

# My Experience using the dRAST

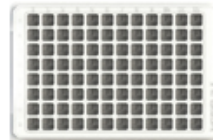
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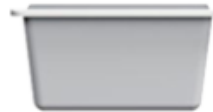


- The consumables that are provided within the kits for the dRAST.
- The only additional equipment required are tubes in which to add the blood and a collection device to add the blood to the tube.



QMAC-dRAST Panel

96-well plate with panel of dried-down antibiotics at various concentrations



QMAC-dRAST Agarose

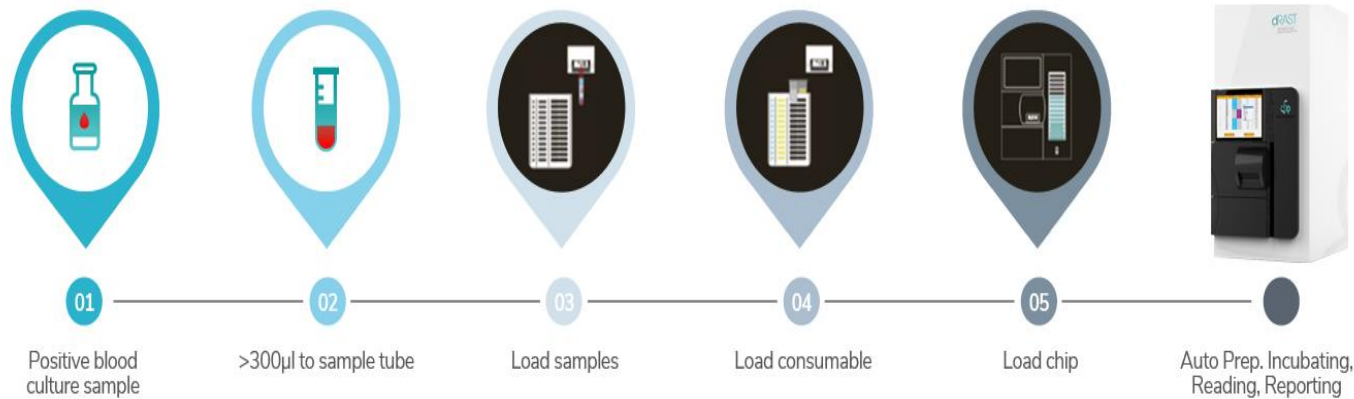
Gel used for bacterial immobilization



QMAC-dRAST Broth

Pipette tips and broth dispensed to enable bacterial growth

# The Workflow



- During the trial we were able to integrate this into our current workflow; as we created the plates, Gram slides and the Sepsityper and dRAST tubes all at the same time.

# System

- The system was very user friendly and allowed for movement between screens easily.
- Simple initial screen with few options.
- Software steps through all the steps linked with loading the samples



# Results

- Results screen – allows for bacterial ID to be entered manually or via LIS. Connection to the LIS is bi-directional.
- Easy to enter bacterial ID

The screenshot displays the QMAC-dRAST interface. On the left, a table lists 12 samples with their IDs and bacterial species. On the right, a detailed report for sample QM 01 is shown, including identification and susceptibility information.

No.	Sample code	Bacteria ID
1	QM 01	<i>S. haemolyticus</i>
2	QM 02	<i>Staphylococcus</i>
3	QM 03	<i>Staphylococcus</i>
4	QM 04	<i>S. aureus</i>
5	QM 05	<i>S. aureus</i>
6	QM 06	<i>S. aureus</i>
7	QM 07	<i>E. faecalis</i>
8	QM 08	<i>E. faecalis</i>
9	QM 09	<i>E. coli</i>
10	QM 10	<i>E. coli</i>
11	QM 11	<i>E. coli</i>
12	QM 12	<i>P. aeruginosa</i>

dRAST Report					
Sample ID: QM 01			Analysis date: 20190131		
<b>Identification information</b>					
Organism: <i>S. haemolyticus</i>					
<b>Susceptibility information</b>					
Antibiotic	MIC	Interpretation	Antibiotic	MIC	Interpretation
Cephalosporin	24	R	Chloramphenicol	24	R
Erythromycin	24	R	Clotrimazole	218	R
Linezolid	24	R	Fluconazole	218	R
Clindamycin	24	R	Penicillin	218	R
Rifampin	1	S	Tetracycline	11	S
Trimethoprim/ Sulphonamides	12/24	S	Vancomycin	12	S

# Experience from the trial

- Ease of use – We changed the collection device to allow for quicker collection of blood from the bottle.
- A wider range of antibiotics available than what is currently utilised within our laboratory.
- We did not have the Sepsityper implemented at this time and this delayed some results due to slow growing organisms.



# Experience from the trial

- Comparing dRAST to disk diffusion showed a number of discrepancies.
- When compared with MIC values the number of discrepancies reduced dramatically.
- A number of organisms weren't in the database when the trial was performed (2020).
- Ability to look at the photos taken by the dRAST.
- Only small window where samples couldn't be loaded onto dRAST.



# Experience from the trial

- Picked up potential flaws with our current direct disk diffusion method – we have changed since.
- Benefits – Patient to be treated quicker with the correct antibiotics. Antibiotic results same day depending upon method used. We used a direct disk diffusion method.
- If waiting for growth before carrying out sensitivity testing potential to be up to 48 hours quicker.





# Experience from the trial

- Benefits – Both EUCAST and CLSI are supported using the same panel.
- Drawback – only one is that when the trial was performed there was no opportunity to customise the panel set up.
- Further work required – The potential for further organisms to be added and more fastidious organisms e.g. *S. pneumoniae* and *H. influenzae*.



# Experience from the trial

- Muroid Coliforms as with any sensitivity testing do not provide the most consistent results.



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