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DATASHEET
Biocytin

Product overview

Name	Biocytin
Cat No	HB5035
Biological action	Dyes & stains
Purity	>95% (NMR)
Description	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.
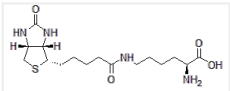
Biocytin has a short half-life and is degraded by biotinidase a few hours after application.

Solubility & Handling

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

Chemical Data

Chemical name	N6-[5-[(3aS,4S,6aR)-Hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]-L-lysine
Molecular Weight	372.5
Chemical structure	

Molecular Formula	$C_{16}H_{28}N_4O_4S$
CAS Number	576-19-2
PubChem identifier	83814
SMILES	C1[C@H]2[C@@H]([C@@H](S1)CCCCC(=O)NCCCC[C@@H](C(=O)O)N)NC(=O)N2
InChi	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
InChiKey	BAQMYDQNMFBZNA-MNXVOIDGSA-N
MDL number	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