Microcare
Laboratory &
Tuberculosis Research Centre

MICROCARE LABORATORY - MOLECULAR TESTING

Sr. No.	Name of the test - Informal	Brief description	Platform	Sample type(s)	Sample quantity/ Volume	Transp ort conditi ons	Container type(s)	Turn Around Time	CHARGES
INFECTIOUS DISEASES									
1	MTB (Real Time PCR assay -M. tuberculosis DNA Detection test)	A TaqMan probe based Real-time PCR kit for detection of Mycobacterium tuberculosis from the sputum, blood, endometrium tissues, menstrual blood and other body fluids in patients suspected of carrying MTB infection. The kit is extremely sensitive & specific. TB testing is advised for the patients suffering from respiratory illnesses, are known to have HIV infection or women suffering from infertility.	Taqman PCR (Real Time)	CSF/EMT/Tissue /Knee Aspirate Fluid/ Pleural Fluid/ Ascitic Fluid/ PUS/ Sputum, BAL Fluid, menstrual blood, Cervical Fluid/ Synovial Fluid	1-5 ml	2-8°C	Sputum: TB Send card, sterile container. Extra pulmonary TB samples: Sterile container	Within 24 hours of receipt of the clinical sample	900
2	HPV (Real Time PCR assay- Human Papilloma Virus DNA detection test)	An asymmetric dye (Evagreen) based RT-PCR based kit for the detection of human papillomavirus from the body fluids and endometrial tissues in patients suspected of carrying the infection. The tst uses two different deection parameters, viz., amplification curve and dissociation curve respectively for specific detection of HPV in a patient sample.	Evagreen PCR (Real Time)	Cervical swab or Thin-prep Tissue	NA	2-8°C	Plastic container	Within 24 hours of receipt of the clinical sample	900
3	EBV (Real Time PCR assay)	Detection of Epstein-Barr virus (EBV) DNA using dual labeled Taqman probes. This pathogen is the causative agent of infectious mononucleosis (IM) and EBV-related malignancies such as Burkitt's lymphoma and nasopharyngeal carcinoma	Taqman PCR (Real Time)	Peripheral blood, CSF, serum, plasma, urine etc	1-2 ml	2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	1100

4	CMV (Taqman Real Time PCR assay-Human Cytomegalo virus DNA Detection test)	Human cytomegalovirus (HCMV) infection is characterizedby a primary infection leading to a lifelong persistence of theviral genome. Periodically, the virus reactivates from latencyand recovers its ability to multiply. HCMV is a major cause ofmorbidity and mortality in bone marrow or solid-organ trans-plant recipients and in AIDS patients. Early diagnosis ofHCMV infection in high-risk patients is essential in order tostart preemptive treatments. This test is both qualitative as well as quantitatve Real Time PCR test for this virus.	Taqman PCR (Real Time)	Peripheral blood/Plasma/Serum/Amniotic fluid/Cord blood/ urine	1-2 ml	2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	1100
5	HIV Proviral (Nested; C - subtype specific assay kit-Human ImmunoDefi ciency Virus-1 Proviral DNA detection test)	HIV-1 Proviral DNA test detect HIV-infected lymphocytes. During HIV replication, the virus creates a double-stranded DNA copy of its genome and this provirus is integrated into the DNA of the host cell. When the host cell replicates, the daughter cell also receive a copy of the proviral DNA.	End Point PCR	EDTA blood/plasma (Immediately send to lab within 24 hours)	2 ml	2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	800
6	ParvoVirus (Parvovirus DNA Detection test)	Parvovirus B19 infections can be asymptomatic or produce a wide spectrum of disease ranging from erythema infectiosum in children to arthropathy, severe anemia, and systemic manifestations involving the central nervous system, heart, and liver depending on the immune competence of the host. Infection with parvovirus B19 in pregnant women may cause hydrops fetalis, congenital anemia, spontaneous abortion, or stillbirth of the fetus. Parvovirus B19 is also the causative agent of transient aplastic crisis and chronic aplasia usually, but not exclusively, in immunocompromised or transplant patients, and those with preexisting hematologic disorders (eg, sickle cell disease).	Taqman PCR (Real Time)	Peripheral blood, serum, plasma, urine etc	1-2 ml	2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	1000

