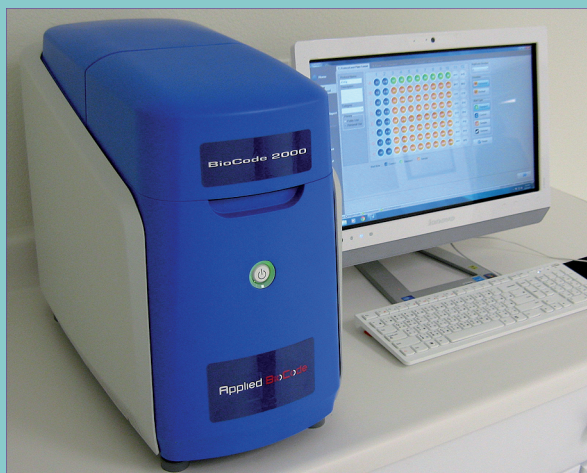


Your Multiplex Solution Provider



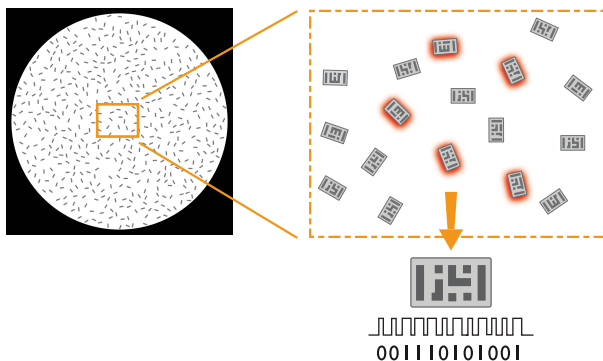
**Build Your
Future
in
Multiplex
Bioassays
with
BioCodes
for
Better Health**

Proven technology used by industry leaders...

Reduce development time & cost . . .

Barcoded Magnetic Beads

Barcoded Magnetic Beads (BMBs) combine well-established semi-conductor manufacturing processes with proven molecular and immunochemistry methodologies into a new breakthrough digital technology. The platform is capable of detecting multiple analytes or biomarkers in one test, thereby significantly increasing the throughput of detection by conventional assays. The BMBs are fabricated by encasing paramagnetic material with biocompatible polymer. This results in a highly stable surface chemistry while paramagnetic material exhibits magnetic properties for ease of washing, separation and recovery. The BMBs barcode patterns are designed to give a high-contrast signal, enabling very accurate identification with minimal background noise. The beads are functionalized for coupling with nucleic acids, proteins or other probe molecules, allowing high density multiplex assays to be carried out in homogeneous or heterogeneous media.



One of the image frames on the bottom of a 96-well microwell following target reaction, a mixture of BMBs can be simultaneously decoded and fluorescence (e.g. red) detected with proven optical technology. Decoding is based on the high contrast transmission bandwidth.

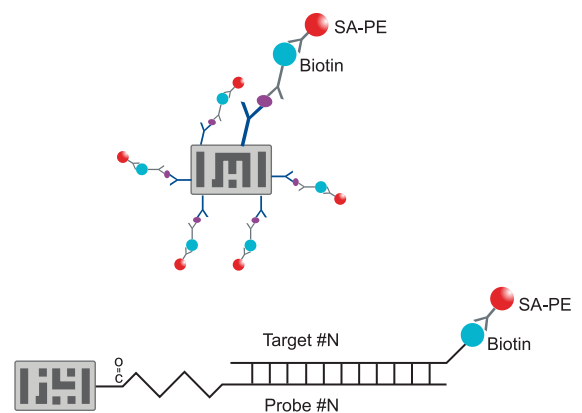
BMBs for Nucleic Acid & Protein Assays

Digitally barcoded magnetic beads are highly stable and demonstrate low non-specific binding characteristics in biological assays. Applied BioCode, Inc. currently offers three different functionalized beads:

Carboxyl beads - enable covalent attachment of nucleic acids and other ligands on the bead surface in high density. Carboxyl beads permit probes and specific primers to bind covalently to the bead surface via amino-modified 5' termini.

P-Carboxyl beads - enable covalent attachment of proteins, peptides, and other ligands with the characteristics of high stability and low non-specific binding. P-Carboxyl beads enable proteins to bind to the bead surface covalently via amino groups.

Streptavidin beads - are designed for high affinity binding to biotinylated molecules. This simple and flexible immobilization chemistry enables rapid assay development for a variety of applications.



With a partner you can count on

Multiplex Biomarker Assay Development Tools

Creating your own multiplex biomarker assays for protein- or nucleic acid-based detection is easy with new assay development tools from Applied BioCode.

The nucleic acid coupling kit contains all necessary reagents and detailed instructions for coupling oligonucleotide or DNA probes to distinct Barcoded Magnetic Beads. The kit facilitates unique barcode designation of your favorite detection probes, and custom made multiplex assay development easy for genetic biomarkers, gene expression and infectious disease testing.

