

## Time Resolved Fluorescent Beads

### T1506734

**Storage:** 2-8°C. Do not freeze. Store in the dark.

#### Introduction:

Aladdin Time Resolved Fluorescent Beads are polystyrene microspheres loaded with europium chelate fluorescent dyes. Utilizing a unique dye-loading technology, the europium chelate molecules are immobilized within the microspheres, achieving high fluorescence intensity while maintaining a clean surface.

The Stokes Shift of the time-resolved fluorescent microspheres exceeds 250 nm, effectively reducing background interference. The microsphere surface contains an appropriate amount of carboxyl groups, allowing convenient covalent conjugation with antibodies or other active substances containing amino groups, resulting in stable microsphere-ligand complexes. They are widely applicable in fluorescent immunochromatographic assay reagents.

| Product Name                    | Catalog Number  | Surface Group     | Particle Size | Concentration |
|---------------------------------|-----------------|-------------------|---------------|---------------|
| Time Resolved Fluorescent Beads | T1506734-A200nm | Carboxyl (COOH)   | 200nm         | 1% (10mg/mL)  |
| Time Resolved Fluorescent Beads | T1506734-A300nm | Carboxyl (COOH)   | 300nm         | 1% (10mg/mL)  |
| Time Resolved Fluorescent Beads | T1506734-B100nm | Streptavidin (SA) | 100nm         | 1% (10mg/mL)  |
| Time Resolved Fluorescent Beads | T1506734-B200nm | Streptavidin (SA) | 200nm         | 1% (10mg/mL)  |
| Time Resolved Fluorescent Beads | T1506734-B300nm | Streptavidin (SA) | 300nm         | 1% (10mg/mL)  |

#### Product Features:

- Uniform particle size with CV  $\leq$  3% and low batch-to-batch variation.
- High dye loading capacity and high fluorescence intensity.
- Single-batch production capacity greater than 10 L, meeting most production demands.
- Customized services are available.

#### Instructions for Use:

One-Step Labeling Protocol

1. Solution Preparation:

| Name               | Details                                      |
|--------------------|----------------------------------------------|
| MES                | 50mM MES, pH 6.0                             |
| sulfo-NHS Solution | 10mg/mL in MES                               |
| EDC Solution       | 10mg/mL in MES                               |
| Blocking Buffer    | 50mM HEPES, 1% BSA, 0.1% ProClin 300, pH 8.0 |

2. Recommended Labeling Protocol:

- (1) Activation: Take 100  $\mu$ L of time-resolved latex microspheres (1% solid content). Dilute with 900  $\mu$ L of MES Buffer and disperse by ultrasonication. Add 12  $\mu$ L of sulfo-NHS Solution, mix well. Then add 10  $\mu$ L of EDC Solution, mix well, and react at room temperature for 20 minutes. Centrifuge ( $RCF > 15,000 \times g$ ) for 5 minutes, remove the supernatant, and wash once by centrifugation with MES Buffer.
- (2) Antibody Conjugation: Disperse the resulting microspheres in 200  $\mu$ L of MES Buffer by ultrasonication. Add 120  $\mu$ g of antibody (pre-diluted to 300  $\mu$ L with MES Buffer), mix well, and react at room temperature for 2 hours
- (3) Blocking: Add 50  $\mu$ L of Blocking Buffer, disperse by ultrasonication, and react at room temperature for at least 1 hour (overnight blocking is possible). Centrifuge ( $RCF > 15,000 \times g$ ) for 2 minutes, remove the supernatant, and wash once by centrifugation with Blocking Buffer.
- (4) Storage: Add 100  $\mu$ L of Storage Buffer (same as Blocking Buffer), disperse by ultrasonication, and store at 2–8°C.

**Precautions:**

1. This product series should be stored sealed, protected from light, at 2–8°C. Do not freeze.
2. Before use, disperse the microspheres evenly using ultrasonication or a vortex mixer to ensure uniform dispersion.