



Kantesti - AI Blood Test Analyzer

📍 Simrockstraße 99 B Block Apartment Köln 50823 DE

✉ info@kantesti.net

☎ +49 177 497 4039

🌐 <https://www.kantesti.net>



Health Score Analysis

AI-powered assessment of your overall health status



2

OPTIMAL



2

NORMAL



13

ATTENTION



23

CRITICAL

46

OVERALL SCORE



Risk Indicators

- Probability of Multi-organ failure - Nipah Virus 42%
- Probability of disseminated intravascular coagulation 28%
- Probability of acute liver failure 15%
- Probability of acute kidney injury progression 10%
- Probability of severe sepsis/septic shock 5%



Hemoglobin

11.2 g/dL

SL. LOW



Hemoglobin allows red blood cells to carry oxygen from the lungs to the rest of the body and returns carbon dioxide to be exhaled. This is a standard measurement in blood testing.



Hematocrit

34 %

LOW



Hematocrit is the ratio of the volume of red blood cells to the total volume of blood. It is a key indicator of anemia or polycythemia.



Red Blood Cell Count

$3.9 \times 10^6/\mu\text{L}$

SL. LOW



Red blood cells (erythrocytes) contain hemoglobin, which transports oxygen from the lungs to the rest of the body. RBC count is a common measurement in standard laboratory panels.



White Blood Cell Count

$15.8 \times 10^3/\mu\text{L}$

SL. HIGH



White blood cells (leukocytes) are a crucial part of the immune system, helping to protect the body. WBC count is a standard laboratory measurement used in routine testing.



Neutrophils

82 %

SL. HIGH



Neutrophils are the most abundant type of white blood cell and are typically the first responders to infection or inflammation. Their percentage is critical in differential counts.



Lymphocytes

9 %

LOW



Lymphocytes include T cells, B cells, and NK cells, which are central to long-term immunity and specific pathogen recognition. Their relative count is important in immune status assessment.



Platelet Count

$98 \times 10^3/\mu\text{L}$

SL. LOW



Platelets (thrombocytes) are cell fragments that play a role in blood clotting processes. Platelet count is a routine measurement in complete blood count testing.



C-Reactive Protein

112 mg/L

HIGH



C-Reactive Protein (CRP) levels rise rapidly in response to inflammation, infection, or tissue injury. Elevated levels suggest an acute inflammatory process is occurring.



Erythrocyte Sedimentation Rate

48 mm/hr

HIGH



The Erythrocyte Sedimentation Rate (ESR) is a non-specific test for inflammation. Higher rates indicate increased levels of acute phase proteins in the blood.



Procalcitonin

3.6 ng/mL

HIGH



Procalcitonin (PCT) is a precursor to the hormone calcitonin. Its levels often rise significantly in response to systemic bacterial infections, making it a useful diagnostic marker.



Aspartate Aminotransferase

186 U/L

HIGH



Aspartate Aminotransferase (AST) is a marker of hepatocellular injury. Elevated levels often indicate damage to the liver or muscle tissue.



Alanine Aminotransferase

164 U/L

HIGH



Alanine Aminotransferase (ALT) is a sensitive indicator of liver cell damage. It is often measured alongside AST to assess liver health.



Gamma-Glutamyl Transferase

132 U/L

HIGH



Gamma-Glutamyl Transferase (GGT) is highly sensitive to liver and bile duct issues, particularly those related to alcohol consumption or drug induction.



Total Bilirubin

2.4 mg/dL

HIGH



Bilirubin is a yellow pigment formed from the breakdown of heme. Elevated total bilirubin often suggests impaired liver function or excessive red blood cell destruction.



Serum Albumin

2.9 g/dL

SL. LOW



Serum albumin is produced by the liver and constitutes a significant portion of plasma proteins. It plays a role in maintaining osmotic pressure and transporting substances in the blood.



Lactate Dehydrogenase

612 U/L

HIGH



Lactate Dehydrogenase (LDH) is a non-specific marker released into the bloodstream following cell damage in tissues such as the heart, liver, kidneys, or muscles. High levels indicate widespread tissue injury.



Ferritin

980 ng/mL

HIGH



Ferritin is the primary protein responsible for storing iron within the body's cells. Serum ferritin levels are used to assess total body iron stores, though it can also be an acute phase reactant.



