



Laboratory Investigation Report

Patient Name	Centre
Age/Gender	OP/IP No
Max ID/Mobile	Collection Date/Time
Lab ID	Receiving Date
Ref Doctor	Reporting Date/Time
Passport No.	

Hematology Special

Test Name	Result	Unit	Bio Ref Interval
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Auto Immune Encephalitis Panel *

IFA

Sample Type	SERUM	
Titre	1:10	
NMDA (anti-glutamate receptor against NR1)	Negative	Negative
IFA		
AMPA (anti-glutamate) Glu-R1	Negative	Negative
AMPA (anti-glutamate) Glu-R2	Negative	Negative
GABA-B receptor antibody	Negative	Negative
LGI-1 antibody (VGKC type)	Negative	Negative
CASPR2 antibody (VGKC type)	Negative	Negative

Interpretation

ANTIGEN	DISEASE ASSOCIATIONS	ASSOCIATED TUMORS
	AUTOIMMUNE NEUROLOGICAL SYNDROME	
NMDA(anti-glutamate receptor against NR1 subunit)	Limbic encephalitis	Ovarian teratoma, Testicular teratoma (approx. 60% as PNS)
AMPA(anti-glutamate receptor)- GluR1	Limbic encephalitis	Bronchial carcinoma, Breast carcinoma, Thymoma (approx. 70% as PNS)
AMPA(anti-glutamate receptor)- GluR2	Limbic encephalitis	Bronchial carcinoma, Breast carcinoma, Thymoma (approx. 70% as PNS)
GABA-B receptor antibody	Limbic encephalitis	Small Cell Lung Carcinoma (SCLC) (approx. 50% as PNS)
LGI-1 antibody (VGKC type)	Limbic encephalitis	Thyroid carcinoma, SCLC, Renal carcinoma, Ovarian teratoma, Thymoma (approx. 10% as PNS)
CASPR2 antibody (VGKC type)	Neuromyotonia, Morvan's syndrome Limbic encephalitis	Thymoma (approx. 30% as PNS)

This test detects the antibodies (IgG) in Transfected HEK cells. Autoantibodies against neuronal surface antigen are found in patient with autoimmune encephalopathies since these antigens play a direct or indirect role in synaptic signal transduction and plasticity, the associated autoimmunities manifest with seizures and neuropsychiatric symptoms. The resulting syndromes can have non-paraneoplastic or paraneoplastic aetiology.



SIN No: VSH1727807, Test Performed at : 910 - Max Hospital - Saket M S S H, Press Enclave Road, Mandir Marg, Saket, New Delhi, Delhi 110017

Booking Centre : 794 - Max Hospital - Vaishali, W-3, Sector-1, Vaishali, Ghaziabad-201012, U.P, 0120418800

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Max Lab, Max Super Speciality Hospital, Vaishali: W-3, Sector-1, Vaishali, Ghaziabad-201012, (U.P.),
Phone: +91-0120-4173 000, 4188 000 | (CIN No.: U85100DL2021PLC381826)

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Abbreviation: AMPA: Alpha-amino- 3-hydroxy-5-methy-4-isoxazol-propionic acid, CASPR2: Contactin - associated protein 2, GABA: Gamma -amino -butyric acid, LGH: Leucine -rich glioma -inactivated protein 1, NMDA: N-methyl-D-aspartate. PNS: paraneoplastic neurological syndrome, SCLC: Small Cell Lung Carcinoma, HEK: Human Embryonic Kidney.



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ANA By Immunofluorescence, Serum

Anti Nuclear Antibodies Immunofluorescence	Negative		Negative
Primary Dilution	1:40		

Interpretation

Anti Nuclear Antibody IFA, HEP2000, Serum Immunofluorescence
(Syn: Anti-Nuclear Antibody)

ANA immunofluorescence is the gold standard test for screening for autoimmune antibodies and has higher sensitivity as compared to ANA ELISA. False ANA positivity may be seen in - certain viral infections (Hepatitis C, Parvovirus and many other), bacterial infections (Tuberculosis), parasitic infection (schistosomiasis), certain malignancies and medications. ANA Immunofluorescence results need to be corroborated with clinical features and other laboratory findings for definitive evidence of auto-immune disorder.

