

Bangs Laboratories
THE PARTICLE ENGINEERS

STOP DESIGNING **YOUR ASSAY** AROUND THE **PARTICLE**

Introducing UltraMod™ Technology
Particles Engineered Around Your Assay

Faster optimization.
Reduced variability.
Accelerated commercialization.

THE PROBLEM WITH CONVENTIONAL PARTICLES

Your Assay Is Unique.
Why Use an Off-the-Shelf Particle?

Years of scientific innovation, optimization, and precision engineering go into your assay. Yet many development teams are still constrained by conventional particles designed for broad, generalized applications.

The result is compromise.

Conventional particles often force tradeoffs between:

- Magnetic performance
- Binding efficiency
- Background reduction
- Reproducibility



THE IMPACT OF COMPROMISE

Using standard particles can lead to:

- **Longer development timelines**
- **Multiple redesign cycles**
- **Increased variability**
- **Delayed validation**
- **Greater scale-up risk**
- **Slower time-to-market**

REVERSE THE EQUATION



At Bangs Labs, we are The Particle Engineers.

We work with your team to design particles around your assay specifications, not the other way around.

Instead of adapting your science to fit an off-the-shelf particle, **UltraMod™** technology allows us to optimize particle performance specifically for your application goals.

Designed for:

- **Molecular diagnostics**
- **Immunoassays**
- **Magnetic separation**
- **Next-generation assay platforms**
- **High-sensitivity detection systems**
- **Scalable commerical manufacturing**

BANGS LABORATORIES

The Particle Engineers

INTRODUCING UltraMod™

UltraMod™ Technology
Custom Particles, Engineered Performance.

UltraMod™ technology enables customized particle engineering across multiple performance parameters to help accelerate assay development and commercialization.

If you can define the goal, we can engineer toward it.



UltraMod™ OPTIMIZATION CAPABILITIES



We customize particles across:

- Surface chemistry
- Particle size distribution
- Magnetic responsiveness
- Functionalization strategies
- Binding performance

If You Need	We Will
The perfect binding capacity	Adjust the density of functional groups for binding your target
A bead that stays suspended	Adjust the diameter and/or density of the particle to reduce settling
Optional methods for binding your targets	Beads with a variety of functional groups: ▪ Affinity groups for common binding pairs ▪ Covalent groups for EDC attachments to accessible amines ▪ Click chemistry groups for selective biorthogonal covalent bonding
Low nonspecific binding	Surface modification of our beads can reduce the noise
Uniform magnetic attraction	Synergistic paramagnetic particle systems to uniform monodispersed spheres ensure consistently quick response
Lot-to-lot consistency	We manufacture and validate our products under an ISO 13485:2016 quality management system that ensures each lot meets or exceeds your defined performance characteristics

UltraMod™ helps reduce optimization bottlenecks by delivering particles engineered specifically for your distinct objectives.

Benefits Include:

- Faster assay optimization
- Reduced development cycles
- Improved reproducibility
- Enhanced assay sensitivity
- Streamlined validation and scale-up
- Faster commercialization timeline

BUILT TO ACCELERATE TIME TO MARKET

Direct Scientisit-to-Scientist Collaboration

Partnering with Bangs Labs means **direct access to experienced particle scientists** and technical experts throughout your development process.

From concept through commercialization, **we work collaboratively** to engineer scalable, high-performance particle solutions tailored to your exact needs.

Stop Designing Your Assay Around the Particle,
Start Building Around Your Science.

UltraMod™ Technology from Bangs Labs partners with diagnostic and biotech innovators to overcome the limitations of conventional, off-the-shelf particles through custom-engineered particle solutions designed around your performance requirements.

Why UltraMod™?

- **Custom-engineered particle performance**
- **Faster optimization and validation**
- **Reduced redesign cycles**
- **Improved reproducility**
- **Scalable manufacturing support**
- **Direct scientist-scientist collaboration**

We Are The Particle Engineers.

For more than 35 years, Bangs Labs has partnered globally with leading biotech innovators to deliver scalable, high-performance particle solutions for demanding applications worldwide.

Accelerate
your time-to-market.

Scan to further explore our UltraMod™ technology capabilities or to schedule a consultation with a technical representative.

Bangs Laboratories
BEADS ABOVE THE REST

Let's Connect

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