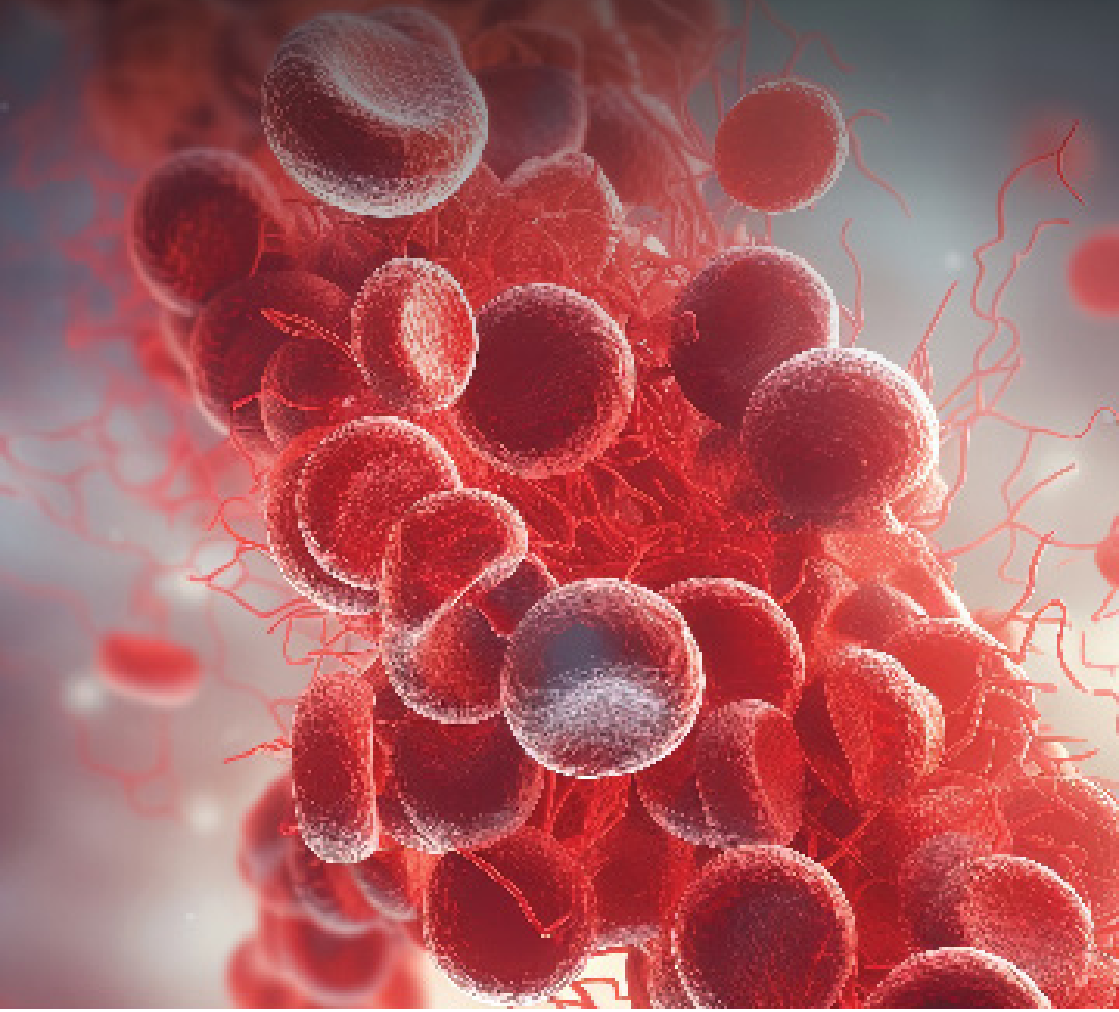
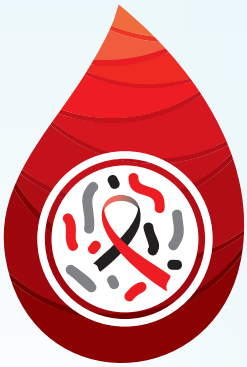
MEDGENOME

SEPSIS-AMR Panel

Empowering Precision in Sepsis Care



Understanding Sepsis



Sepsis is the body's extreme response to an infection, leading to a life-threatening medical emergency.

Mechanism: Sepsis occurs when an infection triggers a chain reaction throughout the body, potentially leading to tissue damage, organ failure, and death.

Common Sources: Infections often start in the lungs, urinary tract, skin, or gastrointestinal tract.

Prevalence

India has the highest incidence of neonatal sepsis (17,000/100,000 live births).