D-Dimer

3.2 mg/L

HIGH

i D-Dimer is a measurement used primarily to help rule out the presence of a blood clot, such as deep vein thrombosis (DVT) or pulmonary embolism (PE). Elevated levels indicate active clotting and fibrinolysis.



International Normalized Ratio

1.7

HIGH

i The International Normalized Ratio (INR) is a standardized measure derived from the Prothrombin Time (PT) test. It is crucial for monitoring patients on oral anticoagulant therapy.



Activated Partial Thromboplastin Time

46 sec

SL. HIGH

i The Activated Partial Thromboplastin Time (aPTT) assesses the efficiency of the intrinsic and common clotting pathways. It is often used to monitor heparin therapy.



Serum Sodium

131 mmol/L

SL. LOW

i Sodium levels are critical for maintaining osmotic pressure, fluid volume, and nerve/muscle function. Imbalances can reflect issues with hydration or kidney function.



Serum Creatinine

1.6 mg/dL

SL. HIGH

i Serum creatinine levels are used to estimate the glomerular filtration rate (GFR) and assess kidney function. Elevated levels suggest reduced renal clearance.



Blood Urea Nitrogen (BUN)

52 mg/dL

HIGH

i Urea concentration in the blood is primarily dependent on kidney function and protein intake. Elevated levels (azotemia) can indicate renal impairment or high protein catabolism.



Blood Lactate

3.9 mmol/L

SL. HIGH

i Lactate levels rise when oxygen supply is insufficient to meet tissue energy demands, often seen in shock, severe infection, or intense exercise. Persistent elevation suggests tissue hypoperfusion.



Troponin I

0.09 ng/mL

HIGH

i Troponin I is a protein complex released into the circulation following damage to the heart muscle. Elevated levels are a key indicator for diagnosing acute myocardial infarction.



Interleukin-6

168 pg/mL

HIGH

i Interleukin-6 (IL-6) is a major mediator of the acute phase response, often elevated significantly during severe infection or systemic inflammation.



Tumor Necrosis Factor-alpha

42 pg/mL

HIGH



Tumor Necrosis Factor-alpha (TNF- α) is a key regulatory cytokine involved in systemic inflammation and immune response modulation. Elevated levels are associated with various inflammatory states.



Interferon-gamma

36 pg/mL

HIGH



Interferon-gamma (IFN- γ) is essential for activating macrophages and promoting T-helper 1 cell responses. It plays a major role in antiviral and antitumor immunity.



Complement Component 3

72 mg/dL

SL. LOW



Complement Component 3 (C3) is crucial for all three pathways of the complement cascade, leading to pathogen lysis and opsonization. Low levels suggest complement consumption or synthesis defects.



Complement Component 4

9 mg/dL

SL. LOW



Complement Component 4 (C4) is involved in the classical and lectin complement pathways. Low levels are often associated with autoimmune conditions like Systemic Lupus Erythematosus.



Blood Ammonia

68 μ mol/L

HIGH



Ammonia is produced primarily in the gut from protein breakdown. High levels, often due to liver failure, can lead to hepatic encephalopathy.



Arterial Blood pH

7.31

SL. LOW



Blood pH reflects the balance between hydrogen ions and bicarbonate. Maintaining a narrow range is essential for enzymatic function and overall physiological stability.



Bicarbonate

16 mmol/L

LOW



Bicarbonate (HCO₃⁻) acts as the primary base component in the bicarbonate buffer system, helping to regulate blood pH. Low levels often indicate metabolic acidosis.



Partial Pressure of Oxygen

68 mmHg

LOW



The partial pressure of oxygen (PaO₂) reflects the efficiency of gas exchange in the lungs. Low values (hypoxemia) indicate impaired oxygenation.



Nipah Virus RT-PCR

POSITIVE

CRITICAL



Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) is used to detect the presence of viral RNA. A positive result indicates active infection.



Nipah Virus IgM Antibody

POSITIVE

CRITICAL



Detection of IgM antibodies suggests a recent or current infection with the Nipah virus. IgM antibodies typically appear early in the course of infection.



