

9025 Technology Dr. • Fishers, IN 46038-2886
 800.387.0672 • 317.570.7020 • Fax 317.570.7034
 info@bangslabs.com • www.bangslabs.com



BEADS ABOVE THE REST™

DESCRIPTION

Microspheres are routinely coated with ligands such as antibodies, oligonucleotides, peptides, etc. for use in diagnostics and bioseparations. While affinity and adsorbed coatings are useful, covalent coupling results in permanent attachment of the biomolecule to the functionalized (e.g. carboxyl or amine) microsphere. It can provide needed stability when developing a commercial reagent, and for multiplexed assays, where analyte-specific bead populations are mixed.

Carboxyl- and amine-modified microspheres require the use of a chemical linker for activation and covalent immobilization of ligand. EDAC and glutaraldehyde are two of the most common crosslinkers used in bead coating protocols.

DEPC-CARBODIIMIDE (EDAC)

EDAC is a zero-length crosslinker that is routinely used for the covalent binding of amine-containing ligands to carboxylated microspheres. For use, warm the bottle to room temperature in a desiccator before opening to avoid condensation. EDAC is extremely hygroscopic, and moisture will compromise its activity. It should have the appearance of a free-flowing white powder. Persistent hard clumps indicate moisture contamination. EDAC solutions should be prepared immediately prior to use. If possible, the headspace may be flooded with argon before the vial is re-sealed and stored. Sample coupling protocols are provided in TechNotes 205 and 302, and PolyLink Product Data Sheet 644.

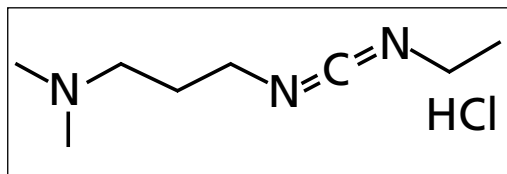


Figure 1: Structure of DEPC-Carbodiimide.

GLUTARALDEHYDE, EM GRADE, 25%

Glutaraldehyde is a homobifunctional linker that is suitable for binding amine-containing ligands to amine-modified beads. We supply EM (electron microscopy) grade glutaraldehyde in ampoules to ensure highest activity. EM Grade glutaraldehyde is diluted with distilled water to 25%, and adjusted to pH of approximately 5.5. The pre-scored glass ampoule can be easily snapped open with the ampoule cracker and added to the required buffer. A sample coupling protocol is provided in TechNote 205.

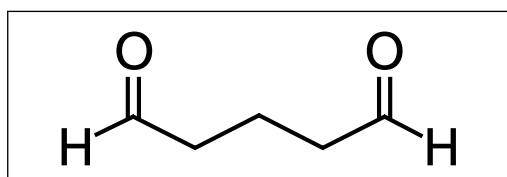


Figure 2: Structure of Glutaraldehyde.

RELATED TECHNICAL LITERATURE

1. PDS546 - *BioMag® Magnetic Immobilization Kit & BioMag® Amine*
2. PDS617 - *BioMag®Plus Amine and BioMag®Plus Amine Protein Coupling Kit*
3. PDS618 - *BioMag®Plus Carboxyl and BioMag®Plus Carboxyl Protein Coupling Kit*
4. PDS644 - *PolyLink Protein Coupling Kit*
5. TN205 - *Covalent Coupling*
6. TN302 - *Molecular Biology*

STORAGE

EDAC: Store desiccated at -20°C.

Glutaraldehyde: Store at 4°C.

SAFETY

EDAC: Do not breathe dust. Use only with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Wash thoroughly after handling. See MSDS for further information.

Glutaraldehyde: Harmful if absorbed through skin. Wash thoroughly after handling. Open vial only under a hood. Wear protective gloves and safety goggles. Do not get in eyes or on skin or clothing. Avoid breathing vapors. Use only with adequate ventilation. Store at 4°C (39°F). Keep container closed. See MSDS for further information.

In case of contact, immediately flush eye or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician. Wash clothing before re-use. See appropriate Material Safety Data Sheet for further information.

This product is for research use only and is not intended for use in humans or for *in vitro* diagnostic use.

ORDERING INFORMATION

Cat. Code	Description	Sizes
AA010	DEPC-Carbodiimide (EDAC)	1g or 5g
AA012	Glutaraldehyde, EM Grade, 25%	10 x 10mL (ampoules)

RELATED PRODUCTS

Cat. Code	Description	Size
BM545	BioMag® Magnetic Immobilization Kit (1 x 10mL reaction)	1 kit
BP610	BioMag®Plus Amine Protein Coupling Kit (5 x 2mL reaction)	1 kit
BP611	BioMag®Plus Carboxyl Protein Coupling Kit (5 x 0.5mL reaction)	1 kit
PL01N	PolyLink Protein Coupling Kit	1 kit

Order online anytime at www.bangslabs.com.