

Greiner Bio-One presents:

Reliable detection of MRSA and toxigenic *C. difficile* in less than 90 minutes with GENSPEED®

MRSA (Methicillin-resistant *Staphylococcus aureus*) is recognized worldwide as the most significant cause of nosocomial infections. *Clostridium difficile* infection (CDI) is the most common healthcare-associated infection causing antibiotic-associated diarrhoea (AAD) potentially leading to pseudomembranous colitis and even death ^[1].

Both infections increase mortality rates and prolong hospitalization. In consequence, with more than 3 billion euros per year, they represent a major burden for healthcare systems across Europe ^[(2), (3)].



It is therefore essential to detect colonization or infection of a patient as soon as possible and, if necessary, to treat that patient separately from other patients.

To achieve this rapid identification of nosocomial infections in general, Greiner Bio-One has developed the **GENSPEED® Test System**, a unique molecular diagnostics system that combines crude lysis of bacteria with multiplex-PCR before the final automated analysis of PCR-products in the new **GENSPEED® R2** device.

For rapid detection of MRSA, the **GENSPEED® MRSA Test** running on the **GENSPEED® Test System** was developed. It is a DNA-based *in-vitro* diagnostic tool for qualitative detection of MRSA within 75 minutes from human nasal and pharyngeal smears, targeting both resistance genes *mecA* and *mecC*.

With the **GENSPEED® C.Diff OneStep**, toxigenic *C. difficile* can be rapidly identified by detecting genes for glutamate dehydrogenase (GDH), toxin A, toxin B and binary toxin in one step in less than 90 minutes. With this one-step procedure **GENSPEED® C.Diff OneStep** clearly outdates the sequential diagnostic procedure (two-step method according to ESCMID-guidelines) that uses at least two different test systems, e.g. a GDH antigen assay followed by a toxin assay.

The **GENSPEED® Test System** in general scores points for speed and high sensitivity at a reasonable price. Analyses of individual samples are possible at any time. Three controls (for DNA amplification, hybridization, as well as a negative control) on the Test Chip offer great reliability. The compact and maintenance free system was designed for optimal ease of use. Pre-filled reagents and the automated **GENSPEED® R2** device reduce the number of process steps to a minimum. **GENSPEED®** is an inexpensive solution that is already available on the market.

Literature:

1. European Centre for Disease Prevention and Control. Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals. Stockholm: ECDC; 2013.
2. R. Köck, K. Becker, B. Cookson, J.E. van Gemert-Pijnen, S. Harbarth, J. Kluytmans, M. Mielke, G. Peters, R.L. Skov, M.J. Struelens, E. Tacconelli, A. Navarro Torné, W. Witte, A.W. Friedrich. Methicillin-resistant Staphylococcus aureus (MRSA): burden of disease and control challenges in Europe. *Euro Surveill.* 2010, 15 (41): 19688.
3. E. Bouza. Consequences of Clostridium difficile infection: understanding the healthcare burden. *Clin Microbiol Infect.* 2012, 18 Suppl 6:5-12.

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Greiner Bio-One International AG

Greiner Bio-One is specialized in the development, production and distribution of high quality laboratory products made from plastic. The company is a technological partner for hospitals, laboratories, universities, research institutes and the diagnostic, pharmaceutical and biotechnology industries. Greiner Bio-One consists of four business units: Preanalytics, BioScience, Diagnostics and OEM. Today the company generates a turnover of 364 Mio. Euro. Greiner Bio-One is a member of the Greiner Group based in Kremsmünster (Austria).

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