7	HBV (Hepatitis B Virus DNA Detection test)	The Hepatitis B Virus - Viral Load, Quantitative test is advised in case of signs and symptoms of acute hepatitis such as loss of appetite, jaundice, nausea, vomiting, and abdominal pain. The Hepatitis B Virus - Viral Load, Quantitative test is done for patients with chronic hepatitis B infection and currently on antiviral therapy and For the diagnosis of hepatitis B for baseline values and during the course of therapy to assess the response of treatment.	Taqman PCR (Real Time)	Peripheral blood, serum, plasma, urine etc	1-5ml	2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	900
8	Rubella [Rubella Detection]	A rubella blood test detects antibodies that are made by the immune system to help kill the rubella virus. These antibodies remain in the bloodstream for years. The presence of certain antibodies means a recent infection, a past infection, or that you have been vaccinated against the disease.	End Point PCR	Peripheral Blood, Serum, Plasma, Amniotic Fluid		2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	700
9	Toxoplasma [Toxoplasma detection]	To detect a Toxoplasma gondii infection in a pregnant woman, unborn baby, or in a person with a weakened immune system (immunocompromised) who has flu-like symptoms; sometimes to determine if a person has been previously infected or to help determine if complications are due to an active Toxoplasma infection	End Point PCR	Peripheral Blood, Amniotic fluid		2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	700
10	HSV Melt curve based Kit [Herpes Simplex Virus 1 & 2 DNA detection kit]	Herpes is a skin infection caused by the herpes simplex virus, known as HSV. HSV causes painful blisters or sores in different parts of the body. There are two main types of HSV: HSV-1, which usually causes blisters or cold sores around the mouth (oral herpes) HSV-2, which usually causes blisters or sores in the genital area (genital herpes) Herpes can also be dangerous to a newborn baby. A mother with herpes can pass the infection to her baby during delivery. A herpes infection can be life threatening to a baby.	Evagreen PCR (Real Time)	Peripheral blood, serum, plasma, urine, cerebrospinal fluids etc	1-5ml	2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	1000
11	HIN1	H1N1 [Seasonal flu]	RT PCR	NASAL / OROPHRYNGAL SWAN	NA	2-8°C	VTM	SAME DAY	4500

12	COVID 19	COVID 19	RT PCR	NASAL / OROPHRYNGAL SWAN	NA	2-8°C	VTM	SAME DAY	700
ONCOLOGY [CANCER] - LEUKEMIA									
13	JAK2 V617F Detection	A ARMS-primer based PCR test for detection of JAK2 V617F mutation in the Philadelphia Chromosome negative blood cancer patients. JAK2 V617F is the single most important mutation contributing to the at least three different classes of blood cancer.	End Point PCR	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 72 hours of receipt of the clinical sample	1200
14	JAK2 (Allelic ratio - 2 Taqman probes - Janus kinase 2 (JAK2) V617F allelic Burden test)	A TaqMan probe based Real-time PCR kit for quantitation of JAK2 V617F mutation allelic burden in the Philadelphia Chromosome negative blood cancer patients. JAK2 V617F is the single most important mutation contributing to the at least three different classes of blood cancer. The kit is extremely sensitive and specific and is capable of detection of JAK2 V617F mutation from the DNA extracted from peripheral blood and bone marrow. JAK2 V617F allelic burden estimation is advised to the patients for categorising the cancer, to determine the treatment regimen and also to track the success of medicinal regimen in patients who are on treatment program.	Taqman PCR (Real Time)	Peripheral blood, Bone marrow		2-8°C	EDTA Vial	Within 24 hours of receipt of the clinical sample	1200
15	CALR [CALR Mutation Test]	The calreticulin gene, called CALR for short, is responsible for making a protein called calreticulin. The exact function of calreticulin protein remains largely unknown, but it is likely involved in ensuring the correct folding of new proteins, maintaining correct calcium levels in cells, and a number of other cell functions. Mutations of the CALR gene are associated with bone marrow neoplasms that cause the production of too many blood cells. These blood disorders are collectively known as myeloproliferative neoplasms (MPNs). The CALR mutation test looks for abnormalities in the CALR gene to help diagnose and classify MPNs.	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST

