

Department of Virology
Medical Research Institute

A-Z Virological Investigations

[A Fast and an Easy Guide to sending samples]

31-08-2023

TP 011-22693532-4

Ext 452

Test name	Acceptable sample	Min.volum e required	Container	Transport and storage	History	Remarks
Adenovirus quantitative PCR	1. Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate 4. Broncho – Alveolar Lavage (BAL) 5. Eye swabs 6. Blood (bone marrow / liver transplantation)	2-3ml 2-3 ml	Liquid specimens - leak-proof, screw cap vials Commercial viral transport media Commercial EDTA bottle	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 48 hours • Long term storage store at -70°C 	<ul style="list-style-type: none"> • Clinical features • <u>Age* Children</u> • <u>Post-transplantation period</u> • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Use only sterile Dacron or rayon swabs with plastic shafts • Do NOT use calcium alginate swabs or swabs with wooden sticks. • Samples in glass bottles, tubes with rubber tops are not accepted
BK Virus quantitative PCR	Plasma Urine	2-3 ml 5 ml	Blood in Commercial EDTA bottle Urine culture collection bottle	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • <u>Post-transplantation period</u>Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted
CMV IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time<48hrs. • If not transport at 4°C with ice packs 	<ul style="list-style-type: none"> • Clinical Features • Date of onset of illness and date of sample collection • Any other investigations 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.

				<ul style="list-style-type: none"> • Long term storage at -20°C 	<ul style="list-style-type: none"> • done for viral infections 	
CMV IgG antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time<48hrs. • If not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical Features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
CMV Avidity IgG Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time<48hrs. • If not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections. 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
CMV quantitative PCR	Plasma	2ml	Blood- EDTA container	<ul style="list-style-type: none"> • Transportation <72hours of collection, in ice at 4°C • If >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Underlying reason for immunosuppression • Post-transplant period where applicable • CD 4 count in AIDS patients • Duration of fever • Evidence of organ involvement • Investigations; 	<ul style="list-style-type: none"> • Clinically suspecting CMV disease in an immunocompromised patient: • Unexplained fever for more than 3 days with leucopenia, thrombocytopenia or evidence of organ involvement. E.g.:- elevated serum alanine aminotransferase • Acutely ill neonates with suspected congenital CMV infection. • To monitor the response to antiviral treatment in CMV disease

					<ul style="list-style-type: none"> FBC/CRP/UFR/Creatinine/Liver enzymes/CSF reports, Bacterial culture results/Chest X-ray findings 	<ul style="list-style-type: none"> Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted
CMV quantitative PCR	Urine-suspected congenital CMV in neonates		sterile culture, screw cap bottle			
	If need to send other types samples e.g. CSF, tissue (colitis) saliva, please contact Dept					
Chikungunya antibody	Serum	2-3 mL	Clean dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> History mandatory Clinical features Date of onset of illness Travel history FBC and other investigations done 	<ul style="list-style-type: none"> Time of sample collection- after the 5th day of illness Haemolysed samples are not acceptable for serology testing.
Chikungunya realtime RT-PCR	Plasma CSF	2-3 mL 0.5 mL	Blood in EDTA tube Clean dry screw capped plastic tube	<ul style="list-style-type: none"> Transport at 2-8°C Can store at 2-8°C for 2 days Long term storage store at -70°C 	<ul style="list-style-type: none"> History mandatory Clinical features Date of onset of illness and the timing of blood collection FBC and other investigations done 	<ul style="list-style-type: none"> Samples should be collected within first 5 days of illness; late samples after day 7 of illness will not be accepted. Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted

Dengue IgM antibody	Serum cerebrospinal fluid (CSF)	2-3 mL 0.5 mL	Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • History mandatory • .Clinical features • Date of onset of illness and the timing of blood collection • FBCand other investigations done 	<ul style="list-style-type: none"> • Time of sample collection- after the 5th day of illness • Haemolysed samples are not acceptable for serology testing.
Dengue IgG antibody	1.Serum 2.cerebrospinal fluid (CSF)	2-3ml 1 ml	Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of blood collection • FBCand other investigations done 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Dengue Serotyping	1.blood 2.cerebrospinal fluid (CSF)	2-3 mL 1ml	Blood-EDTA tube Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of blood collection • FBCand other investigations done 	<ul style="list-style-type: none"> • Samples should be collected within first 5 days of illness; late samples after day 7 of illness will not be accepted. • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted
Dengue NS1 Ag Rapid	Serum	2ml	Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of blood collection 	<ul style="list-style-type: none"> • Sample collection preferably within 1-5 days of onset of illness

Dengue Ab– Rapid Test	Serum	2ml	Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of blood collection • FBCand other investigations done 	<ul style="list-style-type: none"> • Time of sample collection- after the 5th day of illness • Haemolysed samples are not acceptable for serology testing.
Dengue PCR	1.blood 2.cerebrospinal fluid (CSF)	2-3 mL 1ml	Blood-EDTA tube Clean dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of blood collection • FBCand other investigations done 	<ul style="list-style-type: none"> • Samples should be collected within first 5 days of illness, late samples after day 7 of illness will not be accepted. • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted
EBV IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
EBV IgG antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • at 2-8°C • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.

EBV quantitative PCR	<p>1. Blood</p> <p>2. cerebrospinal fluid (CSF)</p>	<p>2ml</p> <p>1 ml</p>	<p>Blood- EDTA container Clean, dry screw capped plastic tube</p>	<ul style="list-style-type: none"> • If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C • If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Underlying reason for immunosuppression • Post-transplant period where applicable • CD 4 count in AIDS patients • Duration of fever • Evidence of organ involvement • Investigations; • FBC/CRP/UFR/S.Creatinine/Liver enzymes/CSF reports, Bacterial culture results/Chest X-ray findings 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted
Enterovirus realtime PCR	<p>1. Stool</p> <p>2. swabs-throat etc</p> <p>3. Blood</p> <p>4. cerebrospinal fluid</p>	<p>Spoon size</p> <p>2-3ml</p> <p>1ml</p>	<p>Clean, dry screw capped plastic tube Swabs - commercial viral transport media Blood- EDTA container Clean, dry screw capped plastic tube</p>	<ul style="list-style-type: none"> • If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C • If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Use only sterile Dacron or rayon swabs with plastic shafts • Do NOT use calcium alginate swabs or swabs with wooden sticks. • Samples in glass bottles, tubes with rubber tops are not accepted

Hantavirus IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Exposure history to rodents • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hantavirus IgG antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Exposure history to rodents • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis A IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis B surface Antigen	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.

Hepatitis B surface Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Vaccination history 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis B Core IgM Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis B Core Total Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis B e Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis B e Antigen	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs 	<ul style="list-style-type: none"> • Clinical features • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • should check the availability of test from the Department of Virology before sending sample • Haemolysed samples are not acceptable for serology testing.

				<ul style="list-style-type: none"> • Long term storage at -20°C 		
Hepatitis B PCR	Plasma	2-3 ml	EDTA tube	<ul style="list-style-type: none"> • If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C • If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Clinical features • Previous serology and molecular test results if any 	<ul style="list-style-type: none"> • Important points • Hepatitis B real-time PCR is an expensive test and should be ordered only when there is a real indication. • The test should always be authorized by a Consultant. • Serology results should always be available before requesting this test (Special situations should be discussed with the Consultant Virologist).
Hepatitis C Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • If not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Hepatitis C PCR	Plasma	2-3 ml	EDTA tube	<ul style="list-style-type: none"> • If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C • If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Clinical features • Previous serology and molecular test results if any 	<ul style="list-style-type: none"> • Important points • 1. Hepatitis B real-time PCR is an expensive test and should be ordered only when there is a real indication. • 2. The test should always be authorized by a Consultant. • 3. Serology results should always be available before requesting this test (Special situations should be discussed with the Consultant Virologist). • 4. 2 ml of blood should be sent in a plain bottle for the confirmation

