism testing, the evidence includes post hoc analysis of RCTs and observational studies. The relevant outcomes are overall survival, disease-specific survival, morbid events, quality of life, hospitalizations, medication use, and treatment-related mortality and morbidity. Current evidence does not indicate improved outcomes with additional tropism monitoring during treatment. The evidence is insufficient to determine the effects of the technology on health outcomes.

The HHS Panel on Antiretroviral Guidelines for Adults and Adolescents – A working group of the NIH Office of AIDS Research Advisory Council states that “co-receptor tropism testing is recommended for patients who exhibit virologic failure on a CCR5 antagonist”. Based on this societal guidance, for those who have failed coreceptor antagonist therapy who receive HIV tropism testing, the evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with HIV infection who are undergoing tests to predict disease progression who receive HIV tropism testing, the evidence includes observational studies. The relevant outcomes are overall survival, disease-specific survival, morbid events, quality of life, hospitalizations, and medication use. Current evidence is inconsistent in as relates to whether HIV tropism testing independently predicts disease progression among HIV-infected patients. The evidence is insufficient to determine the effects of the technology on health outcomes.

### V. DEFINITIONS

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**ANTIRETROVIRAL DRUGS** are substances used to kill or inhibit the multiplication of retroviruses such as HIV.

**GENOTYPE ASSAY** is a test that determines if HIV has become resistant to the antiviral drug(s) the patient is currently taking. The test analyzes a sample of the virus from the patient’s blood to identify any mutations in the virus that are associated with resistance to specific drugs, also known as GART (Genotypic Antiretroviral Resistance Assay).

**HIV TROPISM** refers to the type of cytokine coreceptor used by HIV-1 when infecting the host cell. The viruses in most treatment-naïve patients use the CCR5 (R5) coreceptor. Conversely, the viruses in up to 50% of treatment-experienced patients use either the CXCR4 (X4) coreceptor or both coreceptors (R5 and X4). Viruses that use both coreceptors are called dual-mixed (D/M) viruses.

**HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HIV-1)** is the retrovirus isolated and recognized as the etiologic (i.e., causing or contributing to the cause of a disease) agent of AIDS.

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**MUTATION** is a sudden change in a gene or unit of hereditary material that results in a new inheritable characteristic. As related to HIV, during the course of HIV disease, mutated HIV strains may emerge in an infected individual. These mutated strains may differ widely in their ability to infect and kill different cell types, as well as in their rate of replication.

**PHENOTYPIC ASSAY** is a procedure whereby sample DNA of a patient's HIV is tested against various antiretroviral drugs to see if the virus is susceptible or resistant to these drugs.

**RNA (RIBONUCLEIC ACID)** is a nucleic acid, found mostly in the cytoplasm of cells (rather than the nucleus) that is important in the synthesis of proteins. The amount of RNA varies from cell to cell. RNA, like the structurally similar DNA, is a chain made up of subunits called nucleotides. Some viruses, such as HIV, carry RNA instead of the more usual genetic material DNA.

**VIRAL LOAD** refers to the amount of HIV- RNA present in the blood, expressed in the number of copies per milliliter of blood plasma.

**VIROLOGIC FAILURE** is defined as a confirmed viral load of more than 200 copies/mL.

### VI. BENEFIT VARIATIONS

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The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits, and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

### VII. DISCLAIMER

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*Capital Blue Cross' medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.*

### VIII. CODING INFORMATION

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**Note:** This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.



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**Covered when medically necessary for HIV tropism testing:**

Procedure Codes								
87900*	87901*	87903*	87904*	87906*	87999*			

\* HIV tropism testing does not have its own specific code but may use a variety of procedure codes, including, but not limited to, standard of care genotype/phenotype drug resistance testing codes. This policy will only apply if requests are for co-receptor tropism analysis.