16	MPL [MPL Mutation Test]	MPL W515 mutations are present in JAK2-negative patients with primary myelofibrosis (PMF) or essential thrombocythemia (ET) at a frequency of approximately 1-5%, respectively. The S505 mutation is usually detected in patients with familial essential thrombocythemia. Mutation analysis helps differentiate reactive conditions from MPNs.	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST
ONCOLOGY [CANCER] - COLORECTAL (CRC)									
17	KRAS mutation test [KRAS Exon # 2 Mutation Test]	This test detects specific mutations in the Exon # 2 region of KRAS gene in the DNA of cancer cells and tissue. The presence of these mutations may indicate that certain drugs will not be effective in treating the cancer. KRAS is a short name for the gene Kirsten rat sarcoma viral oncogene homolog.	DNA Sequencing	FFPE Tissue		2-8°C	Block	Within 7days of receipt of the clinical sample	ON REQUEST
18	BRAF Real Time PCR [BRAF Genotyping test]	This test uses DNA extracted from the peripheral blood to evaluate for the presence of BRAF V600E and V600K alterations. A positive result indicates the presence of an activating BRAF alteration and may be useful for guiding the treatment of individuals with melanoma.	Taqman PCR (Real Time)	FFPE Tissue		2-8°C	Block	Within 48 hours of receipt of the clinical sample	800
19	CEBPA [CEBPA Mutation Test]	Mutations in the transcription factor CAAT/enhancer binding protein α (CEBPA) are found in approximately 10% of cases of acute myeloid leukemia (AML). Most CEBPA-mutant AML exhibit two mutations, which frequently involve a combination of an N-terminal and a C-terminal gene mutation, typically on different alleles.	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST
20	NRAS [NRAS Mutation Test]	This test detects mutation in the NRAS gene in exons 2, 3, and 4 including codons 12, 13, 59, 61, 117, and 146. NRAS mutations are found in a wide variety of solid tumors, in advanced systemic mastocytosis, and in myeloid neoplasias. Patients with any known KRAS mutation or NRAS mutation may be resistant to certain tyrosine kinase inhibitors.	DNA Sequencing	FFPE Tissue		2-8°C	Block	Within 7days of receipt of the clinical sample	ON REQUEST

21	KRAS mutation test [KRAS Exon # 2 Mutation Test]	This test detects specific mutations in the Exon # 2 region of KRAS gene in the DNA of cancer cells and tissue. The presence of these mutations may indicate that certain drugs will not be effective in treating the cancer. KRAS is a short name for the gene Kirsten rat sarcoma viral oncogene homolog.	DNA Sequencing	FFPE Tissue		2-8°C	Block	Within 7days of receipt of the clinical sample	ON REQUEST
THROMBOPHILIA									
22	Factor V [Factor V Leiden]	A genetic test that check for the 1691 G>A mutation within the Factor V gene. This mutation results in high risk for thrombosis or blood clotting.	Taqman PCR (Real Time)	Peripheral blood	1-2 ml	Room Tempa rature	EDTA Tube		1000
23	Factor II [Factor II genotyping test]	This test detects the 20210G>A mutation within the Factor II [Prothrombin] gene. This mutation is associated with increasd riskfor thrombosis.	End Point PCR+RFLP	Peripheral blood	1-2 ml	Room Tempa rature	EDTA Tube		1000
24	MTHFR [MTHFR genotyping test]	This genetic test check for 677C>T and 1298 A>C mutations in the Methylenetetrahydrofolate reductase [MTHFR] gene. These mutations are associated with inceased homocysteine levels in the blood which ic considered a strong risk factor for blood thrombosis.	Taqman PCR (Real Time)	Peripheral blood	1-2 ml	Room Tempa rature	EDTA Tube		2000
DRUG TOXICITY/RESPONSE									
AZATHIOPRINE [IMMUNOSUPPRESSANT] DRUG TOXICITY / EFFICACY									
25	TPMT [Thiopurine Methyl Transferase genetic test	This genetic test detects mutation within the TPMT gene that is responsiblefor metabolizing the immunosuppressant drug Azathioprine. Defect in this gene results in enhaned drug toxicity.	DNA Sequencing + Allele specific PCR	Periheral blood	1-2 ml	Room Tempe rature	EDTA Tube		ON REQUEST
26	NUDT15 [NUDT15 genetic test]	This genetic test detects defect in the nudix hydrolase 15 [NUDT 15] enzyme by way of detecting mutation within this gene. A defective NUDT15 is associated with higher drug toxicity for Azathioprines.	DNA Sequencing	Peripheral blood	1-2 ml	Room Tempe rature	EDTA Tube		ON REQUEST
5 FLUOROURACIL [CHEMOTHERAPY] DRUG TOXICITY / EFFICACY									

