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DATASHEET

Sodium butyrate

Product overview

Name	Sodium butyrate
Cat No	HB1399
Alternative names	NaB; SB
Biological action	Inhibitor
Description	HDAC inhibitor. Directs mESC differentiation into hepatocytes.

Images

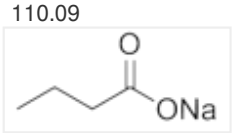
Biological Data

Biological description	Histone deacetylase (HDAC) inhibitor (IC_{50} values are 0.3, 0.3 and 0.4 mM for HDAC1, 7 and 2 respectively). Does not inhibit HDAC6 and HDAC10. Upregulates expression of pluripotency genes in iPSCs and directs mESC differentiation into hepatocytes. Improves cognition and shows anti-Alzheimer's disease and antidepressant actions.

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (100mM)
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	Butanoic acid sodium salt
Molecular Weight	110.09
Chemical structure	
Molecular Formula	$C_4H_7NaO_2$
CAS Number	156-54-7
PubChem identifier	5222465

SMILES	[Na+].CCCC([O-])=O
InChi	InChI=1S/C4H8O2.Na/c1-2-3-4(5)6;/h2-3H2,1H3,(H,5,6);/q;+1/p-1
InChiKey	MFBOGIVSZKQAPD-UHFFFAOYSA-M
MDL number	MFCD00002816
Appearance	White solid

References

Histone deacetylase is a target of valproic acid-mediated cellular differentiation.

Gurvich N *et al* (2004) Cancer Res 64(3)
PubMedID 14871841

Sodium butyrate functions as an antidepressant and improves cognition with enhanced neurotrophic expression in models of maternal deprivation and chronic mild stress.

Valvassori SS *et al* (2014) Curr Neurovasc Res 11(4)
PubMedID 25233278

Sodium butyrate efficiently converts fully reprogrammed induced pluripotent stem cells from mouse partially reprogrammed cells.

Kang SJ *et al* (2014) Cell Reprogram 16(5)
PubMedID 25093667

Sodium butyrate improves memory function in an Alzheimer's disease mouse model when administered at an advanced stage of disease progression.

Govindarajan N *et al* (2011) J Alzheimers Dis 26(1)
PubMedID 21593570