Advise: -

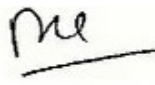
- A repeat ANA testing is recommended after 12 weeks after an acute episode of infection.
- ANA LIA should be added in cases with positive ANA Immunofluorescence result to know which extractable nuclear antigen is present in the patients, which helps in classifying patients for specific autoimmune disorder.

Kindly correlate with clinical findings

*** End Of Report ***



Dr. Poonam. S. Das, M.D.
Principal Director-
Max Lab & Blood Bank Services



Dr. Dilip Kumar M.D.
Associate Director &
Manager Quality



Dr. Nitin Dayal, M.D.
Principal Consultant & Head,
Haematopathology



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Clinical Biochemistry

Kidney Function Test (KFT) Profile with Calcium, Uric Acid, Serum

Date	26/Oct/2022 01:16AM	Unit	Bio Ref Interval
Urea Urease GLDH	25.4	mg/dl	5-50
Blood Urea Nitrogen Urease GLDH	11.87	mg/dl	6-20
Creatinine Jaffe Kinetic	0.5	mg/dL	0.3-0.7
eGFR MDRD	208.24	ml/min/1.73 m ²	
Bun/Creatinine Ratio	23.74		
Uric Acid Enzymatic Colorimetric	4	mg/dl	2.4-5.7
Calcium (Total) O-CPC	9.9	mg/dl	8.6-10.2
Sodium ISE Indirect	135.0	mmol/l	135-148
Potassium ISE Indirect	4.8	mmol/l	3.5 - 5.3
Chloride	100.0		
Bicarbonate PEPC	18.0	mmol/l	22-32

Interpretation Ref. Range

eGFR - Estimated Glomerular Filtration Rate is calculated by MDRD equation which is most accurate for GFRs ≤ 60 ml / min / 1.73 m². MDRD equation is used for adult population only.

<60ml / min / 1.73 m² - Chronic Kidney Disease

<15 ml / min / 1.73 m² - Kidney failure

BUN/Creatinine Ratio :-

Increased in reduced renal perfusion (e.g. dehydration, Hypovolemic shock, Congestive Heart Failure) or Obstructive uropathy. Decreased in Acute Renal Tubular necrosis.



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Clinical Biochemistry

Liver Function Test (LFT), Serum

Date	26/Oct/2022 01:16AM	Unit	Bio Ref Interval
Total Protein	8.20	g/dL	6.6-8.7
Biuret			
Albumin	4.7	g/dl	3.5-5.2
BCG			
Globulin	3.5	g/dl	1.8-3.6
Calculated			
A.G. ratio	1.3		1.2 - 1.5
Calculated			
Bilirubin (Total)	0.2	mg/dl	0.2-1.2
Diazo			
Bilirubin (Direct)	0.1	mg/dl	0-0.3
Diazo			
Bilirubin (Indirect)	0.10	mg/dl	0.1 - 1.0
Calculated			
SGOT- Aspartate Transaminase (AST)	37	U/L	0-32
IFCC without pyridoxal phosphate			
SGPT- Alanine Transaminase (ALT)	5.0	U/L	0-33
IFCC without pyridoxal phosphate			
AST/ALT Ratio	7.40		
Alkaline Phosphatase	232	U/L	96 - 297
GGTP (Gamma GT), Serum	19.0	U/L	5-36
ENZYMATIC COLORIMETRIC ASSAY			

Interpretation AST/ALT Ratio :-

In Case of deranged AST and/or ALT, the AST/ALT ratio is < 2.0 in alcoholic liver damage and > 2.0 in non – alcoholic liver damage

Kindly correlate with clinical findings

*** End Of Report ***



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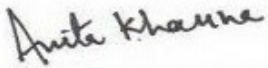
MC-2004



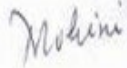
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Clinical Biochemistry



Dr. Anita Khanna MD (Path.)
Associate Director & Head (Lab Medicine)



Dr. Mohini Bhargava, MD
Associate Director (Biochemistry)



