

New

MATERIALS

LIFE SCIENCE

TGI

Sulfoxide Monomer for Modification of Material Surfaces with Reduced Nonspecific Adsorption of Proteins and Cells



2-(Methylsulfinyl)ethyl Acrylate
(stabilized with MEHQ)

1g / 10g

[M3648]

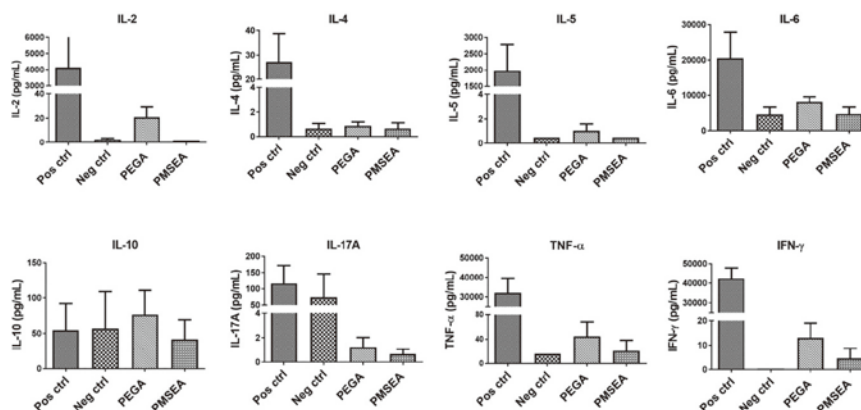
Advantages

- Allows for the synthesis of highly hydrophilic sulfoxide polymer PMSEA by polymerization.^{1,2)}
- The resulting sulfoxide polymers exhibit low fouling with reduced protein adsorption and cell adhesion.
- Coating with PMSEA shows lower immunogenicity than coating with PEGA.³⁾

PMSEA : Poly(2-(methylsulfinyl)ethyl acrylate)

PEGA : Poly(oligo(ethylene glycol) methyl monoether acrylate)

Comparison of immune responses induced by PMSEA and PEGA³⁾



Human peripheral blood mononuclear cells (PBMCs) were incubated in the presence of the polymer at a concentration of 2 mg/mL and the cytokines released from cells were measured after 20 hours of incubation. PMSEA induced a lower immune response than PEGA. (Figure is adapted from reference 3 (CC BY 4.0).)

- References
- 1) X. Xu, C. Fu, A. K. Whitaker, *et al.*, *Biomacromolecules* **2021**, 22, 330. <https://doi.org/10.1021/acs.biomac.0c01193>
 - 2) Y. Zhang, C. Fu, A. K. Whitaker, *et al.*, *Biomacromolecules* **2022**, 23, 4318. <https://doi.org/10.1021/acs.biomac.2c00775>
 - 3) R. Qiao, A. K. Whittaker, T. P. Davis, *et al.*, *Adv. Sci.* **2020**, 7, 2000406. <https://doi.org/10.1002/advsc.202000406>

Related Products

Polyethylene Glycol Monomethyl Ether Acrylate (n=approx. 9)

N-Succinimidyl Acrylate

N-Succinimidyl Methacrylate

Acryloyl-X SE

3-[[[(Benzylthio)carbonothioyl]thio]propionic Acid

2-(Dodecylthiocarbonothioylthio)-2-methylpropionic Acid

25g / 500g [P2698]

5g / 25g [S0814]

5g / 25g [S0812]

25mg [A3450]

1g [B6067]

1g / 5g [D5561]

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