Luminex Corporation - Luminex 100/200 System

GENERAL DESCRIPTION:

The Luminex 100/200 System is designed to meet the multiplexing needs of clinical and research laboratory professionals. The System is a versatile multiplexing platform capable of performing qualitative and quantitative analysis of proteins and nucleic acids in a variety of sample matrices. The Luminex 100/200 is a flexible analyzer based on the principles of flow cytometry. The System enables you to multiplex (simultaneously measure) up to 100 analytes in a single microplate well, using very small sample volumes. The System delivers fast and cost-effective bioassay results on many assay formats including nucleic acid assays, receptor-ligand assays, immunoassays and enzymatic assays. The Luminex 100/200 System is the combination of three core xMAP technologies. The first is xMAP microspheres, a family of 100 fluorescently dyed 5.6 micron-sized polystyrene microspheres that act as both the identifier and the solid surface to build the assay. Suspended microspheres give consistent, reproducible results and allow for easy quality control. The second is the flow cytometry-based Luminex 100/200 analyzer, which integrates key xMAP detection components such as lasers, optics, fluidics and high-speed digital signal processors. The third component is the xPONENT software, which is designed for protocol-based data acquisition with robust data regression analysis. The total system includes the Luminex 100/200 instrument, the Luminex XY plate handling platform, and the Luminex SD sheath fluid delivery system, software, and PC. A professional Training Session for one person is included.

TECHNICAL DESCRIPTION:

The system includes the Luminex 100/200 instrument, the XY plate handling platform, and the SD sheath fluid delivery system, software and PC. The System comprises three core xMAP technologies:

- The xMAP microspheres, a family of 100 fluorescently dyed 5.6 micron-sized polystyrene microspheres that act as both the identifier and the solid surface to build the assay.
- The flow cytometry-based Luminex 100/200 analyzer, which integrates key xMAP detection components such as lasers, optics, fluidics and high-speed digital signal processors.
- The xPONENT® software, which is designed for protocol-based data acquisition with robust data regression 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

CONTACT INFORMATION

Luminex Corporation
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Austin, TX 78727
POC: Amy Altman, Ph.D. VP, Biodefense

COST

- $75,000/system
- N/A/analysis

Notes

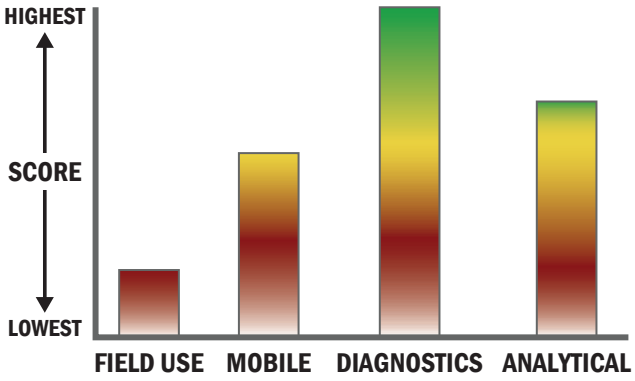
One of several systems that employ bead based xMAP technology.

Survey Source

Vendor Supplied Information

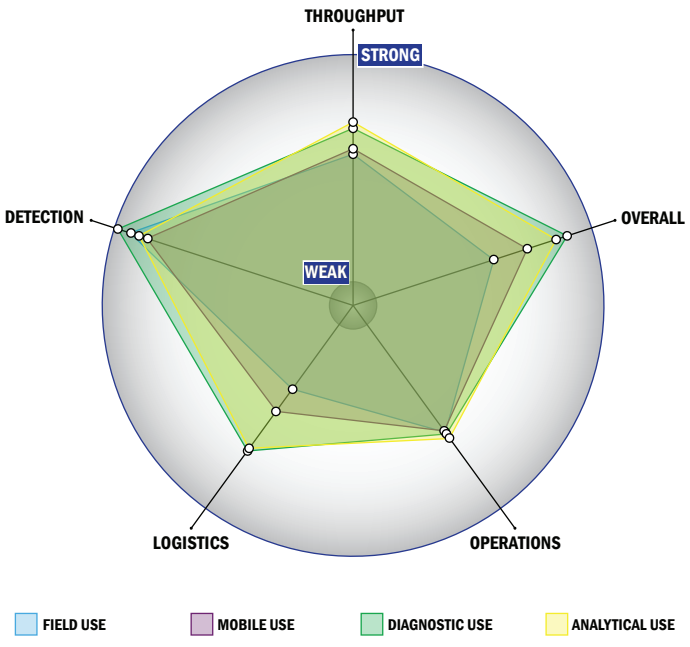
Scoring Analysis

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.



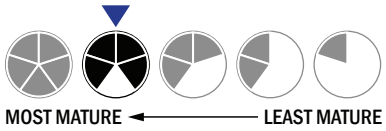
Evaluation Criteria

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
- 4 solutions, buffer, eluents, and/or reagents
- 1 component
- Greater than 20 minutes is required for set-up
- 3-5 steps are required for detection

Logistics:

- An afternoon of training and some technical skills required
- Approximately the size of a carry-on luggage suitcase
- Between 25 and 50 kg
- Wired connections are available
- System or device has 110V electrical requirement



Operations:

- Can be used from 4 °C to 37 °C
- Components must be stored at 4 °C
- Device or system has peak performance at normal relative humidity conditions
- Between 1 to 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system could easily be adapted into a fully autonomous system
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- System currently has 510k clearance
- System currently has FDA approval
- Less than 50 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- 1-100 CFU per mL
- 1-100 PFU per mL
- Less than 1 ng per mL
- Manual kit not integrated with the system handles spore lysis