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Hematology

CBC (Complete Blood Count), Whole Blood EDTA

Date	26/Oct/2022 01:16AM	Unit	Bio Ref Interval
Haemoglobin	11.2	g/dl	11.0 - 14.0
Packed Cell, Volume Calculated	34.6	%	34-40
Total Leucocyte Count (TLC) Electrical Impedance	9.14	10~9/L	5.0-15.0
RBC Count Electrical Impedance	4.36	10~12/L	4.0-5.2
MCV Electrical Impedance	79.4	fL	75-87
MCH Calculated	25.7	pg	24-30
MCHC Calculated	32.4	g/dl	31.0-37.0
Platelet Count Electrical Impedance	255	10~9/L	200-490
MPV Calculated	12.5	fl	7.8-11.2
RDW Calculated	13.8	%	11.5-14.5

Differential Cell Count

VCS / Light Microscopy

Neutrophils	45.0	%	20-45
Lymphocytes	44.4	%	40-75
Monocytes	7.8	%	2-10
Eosinophils	2.7	%	1-6
Basophils	0.1	%	0-2

Absolute Leukocyte Count

Calculated from TLC & DLC

Absolute Neutrophil Count	4.11	10~9/L	1.5-8.0
Absolute Lymphocyte Count	4.1	10~9/L	6.0-9.0
Absolute Monocyte Count	0.71	10~9/L	0.2-1.0
Absolute Eosinophil Count	0.25	10~9/L	0.1-1.0



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**Laboratory Investigation Report**

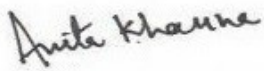
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Hematology

Absolute Basophil Count **0.01** 10~9/L 0.02-0.1

Kindly correlate with clinical findings

*** End Of Report ***



Dr. Anita Khanna MD (Path.)
Associate Director & Head (Lab Medicine)



Dr. Meenal Mehta MD (Path.)
Senior Consultant
(Hematopathology & Cytopathology)



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PA	FILTER PAPER DATA	
Name: Jivansl	Filter Paper No: 00333003	
Birth Date: 17	Collected: 26 Oct 2022 22:00	
Sex: Female	Received: 28 Oct 2022 13:24	Hospital: Max Super Speciality Hospital, Vaishali
Weight (gms): 2500	Transfused:	Hospital No: VSLI452467
Gestation (weeks): 37	Panel: GCMS+FS (47+5)	T:
Mother: Komal Karira	Reported: 29 Oct 2022 17:56	Physician: Dr. Saurabh Chopra
T: +91 75990 28812	Specimen: Dried Blood Spot (DBS)	T: +91 99588 99856

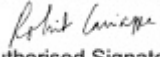
LABORATORY REPORT FOR **First Step™** NEWBORN SCREENING TEST

Acylcarnitine Profile (TMS) Fatty Acid Oxidation & Organic Acid Disorders	Within Normal Limits
Amino Acid Profile (TMS) Amino Acid Disorders, Urea Cycle Disorders	Within Normal Limits
G6PD Deficiency (FEA) Glucose-6-Phosphate Dehydrogenase (G6PD) Normal: > 2 U/gHb Deficient: < 2 U/gHb	Within Normal Limits G6PD Enzyme Activity = 5.16 U/gHb
Congenital Adrenal Hyperplasia (FEIA) 17-hydroxyprogesterone (17-OHP) Normal: < 20 ng/mL High: > 20 ng/mL	Within Normal Limits 17-OHP = 0.53 ng/mL
Galactosemia (Colorimetry) Total Galactose (TGAL) Normal: < 7.4 mg/dL High: > 7.4 mg/dL	Within Normal Limits TGAL = 2.62 mg/dL
Congenital Hypothyroidism (FEIA) Thyroid Stimulating Hormone (TSH) Normal: < 10 µIU/mL High: > 10 µIU/mL	Within Normal Limits TSH < 2.7 µIU/mL
Biotinidase Deficiency (FEA) Biotinidase (BIOT) Normal: > 40 U Deficient: < 40 U	Within Normal Limits Biotinidase Enzyme Activity > 343.9 U
QNS Quantity Not Sufficient NA Not Applicable Residual specimen is stored for retesting purposes.	

NOTES:

5 year old child.

