MAGNETIC AND NONMAGNETIC PARTICLES

THE AGILENT DIFFERENCE

Manufacturers of *In Vitro Diagnostic* (IVD) assays demand high-performance and high-quality reagents to deliver robust and reliable assays. The pressure to achieve productivity gains and cost-efficiencies while meeting the exact standards of the regulatory agencies is greater than ever before. Microparticles are a critical raw material in the IVD manufacturing process and innovations in particle design, coating, and performance are a key part of meeting the technological and regulatory requirements.

Agilent is a leading manufacturer and supplier of magnetic particles for the immunodiagnostic industry. Supported by expert technical support and worldwide service, Agilent can provide magnetic and nonmagnetic microparticles tailored to your unique needs.

**Partnering with Agilent gives you:**

<table>
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<tr>
<th>Expertise</th>
<th>Access to 40 years’ experience in the manufacturing and development of innovative, high-technology products.</th>
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<td>Quality</td>
<td>Beads with demonstrated performance, manufactured reproducibly, to a robust process in an ISO 9001 facility.</td>
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<td>Flexibility</td>
<td>Custom quality and supply agreements. Small to multikilogram batch sizes.</td>
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<td>Supply management</td>
<td>Scheduled deliveries and worldwide logistics minimize expense and risk, ensuring your beads are in the right place, at the right time. Inventory management provides batch and shelf life control.</td>
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With Agilent as your partner, you can focus with confidence on delivering the next generation of diagnostic systems for your customers.
Driving superior performance with innovative solutions

Agilent continually invests in both research and development and manufacturing technologies enabling us to continually deliver innovation and improvements to our customers. Agilent designs and builds beads that help to:

• Reduce cost-per-test
• Speed up time-to-market
• Deliver improved efficiency for your applications

In addition, these high-performance magnetic and nonmagnetic microparticles for IVD manufacture can be customized to meet your specific requirements. When you partner with Agilent the technical details are finalized and backed up with a written guarantee of quality, and ongoing service, support, and long-term security of supply is ensured.

Agilent particles are used in hundreds of immunodiagnostic assays worldwide. What’s more with over 20 years of experience in magnetic separation technologies, our highly trained engineers offer customers a profound understanding of particle architecture and surface coatings.
AGILENT LODESTARS

LodeStars are Agilent’s proprietary high performance, superparamagnetic particles designed for biomagnetic separations. Based on patented technology and experience, the beads are a powerful magnetic bead platform for bioscience and life science applications. With a unique internal architecture and a hydrophilic outer polymer surface, they offer superior bead performance and are a fast and efficient, reliable and affordable solution to many bioscience applications.

- Highly selective ligand capture due to controlled surface functionality
- Excellent assay performance due to low backgrounds
- Rapid magnetic response
- Uniform, monodispersed, batch to batch reproducibility due to controlled manufacture
- Suitable for automated platforms

LodeStars and LodeStars High Bind are both available in two formats, Streptavidin 2.7 μm, and LodeStars Carboxyl 2.7 μm. They are suitable for use in applications such as:

- Immunodiagnostic assays
- Molecular diagnostic assays
- DNA/RNA capture
- Cell separation

LodeStars are highly monodispersed and have narrow size distribution, ensuring reproducible results
Research study demonstrating the performance of new Agilent LodeStars High Bind against LodeStars Original and alternative commercially available magnetic particles

LodeStars High Bind combines the higher binding capacity of a 1 μm bead with the rapid magnetic response of a 2.7 μm bead. This provides the ideal combination of analytical sensitivity, sample throughput and reproducibility.

Agilent engaged a contract research organization to conduct a nonclinical performance study of particle performance using a commercially available i-PTH assay kit. The kit is designed to measure the amount of i-PTH present in a sample: reference i-PTH was used in this study.

The study measured the fluorescence output of acridinium ester in a direct sandwich chemiluminescent assay, using an automated immunoanalyzer platform.

The assay (performed in cuvette) comprised a biotinylated antihuman PTH antibody prebound to streptavidin coated beads. These were mixed with reference i-PTH sample in the presence of antihuman PTH antibody labeled with acridinium ester.

The assay used a constant amount of antihuman PTH antibody labeled with acridinium ester and constant amount of beads per cuvette. The dose amount of reference i-PTH was varied between 0–2400 pg/mL. Streptavidin-magnetic beads used: LodeStars Original (2.7 μm), LodeStars High Bind (2.7 μm), Alternative 2.7 μm or Alternative 1 μm bead. (n=2; error bars show average cv%).
**AGILENT PL-LATEX**

Agilent PL-Latex are sub-micron uniform latex particles that are a raw material component in many diagnostic tests. All PL-Latex products are produced by emulsion polymerization in the presence of proprietary surfactants. The high degree of colloidal stability imparted by the surfactants, even at low concentrations, removes the need for the high stabilizing surface charge required for many emulsifier-free latexes.

PL-Latex particles are used in applications where their uniformity of size, mobility, consistency of surface properties, and versatility deliver advantages over other solid supports. These applications include:

- Slide Agglutination
- Nephelometry
- Particle Capture
- Immunoturbidimetry
- Particle Enhanced
- Microfluidics
- Cell Labeling

Particles are available in a range of sizes, 50 to 1000 nm, carboxyl variants, and customization.

**HiDye particles**

PL-Latex particles are available in a range of colors (blue, red, yellow, green, purple), offering all the features of the white particles with the added advantage of intense color. As the dye is not surface bound, it does not interfere with the binding of ligand.
A reliable partner is essential to the IVD manufacturing industry. Agilent products are manufactured to stringent standards, under the Agilent quality management system. This system follows the lean six sigma manufacturing principles for process improvement and complies with ISO 9001 for Quality Management.

Our state-of-the-art manufacturing facility in Church Stretton, Shropshire, UK, manufactures magnetic and nonmagnetic particles in multikilogram batch sizes. To help our customers meet the increasing demand for high-quality immunodiagnostic assays, we can also support scale-up of manufacturing and provide all necessary documentation to meet registration requirements. Agilent’s proven track record with product quality enables us to deliver high levels of customer satisfaction.

These strict manufacturing and testing processes mean that Agilent can offer a world-class product and consistency so that you, and your customers, can be confident of accurate results:

- All Agilent products are provided with proof of performance and certification/conformance documentation to validate specifications
- Multiple testing at different stages in the manufacturing process
- Quality testing for material characteristics and functional capabilities
- Fully traceable and controlled manufacturing processes for microparticles
- Custom quality agreements and onsite audits are welcome
For more information

Learn more
www.agilent.com/chem/beads

Find an Agilent customer center
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