						of HCV Ab result along with the sample for HCV PCR.
Hepatitis C genotyping PCR	Plasma	2-3 ml	EDTA tube	<ul style="list-style-type: none"> If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> Previous molecular results 	<ul style="list-style-type: none"> Hepatitis C genotyping PCR will be performed only on samples which were positive for Hepatitis C real time
Hepatitis E IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Date of onset of illness and date of sample collection Any other investigations done for viral infections 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Herpes simplex virus-1 IgM Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Date of onset of illness and date of sample collection Any other investigations done for viral infections 	<ul style="list-style-type: none"> Hemolyzed samples are not acceptable for serology testing.
Herpes simplex virus-1 IgG Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Date of onset of illness and date of sample collection Any other investigations 	<ul style="list-style-type: none"> Hemolyzed samples are not acceptable for serology testing.

					done for viral infections	
Herpes simplex virus-2 IgM Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Hemolyzed samples are not acceptable for serology testing.
Herpes simplex virus-2 IgG Antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and date of sample collection • Any other investigations done for viral infections 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Herpes simplex virus 1 & 2 realtime PCR	1. Blood 2. CSF 3. Swab 4. Aqueous /vitreous humor	2ml 1 ml 0.5ml	Blood-EDTA tube Sterile plastic disposable tube Container with 2 ml of VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of sample collection • Other investigations done • Antiviral treatment given 	<ul style="list-style-type: none"> • Prefer if sample collected before starting antivirals • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted. • Use only sterile Dacron or rayon swabs with plastic shafts • Do NOT use calcium alginate swabs or swabs with wooden sticks.
Human herpes virus-6 (HHV6) realtime PCR	1. Blood 2. CSF	2ml 1 ml	Blood-EDTA tube Sterile plastic disposable tube	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • Clinical features • Date of onset of illness and the timing of sample collection 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted

Human papilloma virus realtime PCR	<ol style="list-style-type: none"> 1. Biopsies/ scrapings/brushings / swabs of epithelial cells of cervical mucosa, urethra, vagina and posterior wall of the larynx 2. Semen 3. Prostatic secretions 4. urine 		Sterile screw cap container with VTM	<ul style="list-style-type: none"> • Deliver unfrozen samples to the laboratory within 3 to 4hrs. • Specimens can be stored at 4°C up to 2 weeks, • For storage more than 2 weeks, they should be promptly frozen at -70°C. 		<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted
Influenza A & B realtime PCR	<ol style="list-style-type: none"> 1. NPA - Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate 4. Broncho –Alveolar Lavage (BAL) 5. Postmortem lung biopsy 	2-3 ml	Sterile screw cap container with VTM (PM samples if VTM not available in sterile normal saline)	<ul style="list-style-type: none"> • Transport at 2-8°C • DO NOT FREEZE • in an event of delay in transportation, but store at + 4°C maximum -72 hours 	<ul style="list-style-type: none"> • History mandatory • Clinical features, O2 requirement • X-ray findings • Date of onset of illness and the timing of sample collection • Other investigations done • Antiviral treatment given 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples , PM samples in alcohol or formalin are not accepted
Influenza A subtyping	<ol style="list-style-type: none"> 1. NPA - Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate 4. Broncho –Alveolar Lavage (BAL) 	2-3 ml	Sterile screw cap container with VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • DO NOT FREEZE • in an event of delay in transportation, but store at + 4°C. 	<ul style="list-style-type: none"> • History mandatory • Clinical features, O2 requirement • X-ray findings • Date of onset of illness and the timing of sample collection Other investigations done 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted

Influenza A & B, SARS-CoV-2 multiplex PCR	1.NPA - Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate 4. Broncho –Alveolar Lavage (BAL) 5. Postmortem biopsy of lung biopsy	2-3 ml	Sterile screw cap container with VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • DO NOT FREEZE in an event of delay in transportation, but store at + 4°C. 	<ul style="list-style-type: none"> • History mandatory • Clinical features, O2 requirement • X-ray findings • Date of onset of illness and the timing of sample collection • Other investigations done • Antiviral treatment given 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted
Japanese encephalitis virus IgM antibody	1.CSF 2.Blood	0.5-1 ml 2-3ml	Sterile screw capped plastic tube Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage store at -20°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features of acute encephalitic syndrome • Date of onset of illness and date of sample collection • History of JE vaccination and date of vaccination • Any other investigations done for viral infections • Results of CSF full report if available 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing
Measles IgM antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs 	<ul style="list-style-type: none"> • Clinical features- Fever, rash, • Vaccination history 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.