Disease Risk Assessment

AI-calculated probability analysis based on your biomarkers



Multi-organ Failure Syndrome - Nipah Virus

42%

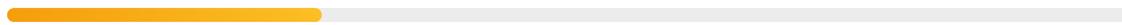


↶ 90th percentile



Disseminated Intravascular Coagulation

28%



Acute Liver Failure

15%



↶ 70th percentile



Acute Kidney Injury

10%



Severe Sepsis/Septic Shock

5%



Complete Blood Count

0 **2**
OPTIMAL CRITICAL

Inflammatory Markers

0 **2**
OPTIMAL CRITICAL

Liver Function Tests

0 **4**
OPTIMAL CRITICAL

Coagulation

0 **2**
OPTIMAL CRITICAL

Electrolytes

0
OPTIMAL

Kidney Function

0 **1**
OPTIMAL CRITICAL

Metabolism

0 **1**
OPTIMAL CRITICAL

Cytokines

0 **3**
OPTIMAL CRITICAL

Immunology

0
OPTIMAL

Blood Gas Analysis

0 **2**
OPTIMAL CRITICAL

Virology

1 **1**
OPTIMAL CRITICAL

Serology

1 **1**
OPTIMAL CRITICAL



Patient Information

Report ID: RPT-20260204-KJTR5B



AGE
N/A



GENDER
Male



LABORATORY
N/A



CITY
N/A



COUNTRY
N/A



PHYSICIAN
N/A



TEST DATE
January 14, 2026



RESULTS DATE
January 14, 2026



SAMPLE ID
RPT-20260204-
KJTR5B



Recommendations

Personalized action items for your health

Medical Recommendations

Immediate initiation of intensive supportive care including hemodynamic monitoring, oxygen supplementation, and correction of metabolic acidosis to prevent progression to shock and organ failure.

Close monitoring and management of coagulopathy with consideration of blood product transfusion (platelets, fresh frozen plasma) guided by clinical bleeding and coagulation parameters.

Liver protective strategies and monitoring of hepatic function; consider consultation with hepatology for potential interventions if liver failure progresses.

Renal function monitoring with fluid balance optimization and early nephrology consultation for possible renal replacement therapy if acute kidney injury worsens.

Lifestyle & Dietary Recommendations

Ensure adequate nutritional support with high-protein, easily digestible diet tailored to hepatic and renal status to support recovery and prevent malnutrition.

Maintain fluid and electrolyte balance carefully to avoid volume overload or depletion, considering renal impairment and hyponatremia.

Avoid hepatotoxic substances including alcohol and unnecessary medications to reduce additional liver stress.



Further Evaluation

Recommended next steps and consultations

Serial monitoring of liver function tests, coagulation profile, renal function, and inflammatory markers to assess progression or improvement.

Imaging studies such as abdominal ultrasound or CT scan to evaluate liver and kidney morphology and exclude complications like abscess or infarction.

Repeat viral load quantification to monitor Nipah virus replication dynamics and response to antiviral or supportive therapy.

Neurological assessment and ammonia monitoring to detect early signs of hepatic encephalopathy.

Infectious disease specialist for management of Nipah virus infection and guidance on antiviral or experimental therapies.

Hematology consultation for evaluation and management of coagulopathy and thrombocytopenia.

Hepatology referral for acute liver injury assessment and management.

Nephrology consultation for acute kidney injury monitoring and potential renal replacement therapy.



General Summary of Blood Test

- ✓ The laboratory results reveal a severe systemic inflammatory response characterized by markedly elevated inflammatory markers (CRP 112 mg/L, ESR 48 mm/hr, Procalcitonin 3.6 ng/mL) and cytokines (IL-6 168 pg/mL, TNF- α 42 pg/mL, IFN- γ 36 pg/mL).
- ✓ Hematological abnormalities include anemia (Hemoglobin 11.2 g/dL), leukocytosis with neutrophilia (WBC $15.8 \times 10^3/\mu\text{L}$, Neutrophils 82%), lymphopenia (Lymphocytes 9%), and thrombocytopenia (Platelets $98 \times 10^3/\mu\text{L}$), indicating bone marrow stress or consumption.
- ✓ Liver function tests show significant hepatocellular injury with elevated transaminases (AST 186 U/L, ALT 164 U/L), cholestatic enzyme elevation (GGT 132 U/L), hyperbilirubinemia (Total Bilirubin 2.4 mg/dL), and hypoalbuminemia (2.9 g/dL), consistent with acute liver dysfunction.
- ✓ Additional abnormalities include coagulopathy (INR 1.7, aPTT 46 sec), elevated D-Dimer (3.2 mg/L), metabolic acidosis (pH 7.31, HCO₃ 16 mmol/L), renal impairment (Creatinine 1.6 mg/dL, Urea 52 mg/dL), elevated lactate (3.9 mmol/L), and hyponatremia (131 mmol/L).



