Biotin-HPDP
Item No. 16459

CAS Registry No.: 129179-83-5
Formal Name: (3aS,4S,6aR)-hexahydro-2-oxo-N-[6-[[1-oxo-3-(2-pyridinyl)dithio)propyl]amino][ethyl]-1H-thieno[3,4-d]imidazole-4-pentanamide

MF: C24H37N5O4S3
FW: 539.8
Purity: ≥95%
Stability: ≥2 years at -20°C

Supplied as: A crystalline solid
UV/Vis: \( \lambda_{\text{max}}: 237, 284 \) nm

Laboratory Procedures

For long term storage, we suggest that biotin-HPDP be stored as supplied at -20°C. It should be stable for at least two years.

Biotin-HPDP is supplied as a crystalline solid. A stock solution may be made by dissolving the biotin-HPDP in the solvent of choice. Biotin-HPDP is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of biotin-HPDP in these solvents is approximately 20 mg/ml.

Biotin-HPDP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, biotin-HPDP should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Biotin-HPDP has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO-PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Biotin-HPDP is a sulfhydryl-reactive biotinylation reagent that forms a reversible disulfide linkage. It is used to label protein cysteines and other substrates that contain sulfhydryl groups.\(^1\)\(^-\)\(^3\) Biotin-HPDP is also used in the biotin switch technique to tag S-nitrosylated (SNO) proteins, following reduction of SNO groups to thiols.\(^4\)\(^,\)\(^5\) Compounds that are tagged with biotin interact avidly with streptavidin-coupled beads, fluorophores, enzymes, etc. The interaction of biotin-HPDP with substrates containing sulfhydryl groups is easily performed at pH 6.5 to 7.5 in buffers such as PBS.

The disulfide linkage that is formed between avidin and substrate can later be cleaved by a reducing agent, like dithiothreitol.

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16459

__WARNING:__ THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your institution.

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**Cayman Chemical**

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com