ICD-10-CM Diagnosis Code	Description
B20	Human immunodeficiency virus [HIV] disease
Z21	Asymptomatic human immunodeficiency virus [HIV] infection status

## IX. REFERENCES

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1. Food and Drug Administration. Full Prescribing Information: Selzentry. 2022
2. Tobira Therapeutics Inc. Efficacy, Safety, and Tolerability of Cenicriviroc (CVC) in Combination With Truvada or Sustiva Plus Truvada in HIV 1-infected, Antiretroviral Treatment-naïve, Adult Patients Infected With Only CCR5-tropic Virus. 2013
3. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents with HIV. Department of Health and Human Services. 2023
4. Cooper DA, Heera J, Goodrich J, et al. Maraviroc versus efavirenz, both in combination with zidovudine-lamivudine, for the treatment of antiretroviral-naïve subjects with CCR5-tropic HIV-1 infection. *J Infect Dis.* Mar 15 2010;201(6):803-813. PMID 20151839
5. Wilkin TJ, Goetz MB, Leduc R, et al. Reanalysis of coreceptor tropism in HIV-1-infected adults using a phenotypic assay with enhanced sensitivity. *Clin Infect Dis.* Apr 1 2011;52(7):925-928. PMID 21427401
6. Diez-Fuertes F, Delgado E, Vega Y, et al. Improvement of HIV-1 coreceptor tropism prediction by employing selected nucleotide positions of the env gene in a Bayesian network classifier. *J Antimicrob Chemother.* Jul 2013;68(7):1471-1485. PMID 23511232
7. Svicher V, D'Arrigo R, Alteri C, et al. Performance of genotypic tropism testing in clinical practice using the enhanced sensitivity version of Trofile as reference assay: results from the OSCAR Study Group. *New Microbiol.* Jul 2010;33(3):195-206. PMID 20954437
8. Prosperi MC, Bracciale L, Fabbiani M, et al. Comparative determination of HIV-1 co-receptor tropism by Enhanced Sensitivity Trofile, gp120 V3-loop RNA and DNA genotyping. *Retrovirology.* Jun 30 2010;7:56. PMID 20591141
9. Swenson LC, Moores A, Low AJ, et al. Improved detection of CXCR4-using HIV by V3 genotyping: application of population-based and "deep" sequencing to plasma RNA and proviral DNA. *J Acquir Immune Defic Syndr.* Aug 2010;54(5):506-510. PMID 20512044
10. Bartlett AD, McCartney MJ, Conibear TC, et al. The utility of different bioinformatics algorithms for genotypic HIV-1 tropism testing in a large clinical cohort with multiple subtypes. *AIDS.* Jul 17 2014;28(11):1611-1617. PMID 24785955
11. Ceresola ER, Nozza S, Sampaolo M, et al. Performance of commonly used genotypic assays and comparison with phenotypic assays of HIV-1 coreceptor tropism in acutely

