MagnaBioSciences - MICT (Magnetic Immuno-Chromatgraphic Test) System

GENERAL DESCRIPTION:

The MICT system uses a novel detection platform for rapid in-vitro diagnostics by using para magnetic labels to detect a wide range of analytes in a lateral flow format.

TECHNICAL DESCRIPTION:

The MICT instrument, both bench top and handheld use a disposable cassette to detect analytes by measuring paramagnetic labels that have antibodies attached to them in order to uniquely recognize analytes in a fluid sample. The sample can be blood, plasma, serum, urine, saliva, sewage or a buffer extracted surface swab. The sample is added to a disposable cassette that is inserted into the instrument after development. The labeled analytical capture region within the cassette is measured in a strong magnetic field where the paramagnetic label is magnetized by induction of a 100 kHz, ~1 Tesla AC field. The detector array measures the amount of magnetized material which is proportional to the amount of analyte. The instrument reads a 2D barcode on the cassette that identifies the type of assay, the date of manufacture, the calibration curve for each individual analyte and cassette, eliminating any calibration of the instrument by the user. The cassettes have a shelf life of at least 18 months.

CONTACT INFORMATION

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COST

- $5,000/system
- $5/analysis

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

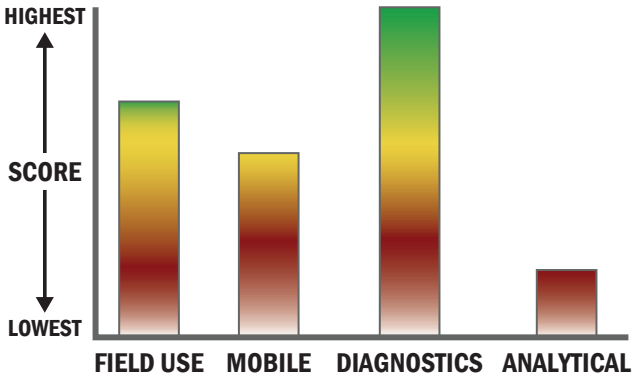
RANKINGS	Biological	Chemical	Radiological
FIELD USE System	●	N/A	N/A
MOBILE Laboratory	●	N/A	N/A
DIAGNOSTIC Laboratory	●	N/A	N/A
ANALYTICAL Laboratory	●	N/A	N/A

Survey Source

Vendor Supplied Information

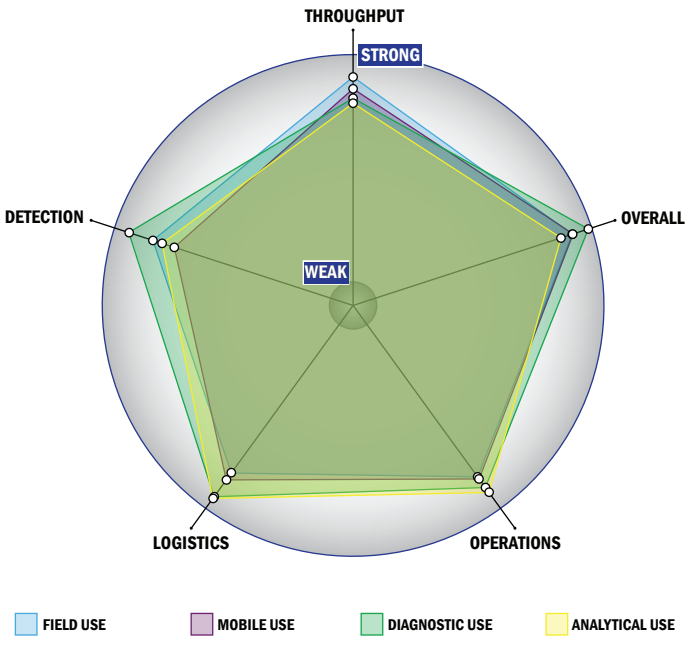
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



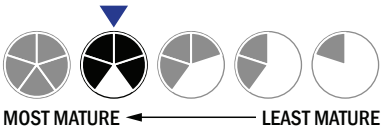
Evaluation Criteria

Throughput:

- Between 2 and 15 minutes for detection
- Continuous operation with no defined runs
- 349-96 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- Less than 5 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a toaster
- Between 1 and 5 kg
- Wireless and wired connections are available
- System or device has 110V electrical requirement
- 4-8 hours battery life



Operations:

- Can be used from 4 °C to 41 °C
- Components must be stored at room temperature (27 °C)
- Device or system has peak performance at normal relative humidity conditions
- Between 1 to 3 years shelf life
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system software is open but modification requires licensing
- The system hardware is open but modification requires licensing

Detection:

- System currently has 510k clearance
- System currently has FDA approval
- Less than 100 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- 1-100 CFU per mL
- 100-1,000 PFU per mL
- Less than 1 ng per mL
- System does not detect spores