

Magnosphere™ MK230/Carboxyl

PRODUCT DESCRIPTION

Magnosphere™ MK230/Carboxyl beads are magnetic microparticles designed for immobilization of ligands through chemical means. The particle surfaces are covered with a JSR proprietary hydrophobic polymer that has had oligomers, and polymeric by-products removed to maximize chemical coupling through carboxyl groups.

Features

- Uniform particle size
- Stable matrix
- Superparamagnetic
- Rapid magnetic responsiveness
- Oligomer free
- Maximized for physical adsorption
- Maximized for chemical coupling through carboxyl surface groups

Example Applications

Immunoassay, nucleic acid hybridization

SPECIFICATIONS

Bead diameter	2.1 μm
Package volume	5 mL
Solid content in slurry	2 % (20 mg/mL)
Dispersion media	0.05 % Nonionic surfactant + 0.09 % Sodium Azide in H ₂ O

Bead magnetite content	40 % c.a.
Surface charge density*	15 nmol/mg bead c.a.
Expiration date	Printed on the label

*Surface charge density = amount of carboxyl groups per 1 mg beads

RECOMMENDED PROTOCOL - CHEMICAL COUPLING :

Reagent and equipment requirement

Binding Buffer:	0.1 M MES* buffer pH 5.0 (*MES: 2-(N-morpholino)ethanesulfonic acid)
Washing Buffer:	TBS-T (25 mM Tris-HCl, pH 7.2, 0.15 M NaCl, 0.05 % Tween20)
Coupling Reagent:	10 mg/mL EDC** in ice-cooled Binding Buffer, prepared just before the coupling reaction (**EDC: 1-Ethyl-3-[3-dimethylaminopropyl]carbodiimide Hydrochloride)
Equipment:	Magnetic separator. Vortex tube mixer. Tube rotator.

Chemical coupling of antibody on **Magnosphere™ MK230/Carboxyl** beads.

1. Suspend the **Magnosphere™ MK230/Carboxyl** beads well using Vortex mixer and put 20 μL of the suspension (i.e., 10 mg beads) into a microtube.
2. Place the tube on a magnetic separator for 1 minute (or longer if needed) and remove the supernatant carefully.
3. Add 1 mL of Binding Buffer and suspend the beads by vortexing. Then, remove the supernatant as in step 2.
4. Add 1 mL of Binding Buffer and suspend the beads by vortexing.
5. Add 100 μg of antibody (100 μL, if antibody was diluted to 1 mg/mL) and suspend the beads by vortexing.
6. Keep rotating the tube with Tube rotator for 30 minutes at room temperature.
7. Add 100μL of Coupling Reagent and suspend the beads by vortexing.
8. Keep rotating the tube with Tube rotator for 3 hours at room temperature.
9. Remove the supernatant as in step 2.
10. Wash the beads using 1 mL of Washing Buffer and suspend the beads by vortexing.
11. Remove the supernatant as in step 2.
12. Repeat steps 10 & 11 for a total of 3 times.
13. Suspend the beads with a desired buffer suitable for downstream applications and store at 2-8 degrees C until needed.

STORAGE

Magnosphere™ MK230/Carboxyl beads are stable for 24 months when stored at 2-8 degrees C. Do not freeze the vial. Vortex the vial or pipette gently up and down to obtain a homogeneous dispersion before use. Following chemical coupling, the product should be stored at 2-8 degrees C. Stability varies for each preparation.

DISPOSAL

Reagent contains sodium azide at a low concentration as a preservative. Sodium azide is toxic if ingested and may react with heavy metals to form explosive metal azides. Azide compounds should be diluted with running water before discarding to avoid deposits in plumbing where explosive condition may develop.

IMPORTANT NOTICE

This product is for research use only and not intended for therapeutic or *in vivo* diagnostic use.

CONTACT INFORMATION

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