BioPlex® 2200 System

Like no other. The first and only fully-automated, random access, multiplex testing platform
Forget limitations.

Leveraging the power of multiplex testing, the BioPlex® 2200 System brings limitless workflow improvement to your laboratory. You've heard about the promise and future potential of multiplex technology...now Bio-Rad has made that promise a reality.
Disease Focused Multiplex Panel Menu

Currently, multiplex panels are available or in development for the following disease-state areas:

- Autoimmune
- Serology/Infectious Diseases
- Specialty Immunoassay

Leveraging the Power of Fully-Automated, Random Access, Multiplex Testing

- Utilizes the concept of Lean Management for a more streamlined workflow, improved turn-around times and decreased labor costs in your laboratory
- Reduction of errors through automation and direct connection to your LIS
- Ability to program 3rd party, Non BioPlex® 2200 controls that uses the same data management module as BioPlex® 2200 Quality Controls
- Multiplex Technology allows for electronic add-on, from the same panel, of tests that were not part of the initial request, thus eliminating the need to place the sample back on the system
- Remote connectivity for better service, including the monitoring of instrument logs so Bio-Rad can proactively support your system

Patented Multiplex Detection Magnetic Bead Technology

BioPlex®2200 immunoassays use heterogeneous sets of magnetic 8 µm beads. The beads are infused with varying ratios of fluorescent dyes, creating unique bead sets. Beads within each set are coated with a ligand (i.e., antigen, antibody, analyte, etc.) specific to a particular assay. Bead sets are then mixed together in a single reagent pack allowing for simultaneous detection of multiple analytes from a single sample.

Example: ANA Screen Kit

The ANA Screen Reagent Pack uses 16 microspheres: 13 assay beads and 3 quality control checks

Each microsphere is dyed with a unique combination of 2 colors

Up to 25 color-coded microspheres (bead regions), can be bound with a unique antigen

Example: ANA Screen Kit

1 dsDNA
2 Chromatin
3 Ribosomal P
4 SS-A (52 kD)*
5 SS-A (60 kD)*
6 SS-B
7 Sm
8 Sm/RNP
9 RNP (A)*
10 RNP (68)*
11 Scl-70
12 Jo-1
13 Centromere B

* Individual SS-A and RNP results not available in the U.S. Reported as SS-A and RNP for a total of 11 individual results.
Detection Method

The dual-laser, multiplex flow detection method processes a minimum of 150 individual bead results for each analyte, representing more than 150 assay readings. This enhances the overall quality of each result, when compared to standard immunoassays which rely on a single reading.

Detection 1
A sample of the final reaction mixture is aspirated to the detector.

Detection 2
Bead mixture passes through the detector where one laser identifies the bead analyte and another measures the analyte concentration.

Detection 3
The system detector performs a minimum of 150 measurements per analyte at the rate of 100,000 measurements per minute.

Quality Assurance with IQ Bead™ Technology

Every sample processed on the BioPlex® 2200 System will have up to three remarkable internal quality control beads added to dramatically improve the quality and accuracy of assay results:

- **Serum Verification Bead (SVB)**
  - Confirms the presence of serum/plasma
- **Internal Standard Bead (ISB)**
  - Appears in every tube to standardize detector performance
- **Reagent Blank Bead (RBB)**
  - Identifies sample problems arising from non-specific binding

* Panel dependent
The BioPlex®2200 System combines the diagnostic power of proprietary multiplex chemistry, a state-of-the-art software package, and the benefits of full automation and random access capability...all brought together to bring a new level of flexibility and operational benefits to your laboratory.

