

Product data sheet



MedKoo Cat#: 571624 Name: DTSSP Crosslinker CAS: 81069-02-5 Chemical Formula: C ₁₄ H ₁₆ N ₂ O ₁₄ S ₄ Exact Mass: 563.9484 Molecular Weight: 564.522		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

DTSSP Crosslinker, or 3,3'-Dithiobis[sulfosuccinimidylpropionate], is a homobifunctional protein crosslinker that is cell membrane impermeable. DTSSP crosslinker can be used to crosslink extracellular and membrane proteins.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.77 mL	8.86 mL	17.71 mL
5 mM	0.35 mL	1.77 mL	3.54 mL
10 mM	0.18 mL	0.89 mL	1.77 mL
50 mM	0.04 mL	0.18 mL	0.35 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Pretto C, Tang M, Chen M, Xu H, Subrizi A, Urtti A, van Hest JCM. Cowpea Chlorotic Mottle Virus-Like Particles as Potential Platform for Antisense Oligonucleotide Delivery in Posterior Segment Ocular Diseases. *Macromol Biosci*. 2021 Aug;21(8):e2100095. doi: 10.1002/mabi.202100095. Epub 2021 May 24. PMID: 34031995.
2. Takheaw N, Pata S, Laopajon W, Roytrakul S, Kasinrerk W. The presence of membrane bound CD99 ligands on leukocyte surface. *BMC Res Notes*. 2020 Oct 22;13(1):496. doi: 10.1186/s13104-020-05347-0. PMID: 33092634; PMCID: PMC7583281.

In vivo study

1. Kost OA, Beznos OV, Davydova NG, Manickam DS, Nikolskaya II, Guller AE, Binevski PV, Chesnokova NB, Shekhter AB, Klyachko NL, Kabanov AV. Superoxide Dismutase 1 Nanozyme for Treatment of Eye Inflammation. *Oxid Med Cell Longev*. 2015;2015:5194239. doi: 10.1155/2016/5194239. Epub 2015 Dec 1. PMID: 26697135; PMCID: PMC4678082.

7. Bioactivity

Biological target:

DTSSP Crosslinker is a cleavable ADC linker used in the synthesis of antibody-drug conjugates (ADCs).

In vitro activity

Product data sheet



Herein, antisense oligonucleotide-loaded CCMV nanoparticles, intended for intravitreal injection, are evaluated for selective silencing of miR-23, an important target in AMD. CCMV nanoparticles loaded with anti-miR-23 locked nucleic acid and stabilized using the 3,3'-dithiobis(sulfosuccinimidyl propionate) (DTSSP) cross-linker, are assembled in vitro with a loading efficiency up to 80%.

Reference: Macromol Biosci. 2021 Aug;21(8):e2100095. <https://pubmed.ncbi.nlm.nih.gov/34031995/>

In vivo activity

The nanozyme is produced by electrostatic coupling of the SOD1 with a cationic block copolymer, poly(L-lysine)-poly(ethyleneglycol), followed by covalent cross-linking of the complexes with 3,3'-dithiobis(sulfosuccinimidylpropionate) sodium salt. The ability of SOD1 nanozyme as well as the native SOD1 to reduce inflammatory processes in the eye was examined in vivo in rabbits with immunogenic uveitis. Results suggested that topical instillations of both enzyme forms demonstrated anti-inflammatory activity; however, the nanozyme was much more effective compared to the free enzyme in decreasing uveitis manifestations.

Reference: Oxid Med Cell Longev. 2015;2015:5194239. <https://pubmed.ncbi.nlm.nih.gov/26697135/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.