Pathogen Detection in AUSTERE Environments

No Lab, No Refrigeration

Direct from Sample
(urine, wound/nasal swab, blood)
TRL 4,5,6

Disposable cartridge

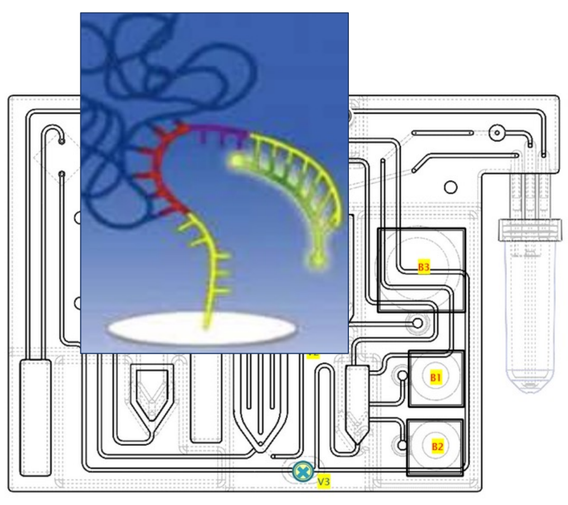
Appearance Model of Fieldable Instrument

Pathogens Currently in Test

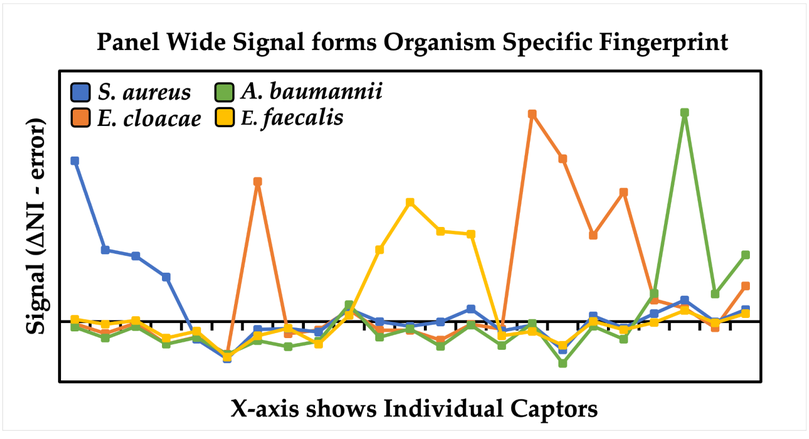
- *Y. pestis*
- *R. typhi*
- *F. tularensis*
- *Burkholderia* spp.
- Dengue
- Influenza A
- Chikungunya
- Lassa Fever
- CCHF
- *Enterobacter* spp.
- *S. aureus*
- *Klebsiella* spp.
- *A. baumannii*
- *P. aeruginosa*
- *Enterococcus* spp.
- *E. coli*
- *Proteus* spp.
- *S. saprophyticus*
- *S. lugdunensis*
- *S. agalactiae*

Antibiotics in Test

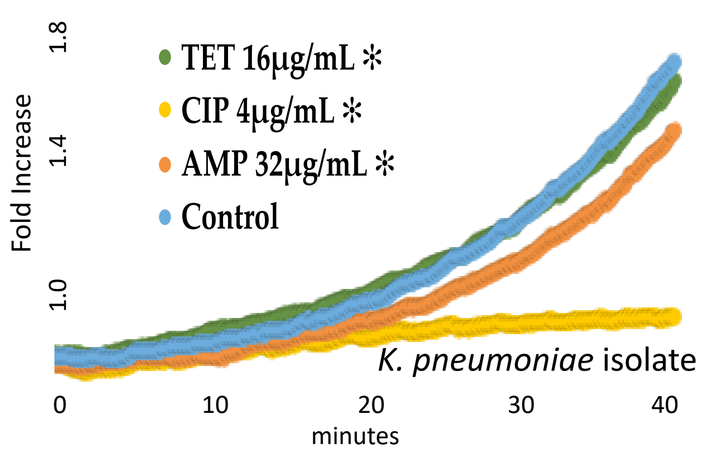
- Gentamycin
- Meropenem
- Ampicillin
- Tetracycline
- Amoxy./Clav.
- Cefazolin
- Cefoxitin
- Trimeth./Sulfameth.
- Levofloxacin
- Ciprofloxacin
- Nitrofurantoin
- Fosfomycin



Core ID Tech on a disposable cartridge that concentrates and fragments the 'direct from sample' pathogenic RNA for direct hybridization to stem loop probes, which are light-activated upon target capture.



Pathogen ID uses probes across the entire microarray that generate specific 'fingerprints' indicating one or more pathogens are present. The approach is highly specific.



Antibiotic Susceptibility Testing provides a phenotypic answer in 30-90 minutes. In this case, the *K. pneumoniae* pathogen is only susceptible to CIP (ciprofloxacin).

Acknowledgements

Joint Science & Technology
Office for Chemical & Biological Defense
Defense Threat Reduction Agency

Contracts HDTRA1-16C-0061, HDTRA1-18C-0031 & HDTRA1-21C-0008
Development of a portable rapid diagnostic for far forward operations.

United States Army

Contract W91CRB-18C-0060
Mentor Protégé Agreement to accelerate impactful products for the warfighter.
Also, recent award through MTEC for identifying invasive fungal infections in wounds.

United States Air Force
AFWERX

Contracts FA8649-19P-A256 & FA8649-209-9073
Design of hardened instrument for remote operations, including user feedback.

Defense Health Agency
USAMRAA

Contracts W81XWH-20P-0150 & W81XWH-21-C-0101
Development of assays for rapid point of care wound bacteria identification and multipathogen antibiotic susceptibility testing straight from sample.

MHSRS
September 2022

GeneCapture

psammon@genecapture.com
www.genecapture.com