**System Benefits**

**Fully Automated/Random Access**
- Improved workflow efficiency
- Decreased hands-on time
- Improved turnaround time for test results
- Increased testing capacity
- Fewer errors from specimen and reagent handling

**State-of-the-Art eFlex™ Software**
- Intuitive touchscreen user interface
- LIS Connectivity using Host Query or Broadcast Download
- Maintenance calendar to track daily, weekly, monthly and as needed tasks
- Expansive QC module for customizing QC rules, tracking BioPlex® 2200 System as well as 3rd party controls and evaluating new QC lots with a calculation of the mean and SD prior to implementation
- Run Checklist to verify there are enough reagent packs on-board to complete the programmed run
- Export of QC results directly to Bio-Rad’s Unity Real Time® program

**Innovative Multiplex Chemistry**
- Quality assurance with integrated QC technologies in every test
- Proprietary magnetic bead chemistry for superior performance
- Liquid, ready-to-use reagents, calibrators and controls
## BioPlex®2200 System

### System Specifications

#### Physical Dimensions
- **Height**: 4’-5” (1.3 m)
- **Width**: 4’-3” (1.3 m)
- **Depth**: 2’-10” (0.9 m)
- **Weight Approximately**: 1032 lbs. (468 kg)

#### Performance Characteristics
- **Maximum Throughput**: 22 results per sample at 100 samples per hour, yielding up to 2200 results per hour
- **Time to First Result**: 20-45 minutes (depending on panel)
- **Sample Tubes**: Any CLSI primary sample tubes
- **Sample Tray**: 10 racks, 5 samples each
- **Sample Volume**: 5-50 µL (depending on panel)
- **STAT Capability**: Continuous access
- **Walk-away Capacity**: 8 hours of continuous use
- **Operational Mode**: Random and continuous access, priority (STAT) loading
- **Operator Interfaces**: Touchscreen monitor, keyboard, trackball mouse
- **Aspiration Capability**: Robotic precision with clot detection
- **Quality Control**: Levey-Jennings, Westgard Rules
- **Sample Bar Code Acceptable Symbologies**: Code 128, Codabar, Code 39, Interleaved 2 of 5

#### Sample Types Serum or Plasma
- For more information, refer to BioPlex®2200 assay insert

#### Sample Dilutions
- 1:4, 1:10, and 1:100 (depending on panel)

#### Access During Use
- Continuous sample input/output, consumables replenishment, and waste disposal without interruption of sample processing

#### LIS Connectivity
- Bi-directional: ASTM Standard Laboratory Automation Solution (LAS) Adaptable Class 2 Laser Product

### Ordering Information

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<thead>
<tr>
<th>Catalog No.</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>660-0000</td>
<td>BioPlex®2200 System</td>
<td>1 instrument</td>
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<tr>
<td>660-0800</td>
<td>Sample Racks (30 per box)</td>
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<tr>
<td>660-0801</td>
<td>Sample Tray</td>
<td>1 tray</td>
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<tr>
<td>660-0817</td>
<td>Instrument Sheath Fluid (2 per box)</td>
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<tr>
<td>660-0818</td>
<td>Instrument Wash Buffer</td>
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<td>660-2003</td>
<td>Reaction Vessels (1000 per bag)</td>
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<td>666-0001</td>
<td>Instrument Detector Calibration Pack</td>
<td>1 pack</td>
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<td>666-0002</td>
<td>Instrument Detector Clean Pack</td>
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<td>666-0003</td>
<td>Instrument Probe Cleaning Solution Bottles (4 per box)</td>
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<td>666-0515</td>
<td>Sample/Reagent Probe</td>
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<tr>
<td>666-0578</td>
<td>1N NaOH</td>
<td>1 liter</td>
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</table>

### Power Requirements
- **Input Voltage**: 100-240 VAC at 50-60 Hz, 1000 Watt
- **UPS**: Provided

### Water Requirements
- **Water Quality**: CLSI Type II or better
- **Direct Plumbing**: Maximum pressure of 50 kPa

### Installation Requirements

#### Crate Clearance Requirements
- **Rear**: 6’ (2.0 m)
- **Left**: 3’ (1.0 m)
- **Right**: 6’ (2.0 m)
- **Front**: 3’ (1.0 m)

#### Instrument Operational Clearance
- **Vertical**: 6’ (1.8 m)

* Typical Throughput