Glowing products for science

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CF® Dye Aminooxy

CF® Dyes with an aminooxy reactive group are useful for fluorescently labeling aldehyde or ketone groups on target molecules such as polysaccharides, glycoproteins or antibodies.



Product attributes

Chemical reactivity (reacts with)	Aldehydes/ketones
Functional group	Aminooxy (hydroxylamine)
Storage Conditions	Store at -10 to -35 °C, Protect from light

Product Description

CF® Dye aminooxy (aka hydroxylamine or aminooxyacetamide) derivatives are reactive molecules that readily react with aldehyde or ketone groups to form a stable oxime linkage, without the use of reducing agents.

- Stable labeling of aldehyde or ketone groups on polysaccharides, glycoproteins or antibodies.
- Bright, photostable and water-soluble CF® Dyes, excellent options for fluorescent labeling.
- Available in a range of dye colors, from UV to near-infrared (NIR).

We also offer Aminooxy-biotin for covalent attachment of biotin to molecules with aldehyde or ketone groups, as well as CF®DI Aminooxy derivatives which are designed to be size- and charge-matched to each other so as not to alter the molecular weight or pI of the labeled protein.

CF® Dyes are Biotium's line of next-generation fluorescent dyes that have improved brightness, photostability and water solubility compared to other commercially available fluorescent dyes. Learn more about CF® Dyes. For more information download the CF® Dye Brochure.

Advantages of Aminooxy Labeling

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. 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 rapid, but 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 labeling involves two steps, the introduction of aldehyde groups into the glycoproteins by mild periodate oxidation, followed by treatment of 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.

CF® Dye Aminooxy

CF® Dye Aminooxy	Ex/Em	Size	Catalog No.	Dye Features
CF®350	347/448 nm	1 mg	92050	CF®350 Features
CF®405S	404/431 nm	1 mg	92055	CF®405S Features
CF®405M	408/452 nm	1 mg	92056	CF®405M Features
CF®488A	490/515 nm	1 mg	92051	CF®488A Features
CF®568	562/583 nm	1 mg	92057	CF®568 Features
CF®594	593/614 nm	1 mg	92052	CF®594 Features
CF®633	630/650 nm	1 mg	92053	CF®633 Features
CF®640R	642/662 nm	1 mg	92058	CF®640R Features
CF®660R	663/682 nm	1 mg	92059	CF®660R Features
CF®680R	680/701 nm	1 mg	92054	CF®680R Features

References

1. Organic Letters (2017), 19, 3179-3182. DOI:10.1021/acs.orglett.7b01198

Download a list of CF® dye references.

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