

ePlex® Blood Culture Identification Panels



In a Race Against Time,
Get Rapid ID With the
Most Comprehensive
Sepsis Panels

ePlex
Designed for the Patient,
Optimized for the Lab®

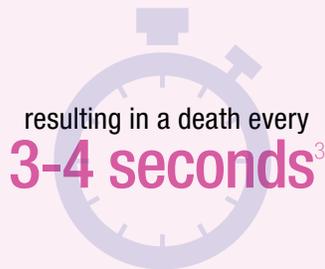
Physicians today are faced with significant challenges in the diagnosis of sepsis. It can **take days** to identify the causative organisms and treatment options for blood stream infections, which can lead to delays in effective antimicrobial therapy, increased hospital costs and higher patient mortality rates.

The High Cost of Sepsis

Every year **sepsis strikes nearly 30 million people** across the globe.¹

Bloodstream Infections (BSI) are the most expensive condition treated in hospitals costing about

\$18,000
per case²



The Emerging Risk of Fungal Pathogens

Fungal pathogens are a growing cause of BSI and are associated with some of the highest rates of **inappropriate initial therapy** and mortality.⁴

Hospital mortality rate of invasive candidiasis is estimated between

46%-75%⁵

Excess costs per episode up to⁵

\$92,000

Rapid Identification is Critical

Traditional methods can **take days** to identify the causative agents of sepsis.

For every hour effective antibiotics are delayed, the sepsis mortality rate increases up to

8%

20%-30%
of patients receive ineffective initial antibiotic therapy⁷



Antimicrobial Resistance: A Serious Global Threat

Up to **50% of antibiotics prescribed in hospitals** are either unnecessary or inappropriate, and taking antibiotics when not needed can put patients at risk for serious adverse events and lead to the development of antibiotic resistance⁸

Antimicrobial-resistant infections currently claim at least

50,000

lives each year across Europe and the US⁹

By **2050**, it is estimated that

10 million

people will **die** annually due to antimicrobial resistant infections⁹



1 Sepsis Fact Sheet, World Sepsis Day; www.world-sepsis-day.org.

2 H-Cup Statistical Brief #204: May 2016

3 Institut Pasteur, Sepsis/Septicemia; <https://www.pasteur.fr/en/medical-center/disease-sheets/sepsis-septicemia>.

4 Morrell, et. al., Antimicrobial Agents and Chemotherapy, Sept. 2005, p. 3640-3645.

5 Pfaller, et. al., Clinical Microbiology Reviews, Jan. 2007, p. 133-163.

6 Kumar, et. al., Crit Care Med 2006 Vol. 34, No. 6. p. 1589-1596.

7 IDSA: Better Tests Better Care, The Promise of Next Generation Diagnostics, January 2015.

8 Antibiotic Resistance Threats in the United States, 2013. U.S. Dept. of Health & Human Services, Centers for Disease Control and Prevention.

9 Review on antimicrobial resistance. Chaired by Jim O'Neill. Dec. 2014.

ePlex® BCID Panels: The only test for rapid, routine BCID, enables physicians to rapidly identify more clinically relevant bloodstream infections and their resistance genes while quickly ruling out blood culture contamination which can result in earlier treatment decisions. Rapid molecular diagnosis of sepsis has been shown to improve patient outcomes, antimicrobial stewardship and reduce hospital costs.

Rapid Identification and Reporting

True sample-to-answer workflow: The ePlex System is so easy to use it can be run on any shift, so critical patient samples never have to wait until morning

ePlex BCID Panels deliver results in

~1.5 hours
from bottle culture

Beating conventional culture-based tests by as much as **2 days**

With automated results reporting via LIS and remote alerts there is

no delay
in patient reporting

The Value of Resistance Genes

Resistance genes **can detect the potential for resistance** even in cases where antibiotics appear active by AST but may not be effective clinically, so even if a gene hasn't been expressed, the resistance genotype won't be missed.¹⁰

Deliver important information to aid in

rapid infection control

speed & reliability

of resistance markers combined with the broad coverage of AST, provide optimal patient care

Timely Treatment Decisions For More Patients

ePlex BCID Panels include the **broadest coverage** of bacterial and fungal organisms and resistance genes available from a sample-to-answer multiplex diagnostics platform

coverage of
>95%¹²
of the organisms causing sepsis, so nearly every patient will get a **rapid** result

Detect more
BSI while quickly ruling out blood culture contaminants

Designed to enable

prompt
treatment decisions

Patient Centered Care

Rapid ID of the causative agents in BSI with multiplex molecular diagnostics has been shown to decrease time to targeted therapy by **~25 hours**¹³ and length of hospital stay by **2.5 days**.¹⁴ Resulting in:

IMPROVED
Patient care
Antimicrobial stewardship
Patient satisfaction
Patient safety

DECREASED
Time to answer
Time to targeted therapy
Hospital length of stay
Total cost of care

¹⁰ Clinical and Laboratory Standards Institute. M100-S23. January 2014. Vol. 33 No. 1.

¹¹ EUCAST, Guidelines for detection of resistance mechanisms and specific resistances of clinical and/or epidemiological importance.

¹² Based on ePlex panel inclusivity compared to the GenMark prospective clinical trial database and an additional clinical data set (Potula, et. al., MLO, 2015), not intended as sensitivity/performance claims.

¹³ Box et al., Pharmacotherapy (2015); 35(3): 269-276).

¹⁴ Timbrook et al., Clin Infect Dis. (2017) 64 (1): 15-23.

Comprehensive Coverage of Pathogens and Resistance Genes

Gram-Positive Targets

Bacillus cereus group
Bacillus subtilis group
Corynebacterium
Cutibacterium acnes
(*Propionibacterium acnes*)
Enterococcus
Enterococcus faecalis
Enterococcus faecium
Lactobacillus
Listeria
Listeria monocytogenes
Micrococcus
Staphylococcus
Staphylococcus aureus
Staphylococcus epidermidis
Staphylococcus lugdunensis
Streptococcus
Streptococcus agalactiae (GBS)
Streptococcus anginosus group
Streptococcus pneumoniae
Streptococcus pyogenes (GAS)

Resistance Genes

mecA *vanA*
mecC *vanB*

Pan Targets

Candida
Gram-Negative

Gram-Negative Targets

Acinetobacter baumannii
Bacteroides fragilis
Citrobacter
Cronobacter sakazakii
Enterobacter (non-cloacae complex)
Enterobacter cloacae complex
Escherichia coli
Fusobacterium nucleatum
Fusobacterium necrophorum
Haemophilus influenzae
Klebsiella oxytoca
Klebsiella pneumoniae group
Morganella morganii
Neisseria meningitidis
Proteus
Proteus mirabilis
Pseudomonas aeruginosa
Salmonella
Serratia
Serratia marcescens
Stenotrophomonas maltophilia

Resistance Genes

CTX-M NDM
IMP OXA (groups 23 and 48)
KPC VIM

Pan Targets

Candida
Gram-Positive

Fungal Targets

Candida albicans
Candida auris
Candida dubliniensis
Candida famata
Candida glabrata
Candida guilliermondii
Candida kefyr
Candida krusei
Candida lusitaniae
Candida parapsilosis
Candida tropicalis
Cryptococcus gattii
Cryptococcus neoformans
Fusarium
Rhodotorula



For more information on the ePlex® System and BCID family of panels, please visit www.genmarkdx.com/BCID



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