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#### **TECHNICAL DATA SHEET**

# Biotin PEG Aldehyde, MW 1000, 2000, 3400, 5000, 10k, 20k

Catalog Numbers: PG2-ALBN-1k, 2k, 3k, 5k, 10k, 20k.

Synonym: Biotin PEG CHO, Aldehyde PEG Biotin

#### **Description:**

Biotin PEG aldehyde is one of Nanocs' reactive biotin **PEG** derivatives that have a terminal **aldehyde** (-CHO) group and a biotin tag on each PEG terminus. Aldehyde reacts with N-terminus amine group to form an intermediate Schiff base in pH from 5.5 to 9.5. Further reduction with hydride will form a stable C-N bond. Unlike another commonly used amine reactive succinimidyl ester (NHS) reative group, aldehyde group can react with protonated amine groups in acidic environment, a condition sometimes necessary for some special biotinylation reactions. Reactions of aldehyde enable conjugation of biotin molecule to the targeted substrates with high yield. Targeted biotin tag can recognize and bind to avidin, streptavidin or neutravidin with high affinity. PEG linker between biotin and aldehyde group offers better water solubility, less steric hindrance and enhanced stability. Biotin PEG aldehyde is water soluble; all reactions can be carried out in aqueous buffer with need any organic solvents.

#### **Product Structure:**

$$\begin{array}{c} O \\ HN \\ NH \\ H \\ \hline \\ S \\ \end{array} \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ O \\ \end{array} \\ \begin{array}{c} O \\ H \\ \end{array} \\ \\ \begin{array}{c} O \\ H \\ \end{array} \\ \begin{array}{c} O \\ H \\ \end{array} \\ \begin{array}{c} O \\ H \\ \end{array} \\ \begin{array}{c} O \\ H \\$$

## **Product Specifications:**

Composition: Biotin PEG Aldehyde.

Appearance: White/off-white solid, semi-solid

depends on molecular weight.

Solubility: Soluble in water, chloroform,

DMSO, etc.

• Reactive group: aldehyde (-CHO).

Function group: Biotin

# Handling and Use:

**Biotin PEG aldehyde** is sensitive to moisture and temperature. For best use, material should always be kept in low temperature in dry condition. Prepare fresh solution right before use. Avoid frequent thaw and freezing. For more information about using this product, visit www.nanocs.net.

## **Storage Conditions:**

**Biotin PEG aldehyde** should be stored at -20 °C. Desiccate. Materials may be handled under inert gas for best stability. Re-test material after 6 months.

This product is for research use only and is not intended for use in humans or for diagnostic use.

## **Related Products:**

Biotin PEG NHS
Biotin PEG Maleimide
Biotin PEG amine
Biotin PEG acid
Biotin PEG Azide
Biotin PEG Alkyne
Biotin PEG FITC

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