Product overview

<table>
<thead>
<tr>
<th>Name</th>
<th>Sodium butyrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat No</td>
<td>HB1399</td>
</tr>
<tr>
<td>Alternative names</td>
<td>NaB; SB</td>
</tr>
<tr>
<td>Biological action</td>
<td>Inhibitor</td>
</tr>
<tr>
<td>Description</td>
<td>HDAC inhibitor. Directs mESC differentiation into hepatocytes.</td>
</tr>
</tbody>
</table>

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**

![Chemical structure of Sodium butyrate]

**Molecular Formula**
C_{4}H_{7}NaO_{2}

**CAS Number**
156-54-7

**PubChem identifier**
5222465
SMILES: \([\text{Na}^+].\text{CCCC}([\text{O}^-])=\text{O}\)

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: MFC00002816

Appearance: White solid

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**References**

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


PubMedID: 14871841

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


PubMedID: 25233278

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


PubMedID: 25093667

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


PubMedID: 21593570