

## HIV I&II Ab (Antibody) & P24 Ag (Antigen) combo

- HIV virus causes Acquired Immunodeficiency Syndrome (AIDS).
- As per NACO guidelines, all reactive samples are testified by three different methods prior to release of report.
- All reactive results must be confirmed with a Western blot test.

## CD4/CD 8 Enumeration count

- Provides information on the overall immune function of an HIV-infected patient.
- The measurement is critical in establishing thresholds for the initiation and discontinuation of opportunistic infection (OI) prophylaxis and in assessing the urgency to initiate ART.

## Also available

### HUMAN IMMUNODEFICIENCY VIRUS (HIV)

- HIV I&II Antibody Screen (Qualitative)
- HIV I&II Antibody Test (Quantitative)
- HIV Monitoring Panel (HIV RNA Quantitative PCR, CD4 - CD8 Enumeration)
- HIV-1 Drug Resistant Assay

### TUBERCULOSIS (TB)

- Quantiferon TB Gold
- TB Screen (AFB Culture + ZN Stain)
- TB Drug Resist Rapid (MDR Sure & XDR Sure)
- TB Confirmatory Test (TMA + AFB Culture + ZN Stain)

Test Name	Test Code	Technique	Specimen	TAT / Reported on
TB detection through TMA	SMO10037	Transcription mediated Amplification	Pus/Body fluids (Pleural/Ascitic/ Pericardial/Synovial/Ocular) Aspirates/Semen/BAL/Bronchial washings: Gastric Lavage: Menstrual Blood/Endometrial curetting's/ Tissues/Swabs: CSF (Cerebrospinal Fluid), Sputum/ Urine, Whole Blood / Bone Marrow (For full specimen: Refer to Directory Of Services)	4th working day
TB Drug Resistance-MDRsure (Hain's Line Probe Assay)	SMO10038	PCR and Line Probe assay		7th working day
TB Drug Resistance-XDRsure (Hain's Line Probe Assay)	SMO10039	PCR and Line Probe assay		7th working day
T B PCR	SMO10032	Real Time PCR		2nd working day
AFB Culture Rapid - Miscellaneous	SMI10198	AFB automated culture on MGIT		Interim report by 10th;final report by 43rd working day
AFB Susceptibility - 10 Drug (5 drugs of 1st line and 5 drugs of 2nd line)	SMI10177	AFB Sensitivity Automated	Submit pure growth of AFB on appropriate media in a sterile, screw capped container in a sealed plastic bag. Send refrigerated OR when used with other AFB Culture or Mycobacteria identification tests, the pure growth obtained in the Laboratory from specimens already submitted will be processed for drug sensitivity.	28th -32nd working day
AFB Susceptibility - 5 Drugs (1st Line Only)	SMI10176	AFB Sensitivity Automated		
AFB Susceptibility - 10 Drug (5 drugs of 1st line and 5 drugs of 2nd line)	SMI10177	AFB Sensitivity Automated		
TBC and MOTT Identification of cultured broth	SMI10238	Biochemical Analysis		Same day
TB Expert	SMO10040	Real Time PCR	Refer to Directory Of Services	Next working day
HIV I& II Ab & P24 Ag (combo)	RIM10130	(Chemiluminescent Microparticle Immunoassay ( CMIA )	2 ml (1 ml minimum)serum from ISST. Patient consent on HIV consent form is mandatory	Same day
HIV I&II Antibody Screen (Qualitative)	RIM10126	Rapid Card Test	2 ml. (1 ml. Minimum) Serum from 1 SST (Gel barrier tube).	Same day
HIV-1 Drug Resistant Assay	SMO10078	RT PCR and Gene Sequencing	4 - 5 ml whole blood submitted in EDTA. Separate plasma within 1 hour of collection by centrifuge at 1800 xg for 10-12 minutes. A minimum specimen requirement is 2 ml plasma.	12th working day
HIV-1 RNA Qualitative PCR	SMO10021	Real Time RT - PCR		3rd working day
HIV-1 RNA Quantitative PCR	SMO10022	Real Time RT- PCR (Quantitative)		3rd working day
Western Blot For HIV 1 & 2	RIM10128	Western Blot		2 ml. (1 ml. Minimum) Serum from 1 SST (Gel barrier tube).