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- HIV-1-infected patients. J Antimicrob Chemother. May 2015;70(5):1391-1395. PMID 25608585*
12. Sanchez V, Masia M, Robledano C, et al. Performance of genotypic algorithms for predicting HIV-1 tropism measured against the enhanced-sensitivity Trofile coreceptor tropism assay. *J Clin Microbiol. Nov 2010;48(11):4135-4139. PMID 20861336*
  13. Saliou A, Delobel P, Dubois M, et al. Concordance between two phenotypic assays and ultradeep pyrosequencing for determining HIV-1 tropism. *Antimicrob Agents Chemother. Jun 2011;55(6):2831-2836. PMID 21464245*
  14. Archer J, Weber J, Henry K, et al. Use of four next-generation sequencing platforms to determine HIV-1 coreceptor tropism. *PLoS One. Nov 2012;7(11):e49602. PMID 23166726*
  15. Gibson RM, Meyer AM, Winner D, et al. Sensitive deep-sequencing-based HIV-1 genotyping assay to simultaneously determine susceptibility to protease, reverse transcriptase, integrase, and maturation inhibitors, as well as HIV-1 coreceptor tropism. *Antimicrob Agents Chemother. Jan 2014;58(4):2167-2185. PMID 24468782*
  16. Svicher V, Alteri C, Montano M, et al. Performance of genotypic tropism testing on proviral DNA in clinical practice: results from the DIVA study group. *New Microbiol. Jan 2012;35(1):17-25. PMID 22378549*
  17. Svicher V, Alteri C, Montano M, et al. Genotypic testing on HIV-1 DNA as a tool to assess HIV-1 co-receptor usage in clinical practice: results from the DIVA study group. *Infection. Feb 2014;42(1):61-71. PMID 24146352*
  18. Brown J, Burger H, Weiser B, et al. A genotypic HIV-1 proviral DNA coreceptor tropism assay: characterization in viremic subjects. *AIDS Res Ther. Jun 2014;11:14. PMID 24904682*
  19. Gulick RM, Fatkenheuer G, Burnside R, et al. Five-Year Safety Evaluation of Maraviroc in HIV-1-Infected Treatment-Experienced Patients. *J Acquir Immune Defic Syndr. Jan 1 2014;65(1):78-81. PMID 24419064*
  20. Gonzalez-Serna A, McGovern RA, Harrigan PR, et al. Correlation of the virological response to short-term Maraviroc monotherapy with standard and deep sequencing-based genotypic tropism methods. *Antimicrob Agents Chemother. Dec 5 2012;56(3):1202-1207. PMID 22143533*
  21. McGovern RA, Thielen A, Mo T, et al. Population-based V3 genotypic tropism assay: a retrospective analysis using screening samples from the A4001029 and MOTIVATE studies. *AIDS. Oct 23 2010;24(16):2517-2525. PMID 20736814*
  22. Vandekerckhove LP, Wensing AM, Kaiser R, et al. European guidelines on the clinical management of HIV-1 tropism testing. *Lancet Infect Dis. May 2011;11(5):394-407. PMID 21429803*
  23. McGovern RA, Thielen A, Portsmouth S, et al. Population-based sequencing of the V3-loop can predict the virological response to maraviroc in treatment-naïve patients of the MERIT trial. *J Acquir Immune Defic Syndr. Nov 1 2012;61(3):279-286. PMID 23095934*
  24. Swenson LC, Mo T, Dong WW, et al. Deep sequencing to infer HIV-1 co-receptor usage: application to three clinical trials of maraviroc in treatment-experienced patients. *J Infect Dis. Jan 15 2011;203(2):237-245. PMID 21288824*
  25. Kagan RM, Johnson EP, Siaw M, et al. A genotypic test for HIV-1 tropism combining Sanger sequencing with ultradeep sequencing predicts virologic response in treatment-experienced patients. *PLoS One. Oct 2012;7(9):e46334. PMID 23029482*

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26. Swenson LC, Mo T, Dong WW, et al. Deep V3 sequencing for HIV type 1 tropism in treatment-naïve patients: a reanalysis of the MERIT trial of maraviroc. *Clin Infect Dis*. Oct 2011;53(7):732-742. PMID 21890778
27. Heera J, Valluri S, Craig C, et al. First prospective comparison of genotypic vs phenotypic tropism assays in predicting virologic responses to Maraviroc (MVC) in a phase 3 study: MODERN. *J Int AIDS Soc*. Nov 2014;17(4 Suppl 3):19519. PMID 25394028
28. Poveda E, Paredes R, Moreno S, et al. Update on clinical and methodological recommendations for genotypic determination of HIV tropism to guide the usage of CCR5 antagonists. *AIDS Rev*. Jul 2012;14(3):208-217. PMID 22833064
29. Nozza S, Pignataro AR, Galli L, et al. 48 week outcomes of maraviroc-containing regimens following the genotypic or Trofile assay in HIV-1 failing subjects: the OSCAR Study. *New Microbiol*. Jul 2016;39(3):192-196. PMID 27704143
30. Garcia F, Poveda E, Perez-Elias MJ, et al. Genotypic tropism testing in proviral DNA to guide maraviroc initiation in aviremic subjects: 48-week analysis of the PROTEST study. *J Int AIDS Soc*. Nov 2014;17(4 Suppl 3):19520. PMID 25394029
31. Raymond S, Maillard A, Amiel C, et al. Virological failure of patients on maraviroc-based antiretroviral therapy. *J Antimicrob Chemother*. Feb 2015;70(6):1858-1864. PMID 25700719
32. Wilkin TJ, Gulick RM. CCR5 Antagonism in HIV Infection: Current Concepts and Future Opportunities. *Annu Rev Med*. Feb 18 2012;63:81-93. PMID 22034870
33. Almeida FJ, Zaparoli MS, Moreira DH, et al. Association of X4 tropism with disease progression in antiretroviral-treated children and adolescents living with HIV/AIDS in Sao Paulo, Brazil. *Braz J Infect Dis*. May-Jun 2014;18(3):300-307. PMID 24275366
34. Visseaux B, Charpentier C, Rouard C, et al. HIV-2 X4 tropism is associated with lower CD4+ cell count in treatment-experienced patients. *AIDS*. Sep 10 2014;28(14):2160-2162. PMID 25265081
35. Fontdevila MC, Cozzi-Lepri A, Phillips A, et al. Plasma HIV-1 tropism and risk of short-term clinical progression to AIDS or death. *J Int AIDS Soc*. Nov 2014;17(4 Suppl 3):19685. PMID 25397435
36. Saracino A, Bruno G, Scudeller L, et al. Does HIV-1 co-receptor tropism correlate with fibrosis progression in HIV/HCV co-infected patients? *J Clin Virol*. Mar 2014;59(3):167-171. PMID 24461764
37. Casadella M, Cozzi-Lepri A, Phillips A, et al. Plasma HIV-1 Tropism and the Risk of Short-Term Clinical Progression to AIDS or Death. *PLoS One*. 2017;12(1):e0166613. PMID 28129343
38. Castagna A, Monno L, Carta S, et al. Switch of predicted HIV-1 tropism in treated subjects and its association with disease progression. *Medicine (Baltimore)*. Nov 2016;95(44):e5222. PMID 27858869
39. Aberg JA, Gallant JE, Ghanem KG, et al. Primary care guidelines for the management of persons infected with HIV: 2013 update by the HIV Medicine Association of the Infectious Diseases Society of America. *Clin Infect Dis*. Jan 2014;58(1):1-10. PMID 24343580.
40. Thompson M, Horberg M, Agwu A, et al. Primary Care Guidance for Persons With Human Immunodeficiency Virus: 2020 Update by the HIV Medicine Association of the