For NeoGen Labs Pvt. Ltd. For NeoGen Labs Pvt. Ltd


 Authorised Signatory
 Dr. ROHIT CARIAPPA
 Lab Director


 Dr. Siva Adarsh
 Consultant Biochemist PhD

Disorders Detected By Tandem Mass Spectrometry

Acylcarnitine Profile - Fatty Acid Oxidation Disorders

- 1 1 Carnitine/Acylcarnitine Translocase Deficiency (CACT)
- 2 2 3-Hydroxy Long Chain Acyl-CoA Dehydrogenase Deficiency (LCHAD)
- 3 3 Medium Chain Acyl-CoA Dehydrogenase Deficiency (MCAD)
- 4 4 Neonatal Carnitine Palmitoyl Transferase Deficiency Type II (CPT-II)
- 5 5 Very Long Chain Acyl-CoA Dehydrogenase Deficiency (VLCAD)
- 6 6 Carnitine Palmitoyl Transferase Deficiency Type IA (CPT-IA)¹
- 7 7 2,4-Dienoyl-CoA Reductase Deficiency (DE-RED)
- 8 8 Multiple Acyl-CoA Dehydrogenase Deficiency (MADD or GA-II)
- 9 9 Short-chain Acyl-CoA Dehydrogenase Deficiency (SCAD)
- 10 10 Trifunctional Protein Deficiency (TFP)
- 11 11 Short chain Hydroxy Acyl-CoA Dehydrogenase Deficiency (SCHAD)
- 12 12 Medium Chain Ketoacyl-CoA Thiolase Deficiency (MCKAT)

Acylcarnitine Profile - Organic Acid Disorders

- 13 1 3-Hydroxy-3-Methylglutaryl-CoA Lyase Deficiency (HMG)
- 14 2 Glutaric Acidemia Type I (GA-I)
- 15 3 Isobutyryl-CoA Dehydrogenase Deficiency (IBG)
- 16 4 Isovaleric Acidemia (IVA)
- 17 5 2-Methylbutyryl-CoA Dehydrogenase Deficiency (2MBG)
- 18 6 3-Methylcrotonyl-CoA Carboxylase Deficiency (3MCC)
- 19 7 3-Methylglutaconyl-CoA Hydratase Deficiency (3MGA)
- 20 8 2-Methyl-3-Hydroxybutyric Aciduria (2M3HBA)
- 21 9 Methylmalonyl-CoA Mutase Deficiency (MUT)
- 22 10 Methylmalonic Acidemia (Cobalamin disorders): Cbl A, B
- 23 11 Methylmalonic Acidemia with Homocystinuria: Cbl C, D
- 24 12 Maternal Vitamin B12 Deficiency
- 25 13 Mitochondrial Acetoacetyl-CoA Thiolase Deficiency (BKT)
- 26 14 Propionic Acidemia (PROP)
- 27 15 Multiple CoA Carboxylase Deficiency (MCD)
- 28 16 Malonic Aciduria (MAL)

Amino Acid Profile - Amino Acid Disorders

- 29 1 Argininemia (ARG)
- 30 2 Argininosuccinic Aciduria (ASA Lyase)
- 31 3 5-Oxoprolinuria (5-EXO) or Pyroglutamic Aciduria
- 32 4 Carbamoylphosphate Synthetase Deficiency (CPS)¹
- 33 5 Ornithine Transcarbamylase Deficiency (OTC)¹
- 34 6 Citrullinemia (CIT-I or ASA Synthetase)
- 35 7 Citrullinemia Type II (CIT-II) / Citrin Deficiency¹
- 36 8 Homocystinuria (HCY)
- 37 9 Hypermethioninemia (MET)
- 38 10 Hyperammonemia, Hyperornithinemia, Homocitrullinuria Syndrome (HHH Syndrome)¹
- 39 11 Hyperornithinemia with Gyral Atrophy (HOGA)¹
- 40 12 Maple Syrup Urine Disease (MSUD)
- 41 13 Phenylketonuria (PKU)
- 42 14 Benign Hyperphenylalaninemia (H-PHE)
- 43 15 Defects of Biotin Cofactor Biosynthesis (BIOPT BS)
- 44 16 Defects of Biotin Cofactor Regeneration (BIOPT REG)
- 45 17 Transient Tyrosinemia of the Newborn (TTN)
- 46 18 Tyrosinemia Type I (TYR-I)¹
- 47 19 Tyrosinemia Type II (TYR-II)
- 48 20 Tyrosinemia Type III (TYR-III)
- 49 21 Nonketotic Hyperglycinemia (NKHG)¹

