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**Lab Dept:** Microbiology/Virology

**Test Name:** HIV-1 GENOTYPING

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***General Information***

**Lab Order Codes:** HIVG

**Synonyms:** HIV-1 susceptibility; HIV Drug Resistance Assay; HIV-1 Subtyping

**CPT Codes:** 87900 - Infectious agent drug susceptibility phenotype prediction using regularly updated genotypic bioinformatics  
87901 – Infectious agent genotype analysis by nucleic acid (DNA or RNA); HIV 1, reverse transcriptase and protease  
87903 – Infectious agent phenotype analysis by nucleic acid with drug resistance tissue culture analysis, HIV 1; first through 10 drugs tested  
87904 X11 – Each additional 1 through 5 drugs tested

**Test Includes:** HIV-1 Subtyping, HIV-1 phenotyping

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***Logistics***

**Test Indications:** Choosing which assay to perform, phenotype or genotype, can be a critical decision in HIV drug resistance testing. While both methods provide valuable data, each has limitations and can provide information that the other test cannot. By integrating both types of resistance data, PhenoSense GT™ offers an individualized, comprehensive overview of HIV drug susceptibility.

**Lab Testing Sections:** Microbiology/Virology – Sendouts

**Referred to:** Monogram Biosciences (formerly Virologic)

**Phone Numbers:** MIN Lab: 612-813-6280

STP:Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 14 – 18 days

**Special Instructions:** N/A

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***Specimen***

**Specimen Type:** Blood

<b>Container:</b>	Lavender top (EDTA) tube or Yellow top (ACD) tube
<b>Draw Volume:</b>	10 mL (Minimum 9 mL) blood
<b>Processed Volume:</b>	Minimum: 3 mL plasma
<b>Collection:</b>	Routine venipuncture, invert tube several times to mix so no clots form. Send to Children's laboratory as soon as possible for shipping to the reference lab facility.
<b>Special Processing:</b>	Lab Staff: Immediately centrifuge blood at 1000-1200 g (within 6 hours of collection) for 10 – 15 minutes. Immediately remove plasma from cells and transfer (Minimum: 3 mL) to a plastic screw-capped tube. Store and ship at frozen temperatures.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Collected in wrong tube; specimen thawed; mislabeled or unlabeled specimens

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### ***Interpretive***

<b>Reference Range:</b>	Interpretation support can be found on the Monogram Biosciences website.
<b>Critical Values:</b>	N/A
<b>Limitations:</b>	If a patient has a low viral load to begin with, the natural degradation of the viral RNA that can occur if samples are improperly handled might make it difficult to amplify the sample sufficiently to get an accurate result. If the patient has a high viral load, the impact of leaving a sample out a few extra minutes before spinning or freezing might not be as noticeable, but you still run the risk that you might not amplify all of the significant quasi-species (viral variants) that have developed within the patient.
<b>Methodology:</b>	PhenoSense HIV Technology®
<b>References:</b>	<a href="#">Monogram Biosciences Webpage</a> January 2015
<b>Updates:</b>	1/17/2006: CPT 2007 update 4/13/2009: CPT update, increased 87904 from x9 to x10. 8/25/2015:CPT update