

PEO/PEG products for Biorthogonal Conjugation and Labeling featuring Oxime Formation

Products Description

PolyEthylOxy (**PEO**, also known as **PEG**: PolyEthylene Glycol) is a nice structure used to functionalize biomolecules and supports. It is available in a variety of lengths, providing a flexible spacer, and it is highly hydrophilic. These features are taken to good account to create conjugates of affine probes, fluorescent or enzymatic markers, peptides, supports like polystyrene plates, resins, agaroses... PEG have found great application to create drug delivery systems, hydrophilic gels, special coated surfaces, biocaptors, vaccines...

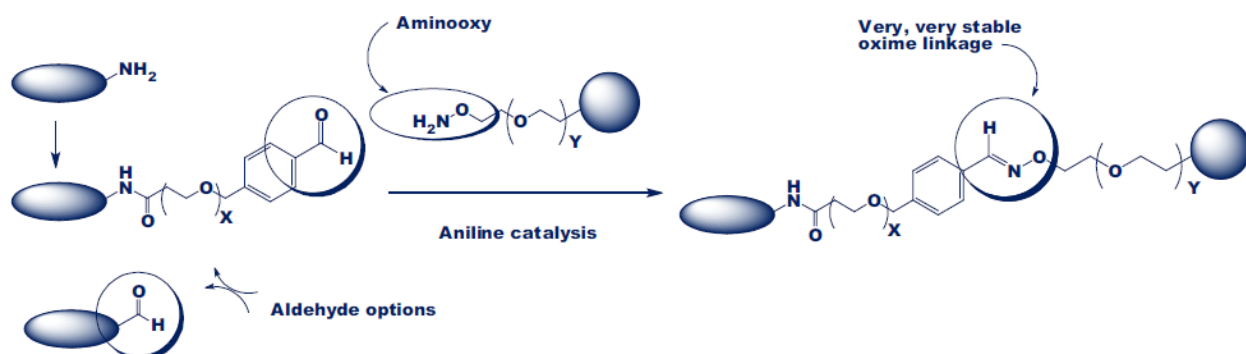
PEO compounds are available in a variety of derivatives. Below are

- Amino-Oxy reagents, for conjugation with aldehydes and cetones, extremely stable oxime linkages.
- 4-Fluoro-Benzyl (4-FB) reagents, for conjugation with amines or HyNic groups (hydrazine chemistry).

Amino-Oxy-PEO reagents

Aminoxy-PEO compounds are available with carboxyl, amine, reactive group NHS ester, and the BIOTIN label. They allow to form, with aldehydes and cetones, extremely stable oxime linkages.

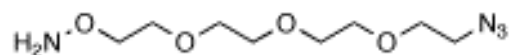
An extremely stable linkage!



Aminoxy-PEO₃-Azide

Aminoxy-TEG-Azide
C8H18N4O4; CAS[-]; MW: 234.25 – Store at +4°C

FZ8700, 100mg



A bi-functional linker, Aminoxy-PEO-azide is a dual purpose linker that has numerous potential applications. Acylation of the oxyamine end affords a hydroxamic acid that bears a PEO-linked azide group. Hydroxamic acids have long been known to be useful as carboxylic acid mimics. Thus, an advantage is that it allows the introduction of the PEO-azide functionality while retaining comparable acidity to the original carboxylic acid. Alternatively, it is possible for the oxyamine end to condense with an aldehyde, affording an oxime that bears a PEO-linked azide group. Subsequently, the azide group is available for use in a variety of well known ligation paradigms.

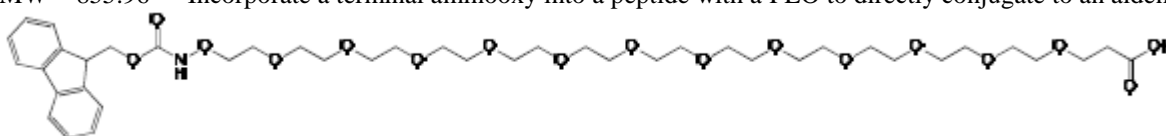
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FT-JV2290

Fmoc-Aminoxy-PEO₁₂-acid

JV2290, 100mg

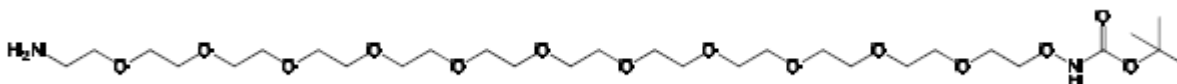
MW = 855.96 Incorporate a terminal aminoxy into a peptide with a PEO to directly conjugate to an aldehyde!