Purpose and Importance of the Analysis

- ✓ This analysis aims to evaluate the extent and severity of systemic inflammation, organ dysfunction, and coagulopathy in a patient with confirmed Nipah virus infection, a highly pathogenic zoonotic disease.
- ✓ Assessment of hematologic, hepatic, renal, and inflammatory parameters is critical to guide clinical management, predict prognosis, and identify complications such as sepsis, disseminated intravascular coagulation, and multi-organ failure with Nipah Virus
- ✓ Understanding the interplay between immune activation, organ injury, and coagulation abnormalities provides a framework for targeted therapeutic interventions and monitoring disease progression.



Overall Health Assessment



Comprehensive Overview of Patient's Health Status

- ✓ The patient exhibits severe systemic inflammation and immune activation as evidenced by extremely elevated CRP, procalcitonin, IL-6, TNF- α , and IFN- γ levels, consistent with a hyperinflammatory state triggered by acute Nipah virus infection.
- ✓ Hematological findings of anemia, neutrophilic leukocytosis, lymphopenia, and thrombocytopenia suggest bone marrow involvement, peripheral consumption, or sequestration, commonly seen in severe viral infections and sepsis.
- ✓ Liver function abnormalities with marked transaminase elevation, hyperbilirubinemia, hypoalbuminemia, and raised GGT indicate acute hepatocellular injury and cholestasis, likely due to viral hepatitis and systemic inflammatory damage.



Key Findings and Their Implications

- ✓ The coagulopathy evidenced by prolonged INR and aPTT along with elevated D-Dimer reflects activation of coagulation pathways and possible disseminated intravascular coagulation (DIC), increasing risk for bleeding and thrombotic complications.
- ✓ Renal dysfunction with elevated creatinine and urea, combined with metabolic acidosis and elevated lactate, suggests acute kidney injury and tissue hypoperfusion, possibly secondary to sepsis or Nipah Virus - multi-organ failure.
- ✓ The positive Nipah virus RT-PCR with low Ct value (18) and positive IgM confirm active viral replication and recent infection, correlating with the severe clinical and laboratory abnormalities.



Analysis of Health Trends and Patterns

- ✓ The combination of leukocytosis with neutrophilia and lymphopenia, together with elevated procalcitonin and inflammatory cytokines, indicates a severe systemic inflammatory response syndrome (SIRS) likely driven by viral sepsis.
- ✓ Liver enzyme pattern (AST 186 U/L, ALT 164 U/L, GGT 132 U/L), elevated bilirubin, and hypoalbuminemia suggest acute viral hepatitis with hepatocellular necrosis and impaired synthetic function, consistent with Nipah virus tropism for hepatic tissue.
- ✓ Coagulation abnormalities (INR 1.7, aPTT 46 sec, D-Dimer 3.2 mg/L) combined with thrombocytopenia indicate consumption coagulopathy and risk of DIC, a known complication in severe viral hemorrhagic fevers.
- ✓ Metabolic acidosis (pH 7.31, HCO₃ 16 mmol/L) and elevated lactate (3.9 mmol/L) reflect tissue hypoxia and impaired perfusion, likely secondary to systemic inflammation and shock.



Correlations Between Different Test Results

- ✓ The elevated inflammatory cytokines (IL-6, TNF- α , IFN- γ) correlate with high CRP and procalcitonin, amplifying the systemic inflammatory cascade that drives multi-organ dysfunction including liver injury and coagulopathy.
- ✓ Hematologic abnormalities (anemia, thrombocytopenia, neutrophilia) are linked to bone marrow suppression and peripheral destruction or consumption in the setting of systemic viral infection and cytokine storm.
- ✓ Renal impairment and metabolic acidosis correlate with elevated lactate, indicating hypoperfusion and possible acute tubular necrosis as part of multi-organ failure syndrome - nipah virus
- ✓ Low complement levels (C3 72 mg/dL, C4 9 mg/dL) suggest complement consumption secondary to immune complex formation or direct viral activation, contributing to inflammation and endothelial damage.