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*Infectious Diseases Society of America. Clinical Infectious Diseases, November 2020, ciaa1391*

41. Kozal M. Overview of HIV drug resistance testing assays. In: UpToDate Online Journal [serial online]. Waltham, MA: UpToDate; updated May 24, 2024. Literature review current through June 2024.
42. Poveda E, Hernández-Quero J, Pérez-Elías MJ, et al. Genotypic tropism testing of proviral DNA to guide maraviroc initiation in aviraemic subjects: 48-week analysis of results from the PROTEST study. *HIV Med.* 2017;18(7):482-489. doi:10.1111/hiv.12479
43. Fabeni L, Berno G, Svicher V, Ceccherini-Silberstein F, Gori C, Bertoli A, Mussini C, Lichtner M, Zaccarelli M, Ammassari A, Pinnetti C, Cicalini S, Mastroianni CM, Andreoni M, Antinori A, Perno CF, Santoro MM. Genotypic Tropism Testing in HIV-1 Proviral DNA Can Provide Useful Information at Low-Level Viremia. *J Clin Microbiol.* 2015 Sep;53(9):2935-41. doi: 10.1128/JCM.00893-15. Epub 2015 Jul 1. PMID: 26135872; PMCID: PMC4540948.
44. Medical Care Criteria Committee. HIV Resistance Assays [Internet]. Baltimore (MD): Johns Hopkins University; 2020 Feb.
45. Blue Cross Blue Shield Association Medical Policy Reference Manual. 2.04.49, Laboratory Testing for HIV Tropism. Archived January 2019.

### X. POLICY HISTORY

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<b>MP 2.208</b>	<b>01/22/2020 Consensus Review.</b> No change to the policy statements. References reviewed. Coding reviewed.
	<b>05/04/2021 Minor Review.</b> Under Policy Statement, added that testing for HIV tropism is MN for an individual who has experienced virologic failure while receiving therapy that contains a CCR5 antagonist. Under Policy Guidelines, added Proviral DNA tropism testing is available for patients with HIV RNA <1,000 copies/mL. In Description/Background, under HIV Coreceptor Antagonists, changed name of company that owns Cenicriviroc to Allergan. Added HIV Tropism and Virologic Failure to Definitions. References updated. Coding unchanged.
	<b>02/25/2022 Consensus Review.</b> No change to policy statement. References updated
	<b>08/23/2023 Consensus Review.</b> Policy guidelines, background, rationale, coding table and references updated.
	<b>01/19/2024 Administrative Update.</b> Clinical benefit added.
	<b>07/29/2024 Consensus Review.</b> References updated. Added asterisk with note to coding table.
	<b>7/28/2025 Retirement review.</b>

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