

# PRODUCT INFORMATION

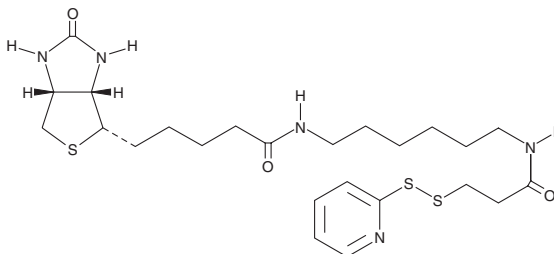


## Biotin-HPDP

Item No. 16459

**CAS Registry No.:** 129179-83-5  
**Formal Name:** (3a*S*,4*S*,6a*R*)-hexahydro-2-oxo-N-[6-[[1-oxo-3-(2-pyridinyldithio)propyl]amino]hexyl]-1H-thieno[3,4-*d*]imidazole-4-pentanamide

**MF:** C<sub>24</sub>H<sub>37</sub>N<sub>5</sub>O<sub>3</sub>S<sub>3</sub>  
**FW:** 539.8  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 237, 284 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

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

### Description

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.<sup>1-3</sup> Biotin-HPDP is also used in the biotin switch technique to tag S-nitrosylated (SNO) proteins, following reduction of SNO groups to thiols.<sup>4,5</sup> 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

1. Bizzozero, O.A. and Zheng, J. *J. Neurosci. Res.* **87**(13), 2881-2889 (2009).
2. Slatin, S.L., Nardi, A., Jakes, K.S., *et al. Proc. Natl. Acad. Sci. USA* **99**(3), 1286-1291 (2002).
3. Lu, C., Kavalier, A., Lukyanov, E., *et al. Methods* **62**(2), 177-181 (2013).
4. Ckless, K., Reynaert, N.L., Taatjes, D.J., *et al. Nitric Oxide* **11**, 216-227 (2004).
5. Forrester, M.T., Foster, M.W., and Stamler, J.S. *J. Biol. Chem.* **282**(19), 13977-13983 (2007).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM