

Red Latex Beads

R1506727

Storage: 2-8°C. Do not freeze.

Introduction:

Aladdin Red Latex Beads are produced through a proprietary deep-dyeing technique applied to polystyrene latex, resulting in vibrant color saturation. The dye is uniformly distributed within the microspheres, with minimal adsorption on the surface or release into the dispersion medium. This product is widely applicable in lateral flow assays and latex agglutination tests.

Product Name	Catalog Number	Surface Group	Particle Size	Concentration
Red Latex Beads	R1506727-A200nm	Carboxyl (COOH)	200nm	4% (40mg/mL)
Red Latex Beads	R1506727-A300nm	Carboxyl (COOH)	300nm	4% (40mg/mL)
Red Latex Beads	R1506727-A400nm	Carboxyl (COOH)	400nm	4% (40mg/mL)
Red Latex Beads	R1506727-B200nm	Streptavidin (SA)	200nm	1% (10mg/mL)
Red Latex Beads	R1506727-B300nm	Streptavidin (SA)	300nm	1% (10mg/mL)
Red Latex Beads	R1506727-B400nm	Streptavidin (SA)	400nm	1% (10mg/mL)

Product Features:

- Proprietary deep-dyeing technology ensures deep, vibrant colors.
- Dye is incorporated internally, resulting in a clean surface and a dispersion medium free of dye particles.
- Highly uniform particle size with CV \leq 3% and low batch-to-batch variation.

Instructions for Use:

Example Antibody Conjugation Protocol (Using Carboxyl-functionalized Microspheres).

1. Recommended Buffers:

Name	Details	Preparation Method
MES Buffer	50mM MES, pH 6.0	1.06g MES monohydrate (CAS: 145224-94-8) dissolved in 80mL purified water, adjust to pH 6.0 and adjust to 100mL.
sulfo-NHS Solution	10mg/mL in MES	100mg sulfo-NHS (CAS: 145224-94-8) dissolved in 10mL MES buffer.
EDC Solution	10mg/mL in MES	100mg EDC (CAS: 25952-53-8) dissolved in 10mL MES buffer.
Blocking Buffer	50mM HEPES, 1% BSA, pH 8.0	1.19g HEPES (CAS: 7365-45-9) dissolved in 80mL purified water, adjust to pH 8.0 and adjust to 100mL. Dissolve 1.0g BSA (CAS: 9048-46-8) in the buffer.

2. Experimental Procedure:

- (1) **Washing:** Take 120 μL of Red Latex Beads (4% solid content). Disperse by ultrasonication using an ultrasonic cell disruptor. Centrifuge ($\text{RCF} > 15,000 \times g$) for 5 minutes and remove the supernatant. Wash once by centrifugation with MES Buffer.
- (2) **Activation:** Add 300 μL of MES Buffer, pre-cooled on crushed ice. Add 40 μL of sulfo-NHS Solution, mix well. Then add 20 μL of EDC Solution, mix well, and react at room temperature for 20 minutes. Centrifuge ($\text{RCF} > 15,000 \times g$) for 5 minutes, remove the supernatant, and wash once by centrifugation with MES Buffer.
- (3) **Antibody Conjugation:** Add 480 μL of MES Buffer, disperse by ultrasonication. Add 160 μg of antibody, mix well, and react at room temperature for 4 hours. Centrifuge ($\text{RCF} > 15,000 \times g$) for 5 minutes and remove the supernatant.
- (4) **Blocking:** Add 480 μL of Blocking Buffer, disperse by ultrasonication, and react at room temperature for 1 hour. Centrifuge ($\text{RCF} > 15,000 \times g$) for 5 minutes, remove the supernatant, and wash once by centrifugation with Blocking Buffer.
- (5) **Storage:** Add 480 μL of Storage Buffer (same as Blocking Buffer; small amounts of stabilizers may be added), disperse by ultrasonication, and store at 2–8 $^{\circ}\text{C}$.