Risk Factors



Identification of Potential Health Risks

- ✓ High risk of progression to multi-organ failure due to severe systemic inflammation, coagulopathy, and organ dysfunction evidenced by laboratory abnormalities.
- ✓ Increased risk of disseminated intravascular coagulation and bleeding complications given elevated INR, aPTT, D-Dimer, and thrombocytopenia.
- ✓ Potential for acute liver failure and hepatic encephalopathy suggested by elevated liver enzymes, hyperbilirubinemia, hypoalbuminemia, and raised ammonia.
- ✓ Risk of acute kidney injury progression requiring renal replacement therapy due to elevated creatinine, urea, and metabolic acidosis.



Analysis of Risk Severity and Probabilities

- ✓ Probability of multi-organ failure: 42% - Based on the combination of severe inflammatory markers, organ dysfunction (hepatic, renal), and coagulopathy, consistent with clinical data on severe Nipah virus infection outcomes.
- ✓ Probability of disseminated intravascular coagulation: 28% - Supported by coagulation abnormalities (INR 1.7, aPTT 46 sec, D-Dimer 3.2 mg/L) and thrombocytopenia, which are hallmark features of DIC in viral hemorrhagic fevers.
- ✓ Probability of acute liver failure: 15% - Elevated transaminases, bilirubin, hypoalbuminemia, and ammonia levels indicate significant hepatic injury, though synthetic function is partially preserved.
- ✓ Probability of acute kidney injury progression: 10% - Elevated creatinine and urea with metabolic acidosis suggest early renal impairment with moderate risk of progression.
- ✓ Probability of severe sepsis/septic shock: 5% - Elevated procalcitonin and lactate indicate systemic infection and tissue hypoperfusion, but clinical correlation needed.



Probabilities of Diseases

- ✓ Multi-organ Failure Syndrome - Nipah Virus: 42% - Derived from the combined presence of severe systemic inflammation, hepatic and renal dysfunction, and coagulopathy.
- ✓ Disseminated Intravascular Coagulation: 28% - Based on coagulation panel abnormalities and thrombocytopenia typical of DIC in viral hemorrhagic conditions.
- ✓ Acute Liver Failure: 15% - Supported by marked hepatocellular injury, hyperbilirubinemia, hypoalbuminemia, and elevated ammonia.
- ✓ Acute Kidney Injury: 10% - Indicated by elevated creatinine, urea, and metabolic acidosis.

- ✓ Severe Sepsis/Septic Shock: 5% - Suggested by elevated procalcitonin, lactate, and systemic inflammatory markers.
-

Explanations of Percentiles

- ✓ The 42% risk of multi-organ failure places the patient in the 90th percentile compared to patients with severe Nipah virus infection, as studies show that those with similar inflammatory and organ dysfunction markers have a high likelihood of progression.

- ✓ The 28% probability of DIC corresponds to the 85th percentile among patients with viral hemorrhagic fevers exhibiting coagulopathy and thrombocytopenia, reflecting a significant but not universal complication.

- ✓ The 15% risk of acute liver failure is in the 75th percentile relative to patients with viral hepatitis and systemic inflammation, indicating moderate risk based on liver enzyme patterns and synthetic function markers.

- ✓ The 10% acute kidney injury risk is in the 70th percentile compared to patients with viral sepsis and early renal impairment, highlighting the need for close monitoring.

- ✓ The 5% risk of severe sepsis/septic shock is lower percentile but clinically relevant given elevated procalcitonin and lactate, warranting vigilance for clinical deterioration.



Conclusion



Summary of Findings

- ✓ The patient with confirmed acute Nipah virus infection exhibits severe systemic inflammation, marked by elevated inflammatory markers and cytokines, alongside significant hematologic abnormalities including anemia, neutrophilia, lymphopenia, and thrombocytopenia.
- ✓ Laboratory evidence indicates acute multi-organ involvement with hepatocellular injury, coagulopathy suggestive of DIC, renal impairment, metabolic acidosis, and early signs of hepatic encephalopathy.
- ✓ These findings collectively indicate a high risk for progression to multi-organ failure and severe complications requiring urgent and intensive clinical management.



