

# Invitation

## The 2018 NordicAST Bacteroides AST Study

Presentation at NordicAST Workshop 2018

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# Background

As you just heard from the previous speaker...

A new disk diffusion method for rapidly-growing anaerobes has been developed by the EUCAST Development Laboratory.

This is proposed as the new standard method for AST of anaerobes

# Current state of affairs

- Mentimeter

# Current state of affairs

- Most laboratories today use gradient tests for AST of anaerobes
- No standard EUCAST protocol. Testing is to be performed pursuant to the manufacturer's instructions; however, local variations exist
- Piperacillin/tazobactam gradient tests in particular are unreliable for gram-negative aerobes. No reason to believe they are better with anaerobes

# Carbapenem resistance

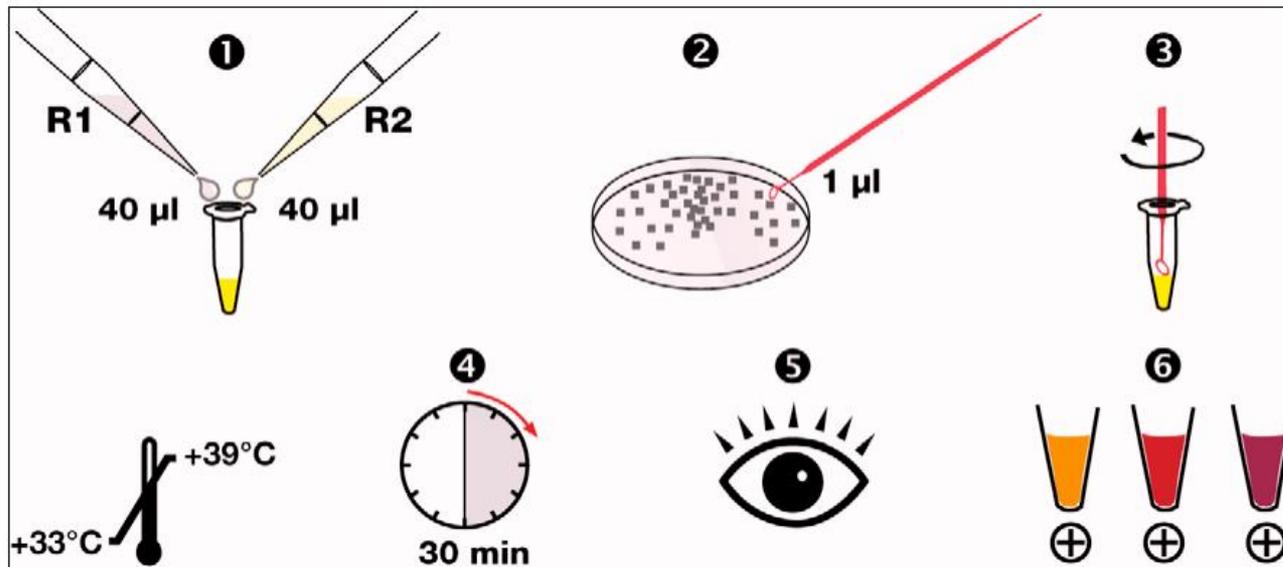
- Mentimeter

# Carbapenem resistance

- A subset (approx. 10 %) of *B. fragilis* possess a chromosomal carbapenemase gene (*cfiA*) with variable expression
- In vivo induction of carbapenem resistance has been described in *cfiA*-positive strains (1)
- Preliminary data suggest that gradient tests may be particularly unreliable in *cfiA*-positive strains
- What about disk diffusion?

