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## BEADS ● ABOVE THE REST™

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### I. Introduction

Superparamagnetic particles have been utilized extensively in diagnostics and other research applications for the purification of cells and biomolecules, such as antibodies, nucleic acids, and polypeptides. They confer a number of benefits, including ease of separation and suitability for automation. When coated with recognition molecules, magnetic microspheres are ideal for the efficient capture and separation of target. Unwanted sample constituents may be washed away following a simple magnetic separation step.

Our three lines of superparamagnetic microparticles allow us to uniquely address a wide range of applications in the life sciences, from cell separations and immunoassays to suspension arrays and flow cytometry.

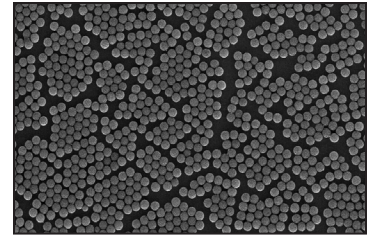
- Antibody Isolation
- Bioassays
- Cell Separation
- mRNA Purification
- Suspension Arrays

As the particles are superparamagnetic, they are easily redispersed in buffer upon removal of the magnet. Successive washes may be simply and rapidly performed to ensure the removal of material that may be attached nonspecifically.

### II. ProMag™

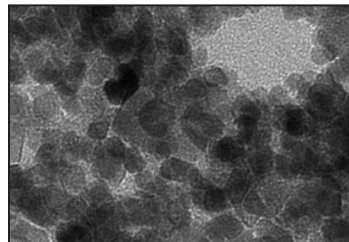
These high-binding beads are suitable for use across a range of research and diagnostic applications, whether you're working at laboratory scale or have the more stringent requirements of

high throughput applications. For our OEM customers, ProMag will offer superior performance throughout the assay development process, and in your customer's hands.



### III. BioMag®

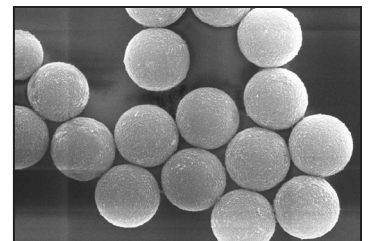
BioMag and BioMagPlus are ~1.5µm high-performance superparamagnetic microparticles widely used for the efficient separation of cells and purification of biomolecules. The irregular morphology of these silanized iron oxide clusters provides a much greater surface area than similarly-sized spherical particles, resulting in high binding capacities and efficient capture of target with conservative use of particles. The high iron oxide content (>90%) allows for rapid and efficient magnetic separations, even from difficult, e.g. highly viscous, samples.

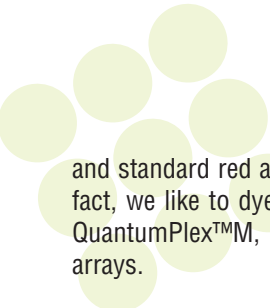


We offer carboxyl and amine versions, in addition to oligo(dT) and a variety of primary and secondary antibody and other affinity coatings.

### IV. COMPEL™

As highly uniform microspheres in diameters of 3, 6, and 8µm, COMPEL are ideal for applications in flow cytometry. These beads contain a highly optimized amount of magnetite to minimize settling during incubation steps, while ensuring rapid separation times. COMPEL beads are ideal for applications that demand uniform bead response, such as miniaturized bioassays and separations. The polymer matrix is conducive to dyeing,





and standard red and green fluorescent versions are available. In fact, we like to dye them so well that we used them to develop QuantumPlex™, our magnetic bead platform for suspension arrays.

## VI. Magnetic Particles At-a-Glance (nominal values)

### *ProMag™*

Diameters:	1 and 3µm
Matrix:	Polymer
Versions:	COOH Streptavidin Bind-IT™ pre-activated
Density (g/cm <sup>3</sup> ):	~1.2-1.3*
Shape:	Spherical

\* diameter dependent

### *BioMag®*

Diameters:	~1.5µm
Matrix:	Silanized iron oxide
Versions:	COOH NH <sub>2</sub> Affinity Binding Proteins Secondary Antibodies Anti-CD Antibodies
Density (g/cm <sup>3</sup> ):	2.5
Shape:	Irregular, cluster

### *COMPEL™*

Diameters:	3, 6, and 8µm
Matrix:	Polymer
Versions:	COOH Streptavidin Fluorescent
Density (g/cm <sup>3</sup> ):	~1.1 - 1.2*
Shape:	Spherical

\* diameter dependent

Bind-IT™, COMPEL™, and QuantumPlex™ are trademarks and ProActive® is a registered trademark of Bangs Laboratories, Inc.

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