				<ul style="list-style-type: none"> Long term storage at -20°C 		
Measles Ig G antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features- Fever, rash, Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Measles IgG antibody avidity	1.Serum or plasma 2.CSF	2-3 ml 0.5-1 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features- fever, rash, neurological symptoms Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Measles realtime RT PCR	1.Swabs (Throat, gingival) 2.Plasma 3.CSF 4.Urine	2-3 ml 1 ml 5ml	Swabs - commercial viral transport media EDTA tube Clean, dry screw capped plastic tube Sterile screw cap bottle	<ul style="list-style-type: none"> Transport at 2-8°C Can store at 2-8°C for 2 days Long term storage store at -70°C 	<ul style="list-style-type: none"> Clinical features- Fever, type of rash Vaccination history Previous serology results Date of rash onset 	<ul style="list-style-type: none"> Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted Use only sterile Dacron or rayon swabs with plastic shafts Do NOT use calcium alginate swabs or swabs with wooden sticks.
Middle East respiratory syndrome Corona Virus (MERS CoV) realtime PCR	1. NPA - Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate	2-3 ml	Liquid specimens - leak-proof, screw cap vials. Swabs - commercial viral transport media	<ul style="list-style-type: none"> Transport at 2-8°C Can store at 2-8°C for 2 days Long term storage store at -70°C 	<ul style="list-style-type: none"> Clinical features <u>Travel history-</u> history of contact with dromedary camels 	<ul style="list-style-type: none"> Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted Use only sterile Dacron or rayon swabs with plastic shafts

	4. Broncho –Alveolar Lavage (BAL)					<ul style="list-style-type: none"> Do NOT use calcium alginate swabs or swabs with wooden sticks.
Mpox realtime PCR	Skin lesion material, including swabs of lesion surface, exudate, or lesion crusts		Swabs in sterile leak proof container in commercial viral transport media	<ul style="list-style-type: none"> Should be transported in -20 0C or lower temperature if the delay is expected to be >7 days. 	<ul style="list-style-type: none"> Clinical features Contact history Travel history Day of illness that the sample was collected 	<ul style="list-style-type: none"> Use Dacron or polyester flocked swabs The specimen should be transported as a Triple package.
Mumps IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Mumps IgG antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Poliovirus culture	1. Stool	Spoon size	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> Clinical features fever, muscle weakness, progressive/not, Symmetrical/ asymmetrical, Involvement of upper limbs, associated sensory loss, features of meningism. 	<ul style="list-style-type: none">
Poliovirus culture						

					<ul style="list-style-type: none"> • Date of onset of paralysis and date of sample collection • Nerve conduction study/any other investigations done • Vaccination history 	
Poliovirus realtime PCR	1. Stool	Spoon size	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • If specimens can be transported within 72 hours of collection, can be transported in ice at 4°C • If specimens must be held for >72 hours, they should be promptly frozen at -70°C and transported and stored on dry ice 	<ul style="list-style-type: none"> • Clinical features • Fever, muscle weakness, progressive/not, Symmetrical/asymmetrical, Involvement of upper limbs, associated sensory loss, features of meningism. • Date of onset of paralysis and date of sample collection • Nerve conduction study/any other investigations done • Vaccination history 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops are not accepted. • PCR is carried out from isolation only, not directly from stool samples.
Respiratory Multiplex PCR (on special request)	1.NPA - Nasopharyngeal aspirate 2. Nasal & throat swab	2-3 ml	Sterile screw cap container with VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • DO NOT FREEZE in an event of delay in transportation, but store at + 4°C. 	<ul style="list-style-type: none"> • History mandatory • Clinical features, O2 Requirement • X-ray findings 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted

	3. Tracheal aspirate 4. Broncho –Alveolar Lavage (BAL)		Swabs - commercial viral transport media		<ul style="list-style-type: none"> Date of onset of illness and the timing of sample collection Other investigations done. 	
Rotavirus antigen ELISA assay	1.Stool/rectal swab	3-5g	Clean, wide mouth, screw capped, plastic container (lid with a spoon preferable)	<ul style="list-style-type: none"> Transport at 2-8°C Can store at 2-8°C for 4 days. Long term storage store at -20°C 	<ul style="list-style-type: none"> Clinical history Date of sample collection and sending Patients age 	<ul style="list-style-type: none"> Any child under 5 years of age with acute watery diarrhea for <14 days will be tested for Rota virus surveillance. Do not send samples from children with bloody diarrhoea
Rubella IgM antibody	Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Rubella IgG antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Clinical features Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.
Rubella IgG avidity	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> Transport in RT if transport time <48hrs if not transport at 4°C with ice packs Long term storage at -20°C 	<ul style="list-style-type: none"> Detailed clinical history of mother and child Vaccination history 	<ul style="list-style-type: none"> Haemolysed samples are not acceptable for serology testing.

Rubella RT PCR	1.Swabs- (Throat, gingival) 2.Plasma	2-3 ml	Swabs - commercial viral transport media EDTA tube	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • Clinical features- Fever, rash, • Vaccination history • Previous serology results 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted. • Use only sterile Dacron or rayon swabs with plastic shafts • Do NOT use calcium alginate swabs or swabs with wooden sticks.
SARS-CoV-2 realtime RT PCR	1.NPA - Nasopharyngeal aspirate 2. Nasal & throat swab 3. Tracheal aspirate 4. Broncho –Alveolar Lavage (BAL) 5. Postmortem lung biopsy	2-3 ml	Sterile screw cap container with VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • DO NOT FREEZE in an event of delay in transportation, but store at + 4°C. 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Samples in glass bottles, tubes with rubber tops and very low volume samples are not accepted
SARS-CoV-2 antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Vaccination history 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Varicella Zoster Virus IgM antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Vaccination history 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.

Varicella Zoster Virus IgG antibody	1.Serum or plasma	2-3 ml	Clean, dry screw capped plastic tube	<ul style="list-style-type: none"> • Transport in RT if transport time <48hrs • if not transport at 4°C with ice packs • Long term storage at -20°C 	<ul style="list-style-type: none"> • Clinical features • Vaccination history 	<ul style="list-style-type: none"> • Haemolysed samples are not acceptable for serology testing.
Varicella Zoster Virus realtime PCR	1. Blood 2. CSF 3.Swab 4. Aqueous /vitreous humor	2ml 1 ml 0.5ml	Blood-EDTA tube Sterile plastic disposable tube Container with 2 ml of VTM	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage store at -70°C 	<ul style="list-style-type: none"> • History mandatory • Clinical features • Date of onset of illness and the timing of sample collection • Other investigations done • Antiviral treatment given 	<ul style="list-style-type: none"> • Prefer if sample collected before starting antivirals • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted • Use only sterile Dacron or rayon swabs with plastic shafts • Do NOT use calcium alginate swabs or swabs with wooden sticks.
Zika virus realtime PCR (on special request)	1.Blood 2.Urine	2 mL 10 ml	Blood-EDTA tube sterile plastic vial with screw cap	<ul style="list-style-type: none"> • Transport at 2-8°C • Can store at 2-8°C for 2 days • Long term storage at -70°C 	<ul style="list-style-type: none"> • Mandatory • Clinical features • Travel history to high-risk countries • Day of illness when sample was collected. • Any other virology investigations done. • Indicate Pregnant females with travel history to high-risk countries 	<ul style="list-style-type: none"> • Blood should be collected within first 7 days of illness • Urine should be collected within first 14 days of illness. • Samples in glass bottles, tubes with rubber tops, heparinized samples and very low volume samples are not accepted