27	DPYD [5-Flurouracil (5-FU) Toxicity and Chemothera peutic Response test]	The DPYD gene encodes an enzyme known as dihydropyrimidine dehydrogenase (DPYD). This enzyme is critical to the metabolism of fluoropyrimidine drugs such as fluorouracil/5-FU (Adrucil®) and capecitabine (Xeloda®) .[46] These drugs are all part of chemotherapy treatments for many cancers including head and neck, gastrointestinal and colorectal cancers. The DPYD gene is also the rate-limiting step in the breakdown of pyrimidines, such as uracil and thymine. Mutations, or variations, in DPYD are known to cause severe 5-FU toxicity as a result of decreased DPYD activity. Genetic variants tested for DPYD are *2,*13, c. 2846A>T.	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST
CLOPIDOGREL [PREVENTS STROKE] DRUG TOXICITY / EFFICACY									
28	Clopidogrel [Cytochrome P450 2C19 Genotyping (CYP2C19) Clopidogrel resistance]	This test helps determine if the patient be less responsive to the drug clopidogrel because of their genetic makeup. This test detects genetic variation in the gene CYP2C19. A healthcare practitioner may sometimes order this test to determine whether clopidogrel will be effective or if another drug for treatment may be required. Clopidogrel is a drug that is part of a group of medications called antiplatelet drugs and is used to prevent strokes and heart attacks in people who are at increased risk for these serious cardiovascular events. The drug works by helping to prevent harmful blood clots from forming by preventing	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST
REPRODUCTIVE GENETICS [MALE]									
29	Y- chromosom e deletion	Y chromosome microdeletions involving some or all of the azoospermic factor (AZF) region are the most frequently identified cause of spermatogenic failure in chromosomally normal men with nonobstructive azoospermia (3%-15%) or severe oligospermia (6% -10%). Among unselected infertile males, the overall frequency of Yq microdeletions is approximately 3%. The relative frequency of Yq microdeletions makes the evaluation for them an important aspect of the diagnostic work up in infertile males, especially those with azoospermia or severe oligospermia. This test detects the major Y chromosome deletions with significant clinical relevance.	End Point PCR	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	1200

30	Sperm DNA Fragmentat ion test	This test relies on a controlled DNA denaturation process to facilitate the subsequent removal of the proteins contained in each spermatozoon. In this way, normal spermatozoa create halos formed by loops of DNA at the head of the sperm, which are not present in those with damaged DNA.	Fluorescen t Microscop y	Sperms	2 ml	2-8°C	Sterile container	48 hours	1200
AUTOIMMUNE DISORDER									
31	HLA B27 [HLA B27 Genotyping]	Autoimmune disorders like ankylosing spondylitis, reactive arthritis is progressive in nature. Symptoms typically start in the early 30's but effects are visually seen on an x-ray after many years. The symptoms start out subtle and gradually develop over the years. This test helps determine whether the patient have human leukocyte antigen B27 (HLA-B27) on the surface of his cells and in turn it helps assess the likelihood that he/she may be suffering from an autoimmune disorder.	End Point PCR	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	1200
OTHERS									
32	Achondropl asia[FGFR3 Full gene Mutation Analysis]	This test analyzes the FGFR3 gene that is responible for Ahondroplasia. Achondroplasia is a disorder of bone growth that prevents the changing of cartilage (particularly in the long bones of the arms and legs) to bone. It is characterized by dwarfism, limited range of motion at the elbows, large head size (macrocephaly), small fingers, and normal intelligence. Treatment may include medication with growth hormone, and surgery aimed to correct the spine, or bone problems, as well, as to reduce the pressure inside the brain in cases of hydrocephaly.	DNA Sequencing	Peripheral Blood, Bone Marrow		2-8°C	EDTA Vial	Within 7days of receipt of the clinical sample	ON REQUEST
33	Huntington Disease [Huntington Mutation screening]	This genetic test analyzes the HD gene. The gene is located on chromosome 4 and the genetic alteration which causes the disease is an increase of the number of repetitions of three nucleic acids (C, A, and G)	End Point PCR	Peripheral Blood, Bone Marrow	1-2 ml	2-8°C	EDTA Vial	Within 48 hours of receipt of the clinical sample	1000

IF ANY OTHER MOLECULAR TEST YOU REQUIRE PLEASE TELL US OR EMAIL US: microcaresurat@gmail.com

MICROCARE LABORATORY, 105 MANTHAN POINT, UNAPANI ROAD, LAL DARWAJA , SURAT - 395003 PH: 0261 - 2450049