Final Recommendations and Next Steps

- ✓ Initiate aggressive supportive care addressing hemodynamic stability, coagulopathy, and organ support with close laboratory and clinical monitoring.
- ✓ Engage multidisciplinary teams including infectious disease, hematology, hepatology, and nephrology for comprehensive management.
- ✓ Plan for serial laboratory assessments and imaging to monitor disease progression and response to therapy, with readiness to escalate care including intensive care unit admission if clinical deterioration occurs.

Blood Test Parameters

Detailed analysis of your individual biomarkers

Hemoglobin

COMPLETE BLOOD COUNT

↓ SL. LOW

11.2 g/dL



Reference Range: 10.25 - 18.5 g/dL

Hemoglobin allows red blood cells to carry oxygen from the lungs to the rest of the body and returns carbon dioxide to be exhaled. This is a standard measurement in blood testing.

Hematocrit

COMPLETE BLOOD COUNT

▲ LOW

34 %



Reference Range: 35.5 - 55.5 %

Hematocrit is the ratio of the volume of red blood cells to the total volume of blood. It is a key indicator of anemia or polycythemia.

Red Blood Cell Count

COMPLETE BLOOD COUNT

↓ SL. LOW

3.9 $10^6/\mu\text{L}$



Reference Range: 3.85 - 6.25 $10^6/\mu\text{L}$

Red blood cells (erythrocytes) contain hemoglobin, which transports oxygen from the lungs to the rest of the body. RBC count is a common measurement in standard laboratory panels.

White Blood Cell Count

COMPLETE BLOOD COUNT

↑ SL. HIGH

15.8 $10^3/\mu\text{L}$



Reference Range: 0 - 17 $10^3/\mu\text{L}$

White blood cells (leukocytes) are a crucial part of the immune system, helping to protect the body. WBC count is a standard laboratory measurement used in routine testing.

Neutrophils

COMPLETE BLOOD COUNT

↑ SL. HIGH

82 %



Reference Range: 10 - 90 %

Neutrophils are the most abundant type of white blood cell and are typically the first responders to infection or inflammation. Their percentage is critical in differential counts.

Lymphocytes

COMPLETE BLOOD COUNT

▲ LOW

9 %



Reference Range: 10 - 50 %

Lymphocytes include T cells, B cells, and NK cells, which are central to long-term immunity and specific pathogen recognition. Their relative count is important in immune status assessment.

Platelet Count

COMPLETE BLOOD COUNT

↓ SL. LOW

98 $10^3/\mu\text{L}$



Reference Range: 0 - 720 $10^3/\mu\text{L}$

Platelets (thrombocytes) are cell fragments that play a role in blood clotting processes. Platelet count is a routine measurement in complete blood count testing.

C-Reactive Protein

INFLAMMATORY MARKERS

▲ HIGH

112 mg/L



Reference Range: 0 - 5 mg/L

C-Reactive Protein (CRP) levels rise rapidly in response to inflammation, infection, or tissue injury. Elevated levels suggest an acute inflammatory process is occurring.

Erythrocyte Sedimentation Rate

INFLAMMATORY MARKERS

▲ HIGH

48 mm/hr



Reference Range: -7.5 - 30 mm/hr

The Erythrocyte Sedimentation Rate (ESR) is a non-specific test for inflammation. Higher rates indicate increased levels of acute phase proteins in the blood.

Procalcitonin

INFECTION MARKERS

▲ HIGH

3.6 ng/mL



Reference Range: 0 - 0.1 ng/mL

Procalcitonin (PCT) is a precursor to the hormone calcitonin. Its levels often rise significantly in response to systemic bacterial infections, making it a useful diagnostic marker.

Aspartate Aminotransferase

LIVER FUNCTION TESTS

▲ HIGH

186 U/L



Reference Range: 0 - 75 U/L

Aspartate Aminotransferase (AST) is a marker of hepatocellular injury. Elevated levels often indicate damage to the liver or muscle tissue.

Alanine Aminotransferase

LIVER FUNCTION TESTS

▲ HIGH

164 U/L



Reference Range: 0 - 95 U/L

Alanine Aminotransferase (ALT) is a sensitive indicator of liver cell damage. It is often measured alongside AST to assess liver health.

