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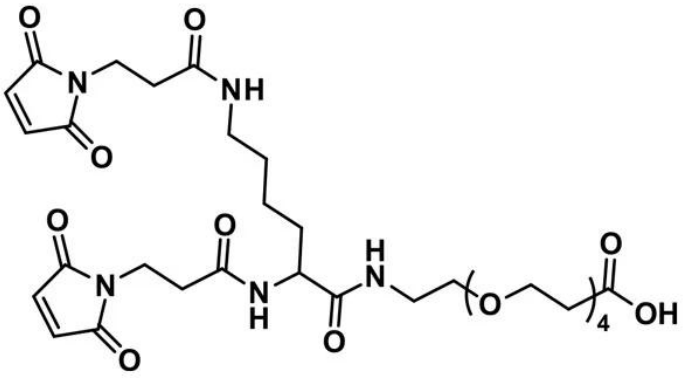
BIS-MAL-LYSINE-DPEG®₄-ACID

SKU: QBD-10630



Bis-MAL-Lysine-dPEG®4-acid, product number QBD-10630, is a unique crosslinker from Vector Laboratories, Inc. The two amines of lysine are functionalized with maleimidopropyl groups that react with sulfhydryl groups. The carboxylic acid tail of lysine is conjugated to a single molecular weight, discrete polyethylene glycol (dPEG®) spacer containing a carboxylic acid terminus that can be reacted with free amines or used to provide negative surface charge. The distance from the carbonyl carbon of the dPEG® spacer to the reactive site of the α-amine-conjugated maleimide group is 25 atoms (17.5 Å) long. The distance from the carbonyl carbon of the dPEG® spacer to the reactive site of the ε-amine-conjugated maleimide group is 29 atoms (27.9 Å) long.

By design, the two maleimide groups of Bis-MAL-Lysine-dPEG®4-acid can be used to bridge disulfides. For example, this capability may be useful in antibodies following reduction of the disulfide groups. Moreover, the two maleimide groups can be used to dimerize small molecules or peptides, each of which possesses a single free thiol group. At pH 6.5 – 7.5, maleimide groups react chemoselectively with sulfhydryls. However, above pH 7.5, chemoselectivity is lost, as maleimide groups also will react with free amines.

The carboxylic acid end of the molecule couples with free amines using EDC chemistry to form stable amide bonds. However, if the acid terminus of the molecule is left unreacted, the acid can act as a charge modifier for the molecule to which it is conjugated. Construction of antibody-drug conjugates (ADCs); immobilization of antibodies and antibody fragments; and dimerization of sulfhydryl-containing peptides are some of the possible uses for this product.

For research use only. Not intended for animal or human therapeutic or diagnostic use.

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Specifications

Unit Size	100mg, 1000mg
Molecular Weight	695.71; single compound
Chemical formula	$C_{31}H_{45}N_5O_{13}$
CAS	N/A
Purity	> 98%
Spacers	dPEG® Spacers are 25 and 29 atoms and 17.5 and 27.9 Å, resp.
Shipping	Ambient
Typical solubility properties (for additional information contact Customer Support)	Methylene chloride, 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.