Psoralen-PEG3-Biotin

Catalog number: 39050, 39051
Unit size: 1 mg, 5 mg

Component	Storage	Amount (Cat No. 39050)	Amount (Cat No. 39051)
Psoralen-PEG3-Biotin	Freeze (< -15 °C)	1 mg	5 mg

OVERVIEW

Psoralen-PEG3-Biotin is a photoactivatable reagent for biotinylating DNA or RNA. Psoralen-PEG3-Biotin has a psoralen group that can intercalate into double-stranded DNA or RNA and form covalent bonds with thymine and other pyrimidine bases when exposed to UV light (around 350 nm). Psoralen-PEG3-Biotin contains a polyethylene glycol (PEG) spacer arm that enhances the solubility and accessibility of the biotin moiety. Psoralen-PEG3-Biotin is used for selective labeling of cell surface proteins, biotinylation of hyaluronan, labeling of endotoxin for receptor binding studies, and crosslinking of nucleic acids for genomic investigations. It can also be used to study nucleic acid and protein interactions.

PREPARATION OF STOCK SOLUTIONS

1. Prepare a Psolaren-PEG3-Biotin stock solution by adding 70 µL (for Cat# 39050) or 350 µL (for Cat# 39051) of DMSO to the vial of Psolaren-PEG3-Biotin.

   Note: Any unused stock solution should be divided into single-use aliquots and stored at ≤-20 °C after preparation. Protect from light and avoid repeated freeze-thaw cycles.

SAMPLE EXPERIMENTAL PROTOCOL

The following protocol is to be used as a general guideline and may require optimization for your specific application and experimental system.

1. Adjust DNA or RNA to the desired concentration (e.g., 20-100 µg/mL) in TE buffer (10 mM Tris, 1 mM EDTA, pH 7.4).

   Note: To improve the binding of dye to nucleic acid, DNA can be denatured by boiling for 5 minutes. After boiling, the DNA tube should be quickly cooled by placing it in a dry ice/ethanol bath.

2. Add 1 µL of Psolaren-PEG3-Biotin stock solution to the DNA or RNA (100 µL volume) and mix well.

   Note: A serial dilution of the Psolaren-PEG3-Biotin stock solution may be required when using small reaction volumes.

3. Irradiate the tube from above using a long wavelength UV light source for at least 20-30 minutes.

4. To remove any non-reacted Psolaren-PEG3-Biotin, precipitate the sample with 0.5 M NaCl and two volumes of 100% ethanol at -20 °C for a minimum of 30 minutes. After centrifugation, wash the pellet with 70% ethanol and allow it to dry. Dissolve the biotinylated sample in water or a buffer of your choice.

5. Biotinylated DNA can then be verified using HABA and gel electrophoresis.

EXAMPLE DATA ANALYSIS AND FIGURES

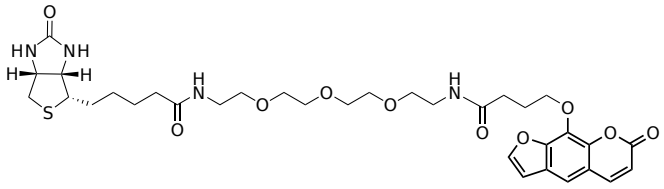

Figure 1. Chemical structure for Psoralen-PEG3-Biotin.

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