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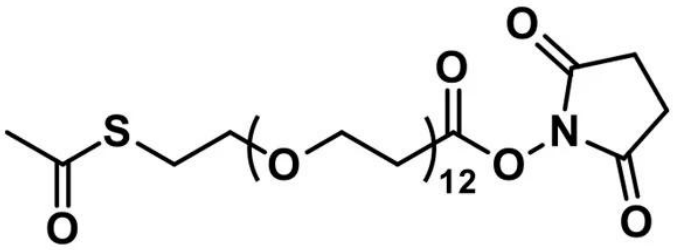
DPEG®12-SATA (S-ACETYL-DPEG®12-NHS ESTER)

SKU: QBD-10852



dPEG®12-SATA, also known as S-acetyl-dPEG®12-NHS ester, product number QBD-10852, is one of Quanta BioDesign's versions of the widely popular thiolation reagent N-succinimidyl-S-acetylthioacetate (SATA). The acetyl-protected thiol is separated from the N-hydroxysuccinimidyl (NHS) ester by an amphiphilic, discrete polyethylene glycol (dPEG®) spacer. The medium-length (39 atoms, 46.8 Å), flexible dPEG®12 spacer makes the product water soluble.
Thiolation is the process of adding a sulfhydryl group to a molecule. Bioconjugation frequently employs thiolation because the reactions to install thiol groups on molecules or to react molecules with sulfhydryl groups are simple and often chemoselective. The widely popular SATA reagent thiolates molecules with available amines via the NHS ester. Removal of the acetyl protecting group from the sulfhydryl permits crosslinking between the SATA-modified compound and a target molecule of interest that contains a thiol-reactive group, such as maleimide. Unfortunately, the classic SATA reagent is hydrophobic and must be dissolved in a dry, water-miscible organic solvent before use.

Vector Laboratories' dPEG®12-SATA inserts a single molecular weight spacer between the protected thiol and the NHS ester. The dPEG® spacer imparts water solubility to the molecule, allowing dPEG®12-SATA to dissolve and react in water without the need for an organic solvent. Also, the dPEG®12 spacer adds hydrodynamic volume to the molecule to which it is conjugated, reducing aggregation and precipitation of proteins conjugated to dPEG®12-SATA.
Hydroxylamine hydrochloride (CAS number 5470-11-1) easily removes the acetyl protecting group, exposing the sulfhydryl moiety for further reactions, for example, crosslinking to thiols or thiol-reactive groups like maleimides, bromoacetamides, and so forth. Any application that can be carried out with a traditional, non-PEGylated SATA reagent can be carried out with our SATA containing a dPEG® spacer.

For research use only. Not intended for therapeutic or diagnostic use in animals or humans.

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Specifications

Unit Size	100mg, 1000mg
Molecular Weight	773.88; single compound
Chemical formula	$C_{33}H_{59}NO_{17}S$
CAS	1334169-95-7
Purity	> 97%
Spacers	dPEG® Spacer is 39 atoms and 46.8 Å
Shipping	Ambient
Typical solubility properties (for additional information contact Customer Support)	Methylene chloride, Acetontrile, DMAC or DMSO.
Storage and handling	-20°C; Always let come to room temperature before opening; be careful to limit exposure to moisture and restore under an inert atmosphere; stock solutions can be prepared with dry solvent and kept for several days (freeze when not in use). dPEG® pegylation compounds are generally hygroscopic and should be treated as such. This will be less noticeable with liquids, but the solids will become tacky and difficult to manipulate, if care is not taken to minimize air exposure.
