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# DATASHEET

Biocytin

## Product overview

<b>Name</b>	Biocytin
<b>Cat No</b>	HB5035
<b>Biological action</b>	Dyes & stains
<b>Purity</b>	>95% (NMR)
<b>Description</b>	Classical neuroanatomical tracer

## Images



## Biological Data

### Biological description

#### Overview

Biocytin is a conjugate of biotin and lysine which is small and soluble. It is widely used in neuroanatomical research as a neuroanatomical tracer.

#### Uses and applications

Biocytin is taken up by neurons and rapidly transported in both anterograde and retrograde directions.

It has high affinity for avidin and consequently, can be visualized by various avidin and streptavidin-conjugated markers for light, fluorescence or electron microscope detection.

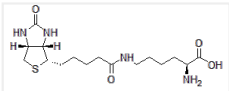
Biocytin has a short half-life and is degraded by biotinidase a few hours after application.

## Solubility & Handling

### Storage instructions Solubility overview Important

-20 °C  
Soluble in water (50 mM)  
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

## Chemical Data

<b>Chemical name</b>	N6-[5-[(3aS,4S,6aR)-Hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]-L-lysine
<b>Molecular Weight</b>	372.5
<b>Chemical structure</b>	
<b>Molecular Formula</b>	C <sub>16</sub> H <sub>28</sub> N <sub>4</sub> O <sub>4</sub> S
<b>CAS Number</b>	576-19-2
<b>PubChem identifier</b>	83814
<b>SMILES</b>	C1[C@H]2[C@@H]([C@@H](S1)CCCC(=O)NCCCC[C@@H](C(=O)O)N)NC(=O)N2
<b>InChi</b>	InChI=1S/C16H28N4O4S/c17-10(15(22)23)5-3-4-8-18-13(21)7-2-1-6-12-14-11(9-25-12)19-16(24)20-14/h10-12,14H,1-9,17H2,(H,18,21)(H,22,23)(H2,19,20,24)/t10-,11-,12-,14-/m0/s1
<b>InChiKey</b>	BAQMYDQNMFBZNA-MNXVOIDGSA-N
<b>MDL number</b>	MFCD00077319

## References

### Biocytin-labelling and its impact on late 20th century studies of cortical circuitry

Thomson AM *et al* (2011) Brain Res Rev 66(1-2)

**PubMedID** [20399808](#)

### Neuroanatomical labeling with biocytin: a review

McDonald AJ (1992) Neuroreport 3(10)

**PubMedID** [1384763](#)

### Immunostaining of Biocytin-filled and Processed Sections for Neurochemical Markers

Swietek B *et al* (2016) J Vis Exp 31

**PubMedID** [28117774](#)