Other

- 50 1 Hyperalimentation
- 51 2 Medium Chain Triglyceride Oil Administration
- 52 3 Treatment with Benzoate, Pyvalic Acid, or Valproic Acid
- 53 4 Liver Disease
- 54 5 Presence of EDTA Anticoagulants in blood specimen
- 55 6 Carnitine Uptake Deficiency (CUD)

Disorders Detected By Other Technologies

- 56 1 Congenital Hypothyroidism (CH)
- 57 2 Galactosemia (TGAL)
- 58 3 Congenital Adrenal Hyperplasia (CAH)
- 59 4 Glucose-6-Phosphate Dehydrogenase Deficiency (G6PD)
- 60 5 Biotinidase Deficiency (BIOT)
- 61 6 Cystic Fibrosis (CF)
- 62 7 Sickle Cell Anemia (Hb S/S)
- 63 8 Sickle-C Disease (Hb S/C)
- 64 9 S-beta Thalassemia (Hb S/βTh)
- 65 10 Hb Variants (Var Hb)

Newborn Screening Limitations

Due to biologic variability of newborns and differences in detection rates for the various disorders in the newborn period, Newborn Screening will not identify all newborns with these conditions. While a positive screening result identifies newborns at an increased risk to justify a diagnostic work-up, a negative screening result does not rule out the possibility of a disorder. Healthcare providers should remain vigilant for any signs or symptoms of these disorders in their patients. The screening process is best coordinated with a physician. The screening services and materials are not a substitute for medical advice, diagnosis or treatment.

Normal Ranges

Acylcarnitine (µM)				
Analyte	1 to 7 days		8+ days	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit
Free CN	5.00	150	5.00	125
C2	2.00	80.0	2.00	50.0
C3	0.20	6.00	0.20	4.00
C4	< 1.00		< 1.00	
C5	< 1.00		< 0.80	
C4-OH	< 0.80		< 0.80	
C5-OH	< 1.00		< 1.00	
C8	< 0.40		< 0.30	
C10	< 0.50		< 0.50	
C5DC	< 0.17		< 0.15	
C12	< 0.50		< 0.50	
C14:1	0.01	0.7	0.01	0.52
C14	< 0.85		< 0.60	
C16	0.06	10.0	0.06	6.00
C16-OH	< 0.16		< 0.10	
Amino Acids (µM)				
Analyte	Lower Limit		Upper Limit	
Val	< 325			
Leu-Ile	< 375			
Met	6.00		62.0	
Cit	3.00		75.0	
Phe	< 150			
Tyr	< 300			
Orn	< 450			
Arg	< 110			
Ala	< 960			

References for the Biological Reference Intervals
<http://www.neogenlabs.com/references.pdf>

¹There is a lower probability of detection of this disorder during the immediate newborn period

First Step Screening Panel

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Rohit Cariappa, PhD, DABCC

Max Lab, Max Super Speciality Hospital, Vaishali: W-3, Sector-1, Vaishali, Ghaziabad-201012, (U.P.)
The results are for the information and interpretation by the referring doctor only. 4. Some tests are referred to other laboratories to provide a wider test menu to the customer. 5. Max Healthcare shall in no event be liable for accidental damages loss, or destruction of specimen which is not attributable to any direct and mala fide act or omission of Max Healthcare or its employees. Liability of Max Healthcare for deficiency of services, or other errors and omissions shall be limited to fee paid by the patient for the relevant laboratory services.

