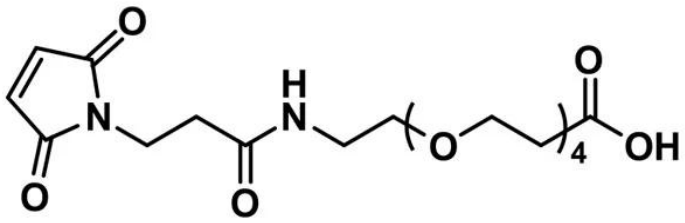
www.vectorlabs.com
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Telephone: (650) 697-3600

MAL-DPEG®4-ACID

SKU: QBD-10338



DESCRIPTION

MAL-dPEG®4-acid, product number QBD-10338, is a short (16 atoms) crosslinker that joins sulfhydryl groups to free amines through a single molecular weight polyethylene glycol (PEG) chain of discrete length. The maleimidopropyl moiety reacts with sulfhydryl groups via a Michael addition reaction. The propionic acid terminus of the molecule reacts directly with free amines using EDC or another carbodiimide to form amide bonds. Alternatively, activation of the propionic acid group with N-hydroxysuccinimide (NHS), 2,3,5,6-tetrafluorophenol (TFP), or some other acylating agent permits amide bond formation under mild, controlled conditions.

Chemical couplings between free amines and free thiols are among the most popular, most useful crosslinking reactions in bioconjugate chemistry. These syntheses require heterobifunctional reagents that bridge the two groups. While traditional crosslinkers are hydrophobic molecules, Vector Laboratories' crosslinking products are water-soluble, amphiphilic, single molecular weight PEG compounds with discrete chain lengths, hence the dPEG® tradename under which we sell them. Almost inevitably, the conjugation of conventional hydrophobic crosslinking reagents to biomolecules triggers problems such as aggregation and precipitation of the conjugates. Conversely, these problems do not occur with our water-soluble, non-immunogenic dPEG® crosslinkers.

The reaction of the maleimide end of MAL-dPEG®4-acid with a sulfhydryl proceeds optimally at pH 6.5 – 7.5. Use the lowest reasonable pH within this range. Above pH 7.5, free amines compete with free thiols at the maleimide reaction site, which can cause confusing results. Moreover, at higher pH values, the maleimide ring may open to form unreactive maleamic acid.

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After the maleimide end of the molecule reacts with a sulfhydryl, the terminal propionic acid group may be left unreacted for charge modification or the conjugate or activated with an acylating agent such as NHS or TFP. The active ester then reacts with free amines to complete the crosslink.

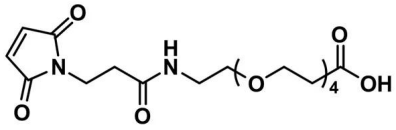
SPECIFICATIONS

CAS Number	1263045-16-4
Molecular Weight	416.42; single compound
Chemical Formula	$C_{18}H_{28}N_2O_9$
Purity	> 98%
Unit Size	100 mg, 1000 mg
Solubility	Methylene chloride, Acetonitrile, DMAC or DMSO.
Spacers	dPEG® Spacer is 16 atoms and 17.5 Å
Storage Instructions	-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.
Shipping Instructions	Ambient

DOCUMENTS

- Safety Data Sheet
- Datasheet

GALLERY IMAGES



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