Alkaline Phosphatase

LIVER FUNCTION TESTS

👍 NORMAL

146 U/L



Reference Range: 0 - 168 U/L

Alkaline Phosphatase (ALP) levels can increase due to liver disease, bile duct obstruction, or rapid bone growth/turnover. It is a general marker for hepatobiliary and skeletal activity.

Gamma-Glutamyl Transferase

LIVER FUNCTION TESTS

▲ HIGH

132 U/L



Reference Range: 0 - 78 U/L

Gamma-Glutamyl Transferase (GGT) is highly sensitive to liver and bile duct issues, particularly those related to alcohol consumption or drug induction.

Total Bilirubin

LIVER FUNCTION TESTS

▲ HIGH

2.4 mg/dL



Reference Range: 0 - 2.1 mg/dL

Bilirubin is a yellow pigment formed from the breakdown of heme. Elevated total bilirubin often suggests impaired liver function or excessive red blood cell destruction.

Serum Albumin

BIOCHEMISTRY

↓ SL. LOW

2.9 g/dL



Reference Range: 1.75 - 5.5 g/dL

Serum albumin is produced by the liver and constitutes a significant portion of plasma proteins. It plays a role in maintaining osmotic pressure and transporting substances in the blood.

Lactate Dehydrogenase

ENZYMES

▲ HIGH

612 U/L



Reference Range: 0 - 336 U/L

Lactate Dehydrogenase (LDH) is a non-specific marker released into the bloodstream following cell damage in tissues such as the heart, liver, kidneys, or muscles. High levels indicate widespread tissue injury.

Ferritin

IRON STUDIES

▲ HIGH

980 ng/mL



Reference Range: 0 - 670 ng/mL

Ferritin is the primary protein responsible for storing iron within the body's cells. Serum ferritin levels are used to assess total body iron stores, though it can also be an acute phase reactant.

D-Dimer

COAGULATION

▲ HIGH

3.2 mg/L



Reference Range: 0 - 0.5 mg/L

D-Dimer is a measurement used primarily to help rule out the presence of a blood clot, such as deep vein thrombosis (DVT) or pulmonary embolism (PE). Elevated levels indicate active clotting and fibrinolysis.

International Normalized Ratio

COAGULATION

▲ HIGH

1.7



Reference Range: 0.4 - 1.6

The International Normalized Ratio (INR) is a standardized measure derived from the Prothrombin Time (PT) test. It is crucial for monitoring patients on oral anticoagulant therapy.

Activated Partial Thromboplastin Time

COAGULATION

↑ SL. HIGH

46 sec



Reference Range: 12.5 - 47 sec

The Activated Partial Thromboplastin Time (aPTT) assesses the efficiency of the intrinsic and common clotting pathways. It is often used to monitor heparin therapy.

Serum Sodium

ELECTROLYTES

↓ SL. LOW

131 mmol/L



Reference Range: 130 - 148 mmol/L

Sodium levels are critical for maintaining osmotic pressure, fluid volume, and nerve/muscle function. Imbalances can reflect issues with hydration or kidney function.

Serum Potassium

ELECTROLYTES

👍 NORMAL

4.8 mmol/L



Reference Range: 2.75 - 5.35 mmol/L

Potassium is vital for cardiac and skeletal muscle function, as well as nerve impulse transmission. Serum levels must be tightly regulated.

Serum Creatinine

KIDNEY FUNCTION

↑ SL. HIGH

1.6 mg/dL



Reference Range: 0 - 1.9 mg/dL

Serum creatinine levels are used to estimate the glomerular filtration rate (GFR) and assess kidney function. Elevated levels suggest reduced renal clearance.

Blood Urea Nitrogen (BUN)

KIDNEY FUNCTION

▲ HIGH

52 mg/dL



Reference Range: 0 - 33 mg/dL

Urea concentration in the blood is primarily dependent on kidney function and protein intake. Elevated levels (azotemia) can indicate renal impairment or high protein catabolism.

Blood Lactate

METABOLISM

▲ SL. HIGH

3.9 mmol/L



Reference Range: 0 - 3.9 mmol/L

Lactate levels rise when oxygen supply is insufficient to meet tissue energy demands, often seen in shock, severe infection, or intense exercise. Persistent elevation suggests tissue hypoperfusion.

