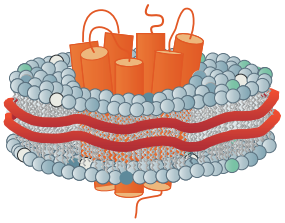
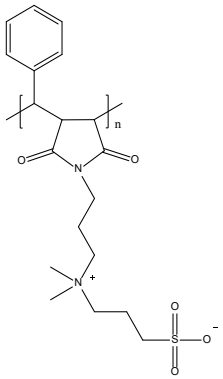
# Sulfo-SMA




| Product | Catalog No. | Package size |
|---|---|---|
| Sulfo-SMA (10 x 50 mg) | 18521 | 10 x 50 mg |
| Sulfo-SMA (1 g) | 18522 | 1 g |
| Sulfo-SMA (10 x 1 g) | 18523 | 10 x 1g |
| Sulfo-SMA (50 g) | 18524 | 50 g |





## Product Description

The use of a Poly(styrene-co-N ,N -dimethyl(maleimidoethyl)ammonium propane sulfonate) copolymer (Sulfo-SMA) for stabilization of membrane proteins can provide bicelles with membrane proteins from native membranes in the absence of detergents. This is achieved by wrapping around a patch of a lipid bilayer to form a disc-like particle or nanodisc. The Sulfo-SMA-based products contain the copolymer and a 50 mM HEPES buffer, adjusted to pH 7.5, so only dd water has to be added for direct application. The pH value has been selected to be very effective for protein solubilization.

Cube Biotech's Sulfo-SMA is a highly purified electroneutral copolymer, with a molecular weight (Mw) of ~8.000. After dissolving the lyophilized copolymer powder with membrane protein-containing buffer, the concentration should range from 1.0 to 5.0%. Copolymers provide a hydrophobic surface facing the lipids and a hydrophilic surface on the outside. This setup makes nanodiscs highly soluble in aqueous solutions and allows the solubilization of membrane proteins in the absence of detergents. This product can be used with phospholipids, such as dimyristoyl-glycero-phosphocholine (DMPC) or palmitoyl-oleoyl-phosphatidyl-choline (POPC) in combination with sodium cholate.

The complex from Sulfo-SMA and membrane protein can be used in many biophysical assays, such as SDS-PAGE, SEC, Western Blot, UV/Vis spectroscopy, and many chromatographic procedures.

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Reconstitution of the copolymer solution:
Sulfo-SMA copolymers are delivered as a lyophilized solution containing 50 mM HEPES, pH 7.5. Each aliquot contains 50 mg of polymer, 1 g, 10 g or 50 g respectively. Adding 0.5 ml double distilled water per 50 mg of polymer will restore the original solution with a copolymer concentration of 10%. This stock can be diluted further as required by different application protocols.

## Technical Details

| | |
|---|---|
| Name | Poly(styrene-co-N ,N -dimethyl(maleimidoethyl)ammonium propane sulfonate) copolymer, sodium salt in 50 mM HEPES, pH 7.5 |
| Solubility | >10% ($H_2O$) |
| Color | White to slightly yellow |
| Odor | Odorless |
| pH (dissolved) | 7.5 ± 0.3 |

## Shipping & Storage

| | |
|---|---|
| Shipping Temperature | 2-8 °C |
| Storage of lyophilized copolymer | -20°C for several years |
| Storage of dissolved copolymer | 2-8°C for several days |

## Additional Information

For Sulfo-SMA protocols, please visit our webpage at: www.cube-biotech.com/products. Cube Biotech also offers MSP nanodisc products and other nanodisc polymers such as Amphipol, styrene maleic copolymer (SMA), Diisobutylene-maleic acid (SMA), and Poly(acrylic acid-co-styrene (AASTY).

## Disclaimer

Patent Pending
The product described above is based on a substance published within the work of D. Glueck et al., Small, 2022, 2202492, DOI: 10.1002/smll.202202492.

Our products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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