

# Laboratory diagnosis of nosocomial infections

by Real-Time PCR



## Nosocomial infections

Hospital-acquired (nosocomial) infections are any diseases of microbial etiology that can affect a patient or hospital staff as a result of his stay in a medical facility. The causative agents of such infections are characterized by a decrease in sensitivity to antiseptics, increased pathogenicity, as well as resistance to one or more antibiotics and environmental conditions.

Nosocomial infections are the most dangerous for patients after major surgical interventions, as well as for newborns and immunocompromised individuals. Nosocomial agents often lead to life-threatening conditions, causing severe pneumonia, urinary tract, blood, skin and soft tissue infections, and sepsis.

One of the most common pathogens of nosocomial infection are microorganisms from the **ESKAPE** group, which make up about 75% of the total number of pathogens.

- E.** *faecium*
- S.** *aureus*
- K.** *pneumoniae*
- A.** *baumannii*
- P.** *aeruginosa*
- E.** *nterobacter* spp.



The success of treatment largely depends on timing of the use of adequate antibiotics.

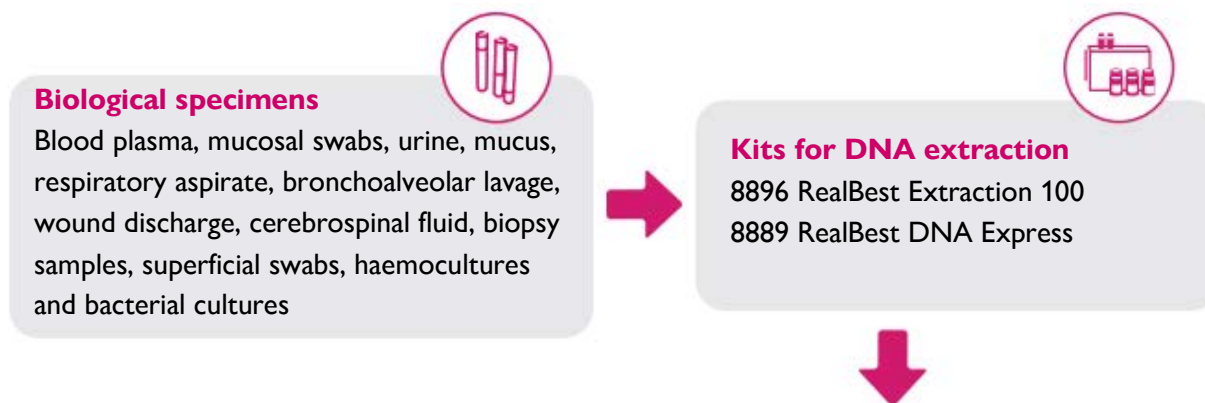
Identification of pathogens using laboratory diagnostic methods makes it possible to select the appropriate antimicrobial therapy and start treatment on time.



## Laboratory diagnosis of nosocomial infections by Real-Time PCR

- Identification of microorganisms with the ability to determine the determinants of resistance within 3-4 hours
- Lack of subjective evaluation of results
- Ability to work with a wide range of biological specimens
- High sensitivity and specificity of analysis
- Safe to use

## RealBest® Technology: solution for PCR diagnostics of nosocomial infections



Cat. №.	Kit name	Number of tests
5601 €€	RealBest DNA <i>Acinetobacter baumannii</i> / <i>Stenotrophomonas maltophilia</i>	96
5605 €€	RealBest DNA <i>Klebsiella pneumoniae</i> / <i>Pseudomonas aeruginosa</i>	96
4222 €€	RealBest DNA <i>Enterococcus faecalis</i> / <i>Enterococcus faecium</i>	96
5603 €€	RealBest DNA <i>Staphylococcus aureus</i> / <i>mecA/lukS-PV</i>	96



**Ready Master Mix for PCR/RT-PCR** – ready to use: simplifies analysis and reduces errors

Universal protocol: conducting all studies in one setting  
 Multiplexes: detection of two or more markers in one tube



### Storage at temperature

(2-8) °C for 18 months  
 Transport at 26 °C max. 10 days



### Compatible devices

DT-96 (DNA-Technology, Russia), CFX96, iQ5 (BioRad Laboratories Inc., USA), or analogues

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