

Invitation

to participate in the

2018 NordicAST Bacteroides Study

Background

Current EUCAST recommendations for susceptibility testing of anaerobic bacteria are to carry out MIC determination, without any specific method being recommended. The most commonly used method is agar gradient diffusion using MIC gradient strips. The EUCAST Development Laboratory has now developed a disk diffusion method for rapidly-growing anaerobic bacteria that is proposed as a new standard for anaerobic AST. As of now, the method has been validated for use with *Bacteroides*, the anaerobic genus most commonly causing invasive infections, and where antimicrobial resistance is found the most often.

A certain proportion of *Bacteroides fragilis* carries a carbapenemase gene, *cfiA*. The degree of expression of this gene, and therefore the phenotypic susceptibility to carbapenems of *B. fragilis* strains carrying it, varies. Tests for carbapenemase production are potentially useful as a supplementary test for AST of *Bacteroides*; therefore, we wish to evaluate two such tests as part of the study.

Objectives

The main objective is to carry out a Nordic multi-centre evaluation of the new disk diffusion method for *Bacteroides*. We will also specifically examine how carbapenemase production influences the robustness of AST methods (both the new disk diffusion method and labs' current routine method). Further, we will evaluate two simple phenotypic tests for carbapenemase activity that have shown promising results in the *Enterobacteriaceae*.

Protocol

A panel of 30 *Bacteroides* isolates with diverse susceptibility profiles has been assembled and undergone a reference analysis, consisting of reference MIC determination by agar dilution, quantification of *cfiA* gene expression and determination of carbapenemase activity. Participating laboratories will:

- Perform AST using the new disk diffusion method, reporting zone diameter;
- *(Optional)* Perform AST using the laboratory's current routine method;
- Test a subset of the isolates for carbapenemase activity, using two methods: the meropenem/EDTA combined gradient strip, and the β -CARBA test.

Participants do not need to test all isolates at once; testing may be broken down into smaller batches of a size that the laboratory finds manageable.

A Technical Manual/Reading Manual outlining the procedures in detail will be provided.

The participating laboratories will report results using a simple web-based interface. After results have been processed, the participating laboratories will receive a report and will be able to compare their results with the reference examination results and those of other laboratories.

NordicAST will supply agar plates and carbapenemase tests to the participating laboratories. The costs for purchase of the necessary AST disks will be covered, or disks may be supplied to the participants from NordicAST. Please note that the disk strengths used may differ from those commonly in use for other species, in particular for clindamycin and metronidazole.

Why participate?

- You will help evaluate the proposed new disk diffusion method and gather data that will lead to new and better recommendations for anaerobic AST
- Your laboratory will receive a head start with the implementation of the new disk diffusion method
- You will be able to benchmark your current routine method for anaerobic AST
- All local study contact persons will be acknowledged by name as members of the Nordic Bacteroides AST Study Group when the study results are published

Questions and participation

For further information and the study timeline, see the enclosed study protocol. If you have any enquiries, please contact Tore Taksdal Stubhaug at torstu@siv.no.

We hope that your laboratory is willing to participate in this multicentre study as outlined in the study protocol. If so, please fill in the enclosed participation form and send it by e-mail to torstu@siv.no. We will contact you for further practical information.

Registration deadline: June 20th, 2018