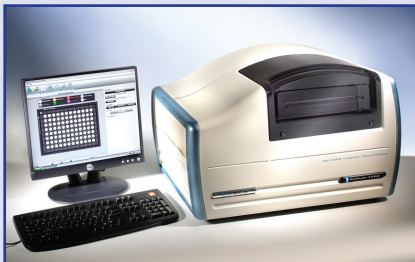


Applied BioCode, Inc. - Biocode-1000



GENERAL DESCRIPTION:

Applied BioCode, Inc. (ABC) has combined digital barcodes with immuno and molecular chemistry to create a new, patented Barcoded Magnetic Bead (BMB) technology. The BMBs' barcode patterns give a high-contrast transmitted signal and no fluorescence background, allowing the barcode to be identified easily and accurately, with near 100% decoding accuracy. Barcoded Magnetic Beads, are functionalized with nucleic acids, proteins or other probe molecules, offer the highest multiplex capacities available (up to 128 targets or tests) in one sample in homogeneous media. Optically bar-coded polymer beads are mass produced at low cost by well established semiconductor processes. Biocode-1000 analyzer offers 128 tests per microwell in less than one minute. BMBs have 128 digital codes. Analyzer is a BMB imaging system for a 96-well microplate format. System reads and displays the barcode and fluorescence intensity for each BMB once they settle to the bottom of the well. The Analyzer has an XY translational stage and a 12-bit CCD camera. Typically uses PE (phycoerythrin), but other fluorophores can be used by switching the optical filter sets. Sources: LED for bright field decoding and Lamp for fluorescence detection. Sensitivity: 0.5 fmole of DNA, 1.0 pg/mL protein. Dynamic range: 3-4 orders of magnitude. Beads are 70 x25 x 6 µm. File export to Excel, CSV, and other formats.



TECHNICAL DESCRIPTION:

Barcoded Magnetic Beads (BMB): From 1 to 128 tests per microwell in 40 seconds! The BMB have 128 digital codes, and a diverse range of bioassay applications can be explored using BMB with the BioCode-1000A Analyzer. BioCode-1000A Analyzer: The BioCode-1000A Analyzer is a rapid BMB imaging system with auto loader for optional robotic loading for a 96-well microplate format. The system rapidly displays the barcode and fluorescence intensity for each BMB. BioCode-1000A Software: The BioCode-1000A software is a powerful, but easy to use control program and user interface for operating the BioCode-1000A Analyzer.

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

CONTACT INFORMATION

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 Santa Springs, CA 90670
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 who@apbiocode.com

COST

- \$45,000/system
- \$0.50-\$1.00/analysis

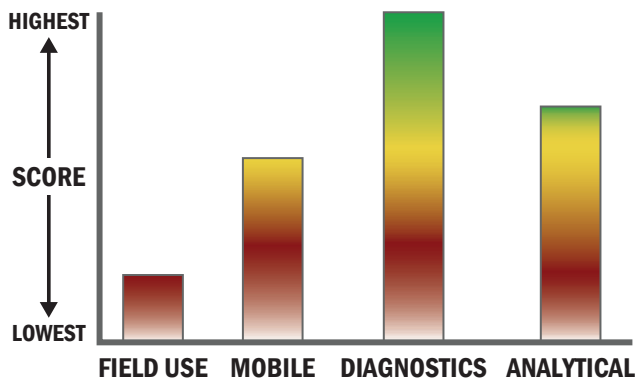
Survey Source

Vendor Supplied Information



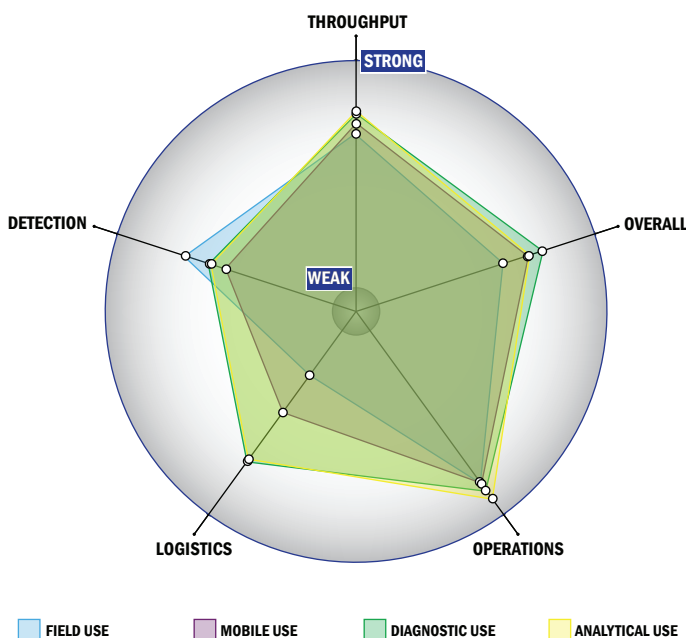
Scoring Analysis

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.



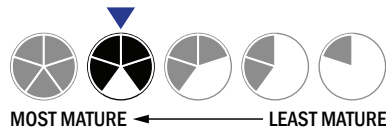
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Multiple samples, multiple tests/sample per run
- 349-96 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 3 solutions, buffer, eluents, and/or reagents
- 2 components
- Less than 5 minutes is required for set-up
- 3-5 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Between 25 and 50 kg
- System or device has 110V electrical requirement



Operations:

- Can be used from 4 °C to 41 °C
- Components must be stored at room temperature (27 °C)
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with significant effort
- The system software is open and available for modification
- The system hardware is open and available for modification

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 250 µL
- Good specificity. System has a consistently low level of false alarms (2-5%)
- 1-100 CFU per mL
- 1-100 PFU per mL
- Less than 1 ng per mL
- System does not detect spores