Globally, there are 20 million cases of sepsis and 2.9 million sepsis-related deaths in children under five years of age.

85% of sepsis cases and related deaths occur in low- and middle-income countries.

Source: 1) Rudd et al. Lancet. 2020 Jan 18;395(10219):200-211. 2) Chatterjee et al. Indian J Crit Care Med. 2017;21(9):573-577. 3) Murthy et al. PLoS One. 2019 Apr 25;14(4):e0215683

Introducing Sepsis-AMR Panel

"The Sepsis-AMR Panel is a comprehensive qualitative RT-PCR test that detects 30 gene targets directly from whole blood, including 22 bacterial and fungal pathogens and 8 antimicrobial resistance genes."

Advantages

1. Rapid diagnosis: Multiplex PCR can detect pathogens much faster than traditional culture methods, often within hours. This rapid diagnosis is crucial for initiating timely and appropriate treatment for septic patients.

2. Broad Pathogen Detection: It can simultaneously detect multiple pathogens, including bacteria, and fungi, which are commonly associated with sepsis.

3. High Sensitivity and Specificity: This test has Sensitivity and specificity of 82.00% and 98.30% for whole blood samples, respectively. Higher sensitivity and specificity than the conventional culture reduces the likelihood of false positives and negatives. This accuracy is critical in guiding appropriate therapeutic decisions.

4. Direct Detection from Blood Samples: It enables detection of pathogen which is independent of culture. Conventional cultures are less sensitive, do not support growth of fastidious organisms, and are

prone to contamination.

5. Detection of Antibiotic Resistance Genes: This panel can identify genes associated with antibiotic resistance, helping clinicians choose the most effective antibiotics and avoid those that are likely to be ineffective.

6. Reduction in Empirical Antibiotic Use: With faster and more precise identification of pathogens, clinicians can move from broad-spectrum empirical antibiotic therapy to more targeted treatments, reducing the risk of antibiotic resistance and improving patient outcomes.

7. Improved Patient Management: Early and accurate detection allows for prompt and appropriate treatment, which can significantly improve prognosis and reduce mortality rates in septic patients.

Reduction in Hospital Stay and Healthcare Costs.

8. Economical Benefits: Faster diagnosis and appropriate treatment can lead to shorter hospital stays and lower overall healthcare costs by preventing complications associated with delayed or incorrect treatment.

9. Facilitation of Infection Control: Rapid identification of pathogens and their resistance profiles can help in infection control and epidemiological tracking, aiding in the containment of outbreaks and the implementation of appropriate

Trust the Sepsis-AMR Panel by MedGenome for Critical Sepsis Diagnosis and Treatment

Enhanced Patient Care with CE-IVD Certification

Certified Accuracy and Reliability

Offering a reliable and accurate diagnostic tool that meets the highest standards for patient care.

Direct Testing from Whole Blood

Simplified and Streamlined Diagnostic Process

Performed directly from whole blood, simplifying the diagnostic process and reducing the time from sample collection to results, crucial for critical care settings.

Customized Testing with Open PCR System

Flexibility to Meet Your Diagnostic Needs

Allows for customization of the test, ensuring it can be tailored to meet specific diagnostic requirements and enhance clinical decision-making.

Limit of Detection (LOD):

Detects 500-1000 cfu/mL for whole blood samples.

Targets Covered - 30

Bacteria - 17 | AME Gene - 08 | Fungi - 05

Bacteria:

Gram positive : *Staphylococcus spp, Staphylococcus aureus, Streptococcus spp., Streptococcus pneumoniae, Enterococcus faecium, Enterococcus faecalis, Listeria monocytogenes*

Gram negative: *Neisseria meningitidis, Haemophilus influenzae, Pseudomonas spp., Pseudomonas aeruginosa, Klebsiella pneumoniae, Klebsiella oxytoca, Acinetobacter baumannii, Stenotrophomonas maltophilia, Escherichia coli, Enterobacteriaceae*

AMR Gene:

VanA-Vancomycin resistance, VanB-Vancomycin resistance, OXA-48-Carbapenem resistance, KPC-Carbapenem resistance, NDM-Carbapenem resistance, VIM-Carbapenem resistance, IMP-Carbapenem resistance, mecA/mecC-Methicillin resistance

Fungi:

Candida krusei, Candida glabrata, Candida albicans, Candida parapsilosis, Candida tropicalis

Test Details:

Test Name	Methedology	Sample Type	Temperature	TAT
Sepsis-AMR Panel	Multiplex qualitative RT-PCR based test	Whole Blood (EDTA) – 1ml minimum	2-8°C	1 working day from the date of reciept

MEDGENOME

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