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## Clinical Testing for Tuberculosis & HIV (Human Immunodeficiency Virus)



India's Leading Super Specialised Laboratory Network

## TUBERCULOSIS (TB)

### Myco TMA (Transcription Mediated Amplification)

- FDA approved test for detection of rRNA of Mycobacterium tuberculosis complex (MTC).
- Identifies Active T.B infection as compared to DNA PCR where dead bacilli can also be picked up.
- Highly specific to MTC: avoids unnecessary isolation of patients with MOTT (Mycobacterium Other Than Tuberculosis).
- Highly Sensitive & Specific.

### Gene Expert

- WHO recommended initial diagnostic test for sputum smear positive and negative cases.
- Faster Turn Around time
- According to NCBI Xpert MTB/RIF is considered to be more sensitive & specific than other conventional methods

### TB PCR by Real Time PCR

- Effective screening tool for Pulmonary & Extra Pulmonary TB.
- Dual reporting – TB/NTM.
- Target region staining (IS 6110, MPB64, 16srRNA).

### Acid-Fast Bacilli (AFB) Culture

- The GOLD standard test for TB diagnosis & patient management.
- Provides rapid detection of mycobacteria.
- Non-radiometric, advanced fluorometric technology.
- Offers higher rate of TB isolation (with 12% more M. Tuberculosis recovered) as compared to solid culture.

### Drug Susceptibility Testing

- AFB drug susceptibility for 1<sup>st</sup> & 2nd line drug-offered on MGIT-320 as per WHO guidelines.
- An international benchmark for quality & reliable results.
- Results available in 15 days after revival of the organism from the pure culture.

### MDRsure (Multi Drug Resistance)

- Screens for TB and detects genetic mutations for resistance to Rifampicin (RIF) and Isoniazid (INH) in mycobacterium tuberculosis positive clinical specimens.
- Can be performed starting from pulmonary patient specimens or culture samples.

### XDR sure (Extensively Drug Resistance)

- Molecular test for Extensive T.B Drug Resistance.
- Identifies - resistance to fluoroquinolones like ofloxacin and moxifloxacin, resistance to injectable antibiotics (viomycin, kanamycin, amikacin and capreomycin) and resistance to 1<sup>st</sup> line drug ethambutol.
- Diagnoses patients: With MDR T.B to receive information on further antibiotic resistances or after failure of Anti T. B therapy & relapse.

### NTM (Non Tuberculosis Mycobacterium) Differentiation

- Molecular test for differentiation of Non- Tuberculosis Mycobacteria (NTM) or Mycobacterium other than Tuberculosis (MOTT).
- Helpful in patients with negative TB test but clinically showing the symptoms.
- Identifies TB as well as NTM known to aggravate disease condition in immuno compromised patients like HIV and transplant cases.

## HUMAN IMMUNODEFICIENCY VIRUS (HIV)

### HIV Drug Resistance (Genotyping)

- Recommended as the preferred resistance testing to guide therapy in antiretroviral (ARV)-naive patients.
- Assisted in the selection of active drugs when changing ARV regimens in persons with virologic failure and HIV RNA levels >1,000 copies/ml.
- Guide therapy in patients with suboptimal virologic responses or virologic failure while on first or second regimens.
- Also recommended for all pregnant women before initiation of Anti Retroviral Therapy (ART) and for those entering pregnancy with detectable HIV RNA levels while on therapy.

### HIV RNA PCR test (NAAT Testing)

- RNA amplification test offer the most specific and sensitive test.
- Ability to screen for infections in low prevalence and asymptomatic populations.
- Turnaround time for results is much shorter.

### Viral Load

- Best marker for predicting disease progression.
- To guide initiation of therapy, changes in therapy and development of drug resistance.
- Monitors response to anti-retroviral.

### Western Blot

- Used as a supplemental test according to the NACO guidelines for positive ELISA test results in Category II and III patients.
- Highly specific test.