# Carbapenem resistance

- Phenotypic detection of carbapenemase production may be a valuable supplement to AST in *Bacteroides*
- $\beta$ -CARBA: Simple, acidimetric method. Reliable in CPE. Promising in anaerobes but no published evaluations



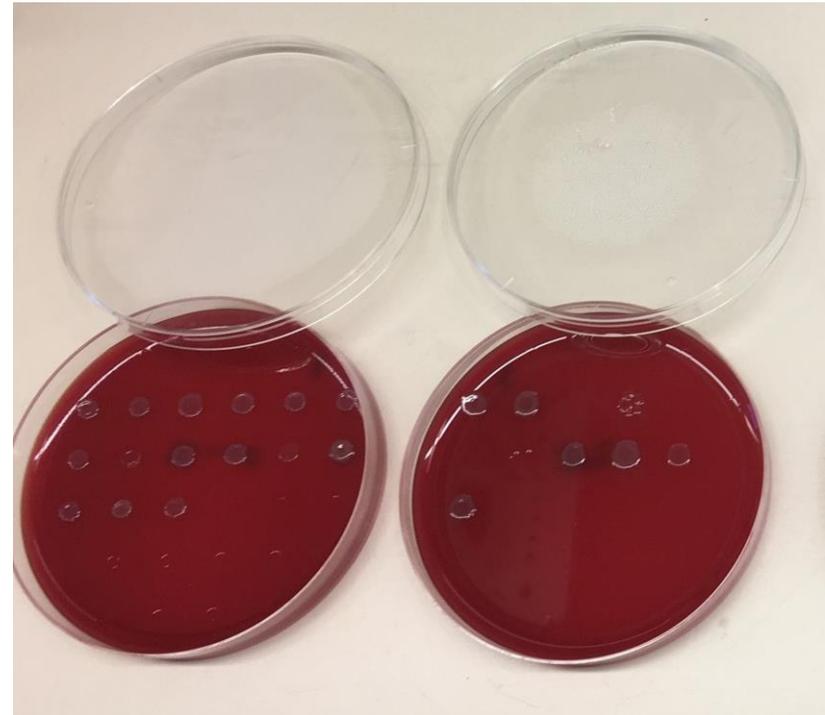
# Objectives

- Carry out a multi-centre evaluation of the new disk diffusion method for rapidly-growing anaerobes
- Evaluate the performance of tests for carbapenemase production in *Bacteroides*
- Examine the robustness of phenotypic AST methods when used on carbapenemase-producing *Bacteroides*

# NordicAST Bacteroides AST Study

## Protocol

- 30 isolates of *Bacteroides* spp.
- Reference examination:
  - Reference MIC by agar dilution
  - Carbapenemase assay
  - *cfiA* expression analysis (for *cfiA*+ *B. fragilis*)
- Based on the reference analysis, a panel of isolates with diverse susceptibility profiles has been assembled



## NordicAST Bacteroides AST Study

# Protocol

- Test the isolates using the new disk diffusion method, reporting the zone diameter
- *Optional:* Also test the isolates using the lab's current routine method

## Protocol

- Test a subset of the isolates for carbapenemase activity, using two tests
- Meropenem/EDTA gradient strip
- $\beta$ -CARBA test

## NordicAST Bacteroides AST Study

# Protocol

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

# Materials

- All materials needed for the mandatory parts of the protocol (FAA agar plates, disks, meropenem/EDTA strips,  $\beta$ -CARBA tests) are provided by NordicAST

## NordicAST Bacteroides AST Study

### Timeline (tentative)

- June 20th: Registration deadline
- September: Specimens sent out
- November 1st: Results submission deadline

# Benefits for participants

- A head start with the future recommended method for anaerobic AST
- An opportunity to benchmark one's current anaerobic AST method
- Acknowledgement by name as partners in the NordicAST Bacteroides AST Study Group
- ... and an exciting venture into the world of anaerobes

# Testimonials

Akademiska Laboratoriet, Akademiska Sjukhuset, Uppsala carried out a pilot test of the protocol.

«Vi har hatt jättekul og lært oss massor!»

## Project group

- Tore Taksdal Stubhaug & Dagfinn Skaare, Vestfold Hospital Trust
- Arnfinn Sundsfjord, Ørjan Samuelsen, Ellen Josefsen, Norwegian National Advisory Unit on Detection of AMR (K-res)
- Erika Matuchek, EDL
- Ulrik S. Justesen, Odense University Hospital
- Christian G . Giske, Karolinska University Hospital

## NordicAST Bacteroides AST Study

Interested in participating?

Answer the questionnaire at

<http://bacteroides.org/2018study/>

and we will contact you

More information will also be posted on

[www.nordicast.org](http://www.nordicast.org)