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Aminooxy-biotin

Aminooxy-biotin can be used to covalently attach biotin to aldehyde or ketone groups on polysaccharides, glycoproteins or antibodies. Aminooxy-biotin has also been used to efficiently label cell-surface glycans on living animal cells.

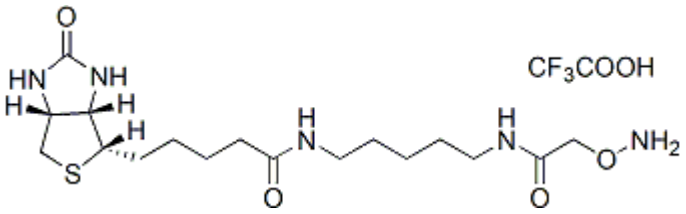
Product attributes

Chemical reactivity (reacts with)	Aldehydes/ketones
Functional group	Aminooxy (hydroxylamine)
Storage Conditions	Store at 2 to 8 °C

Product Description

Aminooxy (aka hydroxylamine or aminooxyacetamide) biotin readily reacts with aldehyde or ketone groups to form a stable oxime linkage under mild conditions, without the use of reducing agents.

- Stable labeling of aldehyde or ketone groups on polysaccharides, glycoproteins or antibodies.
- Mild labeling conditions, at neutral to acidic pH, in aqueous solutions.
- Label cell-surface sialic acid groups on glycans on living animal cells.
- White to off-white solid soluble in DMSO.
- MW: 515.55.



We also offer CF® Dye Aminooxy derivatives that are excellent options for fluorescent labeling. CF® dyes are Biotium's line of next-generation fluorescent dyes that have improved brightness, photostability and water solubility compared to other fluorescent dyes.

Advantages of Aminooxy Labeling

Aminooxy groups react with molecules containing aldehyde or ketone groups to form a stable oxime linkage in aqueous solutions, at neutral/acidic pH. The reaction is fast and can be further accelerated using a catalyst like aniline. Aminooxy reagents are therefore superior to hydrazides, which also react with aldehydes or ketones but form unstable hydrazone linkages. Aminooxy reagents offer a convenient and rapid way to label glycoproteins with a detectable tag, such as a fluorescent dye or biotin, under mild conditions. The labeling process involves two steps, first introducing aldehyde groups into the glycoproteins by mild periodate oxidation, followed by treating the functionalized proteins with an aminooxy reagent. Aminooxy labeling of antibody glycosylation sites can be used as an alternative to succinimidyl ester labeling of amines, for antibodies where amine labeling affects the antibody binding affinity. Aminooxy biotin has also been used to efficiently label cell-surface sialic acid-containing glycans on living animal cells.

References

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