The protein-to-bead conjugation kit contains necessary reagents and detailed instructions for coupling proteins or antibodies to distinct Barcoded Magnetic Beads. By facilitating unique barcode designation of your favorite proteins or antibodies, the kit makes multiplex immunoassays easy and affordable while increasing productivity for your laboratory personnel.



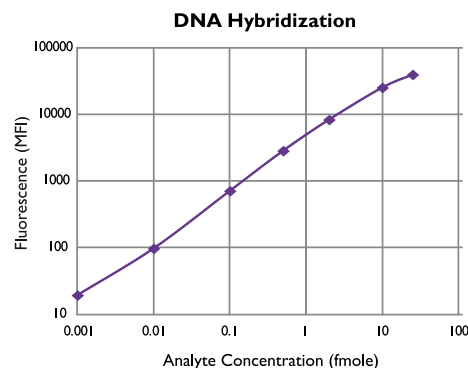
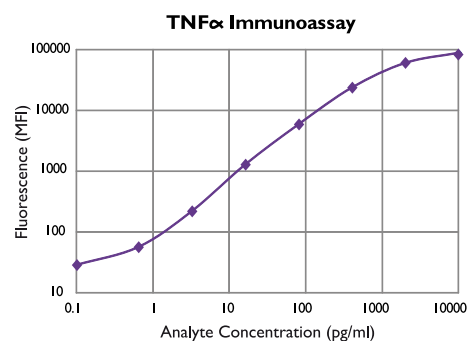
Products are currently intended for Research Use Only.

BioCode Analyzer

BioCode-2000 Analyzer has been developed for molecular diagnostics application with affordability in mind. Following sequence-specific hybridization reaction, the barcodes and the fluorescent signal generated on the beads are detected and decoded. The detection method is based on static optical imaging, and no complicated microfluidics and sheath flow is required. Therefore, the system is very robust and easy to use.

BioCode-2000 Analyzer has an XY translational stage to rapidly scan the entire microplate. The CCD camera reads the barcodes using bright field imaging and fluorescence signal intensity which enables quantitative measurement of the analyte. Cy3 and phycoerythrin (PE) are common fluorophores used for analyte quantification while other fluorophores can also be accommodated. BioCode-2000 Analyzer software displays the barcode and fluorescence intensity for each BMB in a user friendly report.

Ultra Sensitivity/Broad Dynamic Range



Product Information

| Catalog No. | Product Description |
|-------------------|---|
| 44-B0102-NNNN-50K | Carboxyl 128-Plex BMB with barcode NNNN, NNNN= 0000 ~ 0127 |
| 44-B0112-NNNN-50K | P-Carboxyl 128-Plex BMB with barcode NNNN, NNNN= 0000 ~ 0127 |
| 44-B0302-NNNN-50K | Carboxyl 4,096-Plex BMB with barcode NNNN, NNNN= 0000 ~ 4095 |
| 44-B0312-NNNN-50K | P-Carboxyl 4,096-Plex BMB with barcode NNNN, NNNN= 0000 ~ 4095 |
| 64-R0102 | Nucleic Acid Coupling Kit, 24-plex Carboxyl Barcoded Magnetic Beads |
| 64-R0112 | Protein/Antibody Coupling Kit, 24-plex Carboxyl Barcoded Magnetic Beads |
| 41-A0004 | Instrument: BioCode-2000 Analyzer |

Note: 128-plex BMBs: 70 x 25 x 5 μ m
4,096-plex BMBs: 68 x 35 x 5 μ m
Both beads have a density of 1.19 g/cm³ and are easy to suspend in solution.

BioCode-2000 Analyzer Specifications

| | |
|---------------------------|--|
| Multiplex Assays/Test | 1 - 128 analytes |
| Plate Format | 96-well microplate |
| Bright Field Light Source | LED |
| Fluorescence Light Source | LED (excitation: 530nm, emission: 575 nm) |
| Detector | CCD, 16 bit; with IEEE 1394 host computer interface |
| Sensitivity | 0.5 fmole GAPDH (DNA) and 1.0 pg/ml IL-2 (protein) with PE label |
| Dynamic Range | 5 logs |
| Speed | Detection to result: 60 seconds per well |
| CV | Between runs: <5% (typical 2-3%); System to system: <10% |
| IT Connectivity | Standard with serial RS232 |
| Power Requirements | 100 - 240VAC~, 50/60 Hz, 0.8A |
| Dimension | 11"W x 17"H x 21"D |
| CE Certified | Conforming to Laboratory Equipment Standards |

Products are currently intended for Research Use Only.

Partnership

We welcome the opportunity to provide the next generation multiplex solution to companies, laboratories, and institutions searching an effective option for molecular diagnostic testing requirements.

Applied BioCode

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