Amino-PEO₁₁-aminoxy-t-boc

JV2300, 100mg

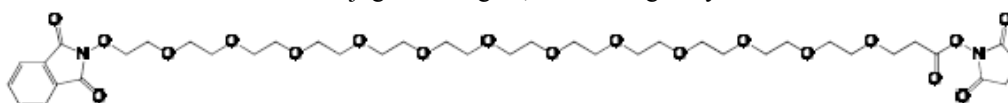
MW= 660.79 Adding an aminoxy moiety with PEO that is carbonyl reactive



PhthNO-PEO₁₂-NHS ester

JV2310, 100mg

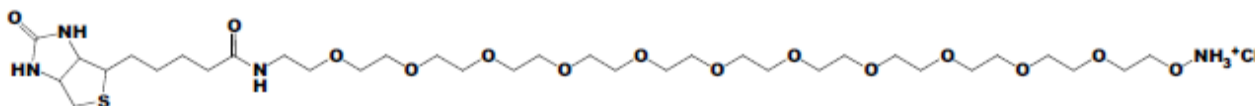
MW= 860.90 Useful as a conjugation reagent, with biologically relevant CHO's or with the 4-FB-PEOs



Biotin-PEO₁₁-oxyamine. HCl

JV2320, 50mg

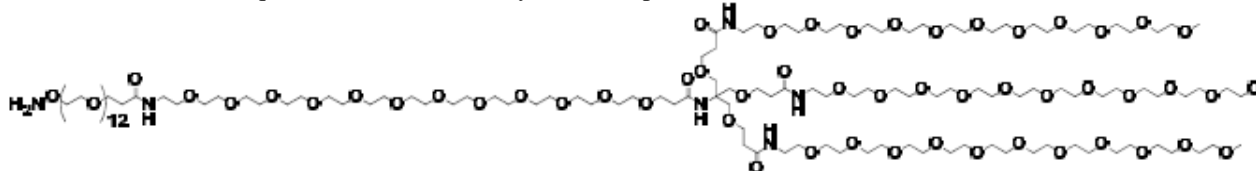
MW = 823.43 A biotinylated Amino-oxy PEO linker for biotin/avidin systems.



Aminoxy-PEO₁₂-Amido-PEO₁₂-(m-PEO₁₁)₃

JV2330, 100mg

MW= 3045.60 A unique branched Amino-Oxy-PEO compounds



References for some recent Oxime chemistry applications:

** With aniline catalysis:

- Nucleophilic Catalysis of Oxime Ligation, Anouk Dirksen, Tilman M. Hackeng, and Philip E. Dawson; Angew. Chem. Int. Ed. 2006, 45, 7581–7584
- Rapid Oxime and Hydrazone Ligations with Aromatic Aldehydes for Biomolecular Labeling; Anouk Dirksen and Philip E. Dawson; Bioconjugate Chem. 2008, 19, 2543–2548
- Nucleophilic Catalysis of Hydrazone Formation and Transimination: Implications for Dynamic Covalent Chemistry, Anouk Dirksen, Sjoerd Dirksen, Tilman M. Hackeng, and Philip E. Dawson; J. Am. Chem. Soc., 2006, 128, 15602–15603
- High-efficiency labeling of sialylated glycoproteins on living cells, Ying Zeng, T N C Ramya, Anouk Dirksen, Philip E Dawson, James C Paulson, Nature Methods, 2009, 6(3), 207-209.

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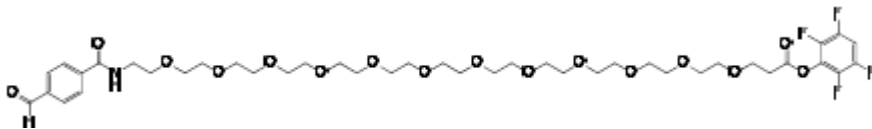
Amine reactive aldehyde equivalents for conjugation with PEO:

4-Fluoro-Benzyl (4-formyl-benzamido 4-FB) group reacts with amines or with HyNic groups (see hydrazine chemistry reagents).

4-FB-PEO₁₂-TFP ester

JV2340, 100mg QUT.10081

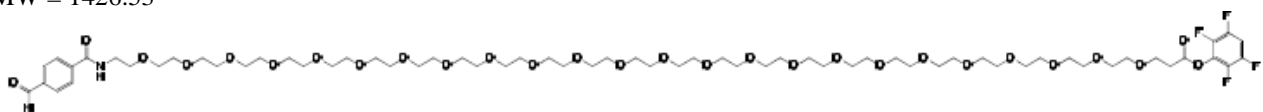
MW= 897.90



4-FB-PEO₂₄-TFP ester

JV2350, 100mg QUT.10082

MW = 1426.53



Related / associated products and documents

See [BioSciences Innovations catalogue](#) and [e-search tool](#).

Other PEO reagents

HyNic reagents [#BL9270](#) (react with CHO groups) and ControlledAmine Conjugation kit [#BL1501](#) (hydrazone chemistry)

Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>.

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06

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