Where babies take their first step

PATIENT DATA
FILTER PAPER DATA
SUBMITTER DATA

ACYLCARNITINES

Analyte	Result (μM)	Normal Range (μM)
FreeCN	22.387	5 to 125
C2	12.265	2 to 50
C3	3.666	0.2 to 4
C4	0.545	<1
C5:1	0.001	0.01 to 0.4
C5	0.173	<0.8
C4-OH	0.098	<0.8
C6	0.104	0.01 to 0.16
C5-OH	0.027	<1
C8:1	0.035	0 to 0.33
C8	0.104	<0.3
C3DC(C8OH)	0.035	0 to 0.15
C10:2	0.012	0 to 0.1
C10:1	0.035	0.01 to 0.25
C10	0.023	<0.5

Analyte	Result (μM)	Normal Range (μM)
C4DC	0.173	0.03 to 0.61
C5DC(C10-OH)	0.012	<0.15
C12:1	0.05	0.01 to 0.33
C12	0.033	<0.5
C14:2	0.017	0 to 0.14
C14:1	0.167	0.01 to 0.52
C14	0.132	<0.6
C16:1	0.014	0 to 1
C16	0.989	0.06 to 6
C16-OH	0.014	<0.1
C18:2	0.122	0 to 1
C18:1	0.583	0.2 to 4
C18	0.298	0.13 to 3
C18:1-OH	0.014	0.01 to 0.15
C18-OH	0.027	0 to 0.18

AMINO ACIDS

Analyte	Result (μM)	Normal Range (μM)
Gly MRM	151.944	0 to 800
Ala	218.954	<960
Val	125.658	<325
Gln (Glu)	68.813	19 to 265.83
Leu-Ile	119.013	<375
Met	18.61	6 to 62
His	38.333	
SUAC	0.21	0 to 0.75

Analyte	Result (μM)	Normal Range (μM)
Phe	35.655	<150
Tyr	35.552	<300
Asp	51.595	9 to 108.1
Glu	121.139	0 to 2000
Ser	52.471	
Orn	67.242	<450
Cit(119)	34.864	3 to 75
Arg	41.225	<110

PATIENT DATA	FILTER PAPER DATA	SUBMITTER DATA
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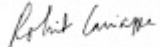
LABORATORY REPORT FOR **First Step™** NEWBORN SCREENING TEST

Acylcarnitine Profile (TMS) Fatty Acid Oxidation & Organic Acid Disorders	Within Normal Limits
Amino Acid Profile (TMS) Amino Acid Disorders, Urea Cycle Disorders	Within Normal Limits
G6PD Deficiency (FEA) Glucose-6-Phosphate Dehydrogenase (G6PD) Normal: > 2 U/gHb Deficient: < 2 U/gHb	Within Normal Limits G6PD Enzyme Activity = 5.16 U/gHb
Congenital Adrenal Hyperplasia (FEIA) 17-hydroxyprogesterone (17-OHP) Normal: < 20 ng/mL High: > 20 ng/mL	Within Normal Limits 17-OHP = 0.53 ng/mL
Galactosemia (Colorimetry) Total Galactose (TGAL) Normal: < 7.4 mg/dL High: > 7.4 mg/dL	Within Normal Limits TGAL = 2.62 mg/dL
Congenital Hypothyroidism (FEIA) Thyroid Stimulating Hormone (TSH) Normal: < 10 µIU/mL High: > 10 µIU/mL	Within Normal Limits TSH < 2.7 µIU/mL
Biotinidase Deficiency (FEA) Biotinidase (BIOT) Normal: > 40 U Deficient: < 40 U	Within Normal Limits Biotinidase Enzyme Activity > 343.9 U

QNS Quantity Not Sufficient **NA** Not Applicable Residual specimen is stored for retesting purposes.

NOTES:

5 year old child.

For NeoGen Labs Pvt. Ltd.	For NeoGen Labs Pvt. Ltd.
	
Authorised Signatory Dr. ROHIT CARIAPPA Lab Director	Dr. Siva Adarsh Consultant Biochemist PhD

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Conditions of Reporting: 1. The tests are carried out in the lab with the presumption that the specimen belongs to the patient name as identified in the bill/test request form. 2. The test results relate specifically to the sample received in the lab and are presumed to have been generated and transported per specific instructions given by the physicians/laboratory. 3. The reported results are for the information and interpretation by the referring doctor only. 4. Some tests are referred to other laboratories to provide a wider test menu to the customer. 5. Max Healthcare shall in no event be liable for accidental damages loss, or destruction of specimen which is not attributable to any direct and mala fide act or omission of Max Healthcare or its employees. Liability of Max Healthcare for deficiency of services, or other errors and omissions shall be limited to fee paid by the patient for the relevant laboratory services.