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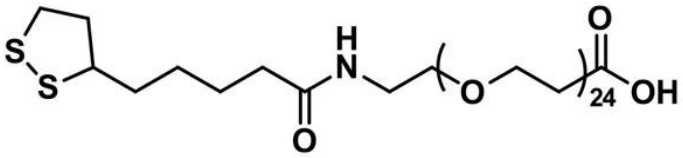
LIPOAMIDO-DPEG®$_{24}$-ACID

SKU: QBD-10811



Lipoamido-dPEG®24-acid, product number QBD-10811, is a single molecular weight, discrete PEG (dPEG®) surface modification reagent for metal surfaces, especially gold and silver. The hydrophilic dPEG®24 spacer is 85 atoms (99 Å) long. The lipoamide moiety rapidly forms stable dative bonds with gold or silver. Using a carbodiimide such as EDC and an acylating agent such N-hydroxysuccinimide (NHS), the propionic acid group will react with free amines to form amide bonds. The water-soluble, non-immunogenic dPEG® spacer adds hydrodynamic volume to conjugates made with this product. For circulating nanoparticles, the increased hydrodynamic volume reduces or eliminates opsonization and facilitates a longer circulation time in vivo.

Lipoic acid, also known as thioctic acid and alpha-lipoic acid (ALA), is an organosulfur compound used by cells as an essential cofactor. The sulfur atoms at positions C6 and C8 form a disulfide bond in a five (5)-membered ring. Like other thiol products, lipoic acid readily forms dative bonds with gold, silver, and other metals. Because two dative bonds form for each molecule of lipoic acid, the thiol-metal dative bond is more stable than dative bonds formed with compounds containing one free thiol atom. Lipoic acid exists typically in an oxidized (closed ring) state. It is readily reduced to an open ring state called dihydrolipoic acid (DHLA) using tris(2-carboxyethyl)phosphine (TCEP) or other reducing agents.

Specifications

Unit Size	100mg, 1000mg
Molecular Weight	1334.66; single compound
Chemical formula	$C_{59}H_{115}NO_{27}S_2$
CAS	1334172-71-2
Purity	> 98%
Spacers	dPEG® Spacer is 85 atoms and 99.0 Å
Shipping	Ambient

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

Typical solubility properties (for additional information contact Customer Support)	Methylene chloride, Acetontrile, DMAC or DMSO or water.
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.