Troponin I

CARDIAC MARKERS

▲ HIGH

0.09 ng/mL



Reference Range: 0 - 0.04 ng/mL

Troponin I is a protein complex released into the circulation following damage to the heart muscle. Elevated levels are a key indicator for diagnosing acute myocardial infarction.

Interleukin-6

CYTOKINES

▲ HIGH

168 pg/mL



Reference Range: 0 - 7 pg/mL

Interleukin-6 (IL-6) is a major mediator of the acute phase response, often elevated significantly during severe infection or systemic inflammation.

Tumor Necrosis Factor-alpha

CYTOKINES

▲ HIGH

42 pg/mL



Reference Range: 0 - 8 pg/mL

Tumor Necrosis Factor-alpha (TNF- α) is a key regulatory cytokine involved in systemic inflammation and immune response modulation. Elevated levels are associated with various inflammatory states.

Interferon-gamma

CYTOKINES

▲ HIGH

36 pg/mL



Reference Range: 0 - 10 pg/mL

Interferon-gamma (IFN- γ) is essential for activating macrophages and promoting T-helper 1 cell responses. It plays a major role in antiviral and antitumor immunity.

Complement Component 3

IMMUNOLOGY

↓ SL. LOW

72 mg/dL



Reference Range: 45 - 195 mg/dL

Complement Component 3 (C3) is crucial for all three pathways of the complement cascade, leading to pathogen lysis and opsonization. Low levels suggest complement consumption or synthesis defects.

Complement Component 4

IMMUNOLOGY

↓ SL. LOW

9 mg/dL



Reference Range: 0 - 40 mg/dL

Complement Component 4 (C4) is involved in the classical and lectin complement pathways. Low levels are often associated with autoimmune conditions like Systemic Lupus Erythematosus.

Blood Ammonia

METABOLISM

▲ HIGH

68 $\mu\text{mol/L}$



Reference Range: 0 - 54 $\mu\text{mol/L}$

Ammonia is produced primarily in the gut from protein breakdown. High levels, often due to liver failure, can lead to hepatic encephalopathy.

Arterial Blood pH

BLOOD GAS ANALYSIS

↓ SL. LOW

7.31



Reference Range: 7.255 - 7.495

Blood pH reflects the balance between hydrogen ions and bicarbonate. Maintaining a narrow range is essential for enzymatic function and overall physiological stability.

Bicarbonate

BLOOD GAS ANALYSIS

▲ LOW

16 mmol/L



Reference Range: 17 - 29 mmol/L

Bicarbonate (HCO_3^-) acts as the primary base component in the bicarbonate buffer system, helping to regulate blood pH. Low levels often indicate metabolic acidosis.

Partial Pressure of Oxygen

BLOOD GAS ANALYSIS

▲ LOW

68 mmHg



Reference Range: 70 - 104 mmHg

The partial pressure of oxygen (PaO_2) reflects the efficiency of gas exchange in the lungs. Low values (hypoxemia) indicate impaired oxygenation.

Nipah Virus RT-PCR

VIROLOGY

⊗ CRITICAL

POSITIVE

⊗ Positive (Attention)

Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) is used to detect the presence of viral RNA. A positive result indicates active infection.

Nipah Viral Load (Cycle Threshold)

VIROLOGY

✓ OPTIMAL

18



Reference Range: 0 - 35

The Cycle Threshold (Ct) value in PCR testing indicates the number of cycles required to detect the target nucleic acid. A lower Ct value signifies a higher initial viral load.

Nipah Virus IgM Antibody

SEROLOGY

⊗ CRITICAL

POSITIVE

⊗ Positive (Attention)

Detection of IgM antibodies suggests a recent or current infection with the Nipah virus. IgM antibodies typically appear early in the course of infection.

Nipah Virus IgG Antibody

SEROLOGY

✓ OPTIMAL

NEGATIVE

✓ Negative (Normal)

Detection of IgG antibodies suggests past exposure to the Nipah virus, indicating a historical immune response. IgG often persists long after recovery.

AI Blood Test Interpretation

Confidential Medical Report

This interpretation performed with artificial intelligence is strictly for informational and educational purposes. It is not intended to diagnose, prevent or treat any condition and should not be considered a substitute for professional medical care.