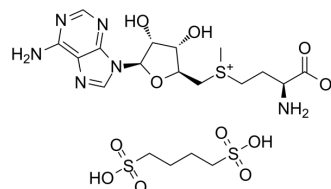


S-Adenosyl-L-methionine (1,4-butanedisulfonate)

Cat. No.:	HY-B0617B
CAS No.:	200393-05-1
Molecular Formula:	C ₁₉ H ₃₂ N ₆ O ₁₁ S ₃
Molecular Weight:	616.69
Target:	Endogenous Metabolite; Apoptosis
Pathway:	Metabolic Enzyme/Protease; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	S-Adenosyl-L-methionine (S-Adenosyl methionine) 1,4-butanedisulfonate is an orally active methyl group donor. S-Adenosyl-L-methionine 1,4-butanedisulfonate is a dietary supplement with potent antidepressant effects. S-Adenosyl-L-methionine 1,4-butanedisulfonate also has anti-proliferative, pro-apoptotic and anti-metastatic roles in cancers. S-Adenosyl-L-methionine 1,4-butanedisulfonate has the potential for, cancer, liver disease and osteoarthritis research ^{[1][2][3]} .																
In Vitro	<p>S-Adenosyl-L-methionine (300 μM, 24 or 48 h) 1,4-butanedisulfonate induces cell apoptosis, and promotes the cell cycle arrest in Cal-33 and JHU-SCC-011 cells^[4].</p> <p>S-Adenosyl-L-methionine (300 μM, 24 h) 1,4-butanedisulfonate decreases the migration of the Cal-33 and JHU-SCC-011 cells^[4].</p> <p>S-Adenosyl-L-methionine (5-40 μg/mL, 48 h) 1,4-butanedisulfonate protects the anticancer effect of 5-FU by regulating the expression of DNMTs^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[4]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Cal-33 and JHU-SCC-011 cells</td> </tr> <tr> <td>Concentration:</td> <td>300 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h (Cal-33) or 48 h (HU-SCC-011)</td> </tr> <tr> <td>Result:</td> <td>Showed an approximately 10% and 3% of apoptotic cells respectively.</td> </tr> </table> <p>Cell Cycle Analysis^[4]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Cal-33 and JHU-SCC-011 cells</td> </tr> <tr> <td>Concentration:</td> <td>300 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h (Cal-33) or 48 h (HU-SCC-011)</td> </tr> <tr> <td>Result:</td> <td>Decreased the expression of cyclin B1, E1 and D1 in the Cal-33 and JHU-SCC-011 cells.</td> </tr> </table>	Cell Line:	Cal-33 and JHU-SCC-011 cells	Concentration:	300 μM	Incubation Time:	24 h (Cal-33) or 48 h (HU-SCC-011)	Result:	Showed an approximately 10% and 3% of apoptotic cells respectively.	Cell Line:	Cal-33 and JHU-SCC-011 cells	Concentration:	300 μM	Incubation Time:	24 h (Cal-33) or 48 h (HU-SCC-011)	Result:	Decreased the expression of cyclin B1, E1 and D1 in the Cal-33 and JHU-SCC-011 cells.
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In Vivo	<p>S-Adenosyl-L-methionine (30 mg/kg, p.o., for 3 days) 1,4-butanedisulfonate prevents ASD like behaviors induced by early postnatal valproic acid exposure in young mice^[6].</p> <p>S-Adenosyl-L-methionine (50 and 100 mg/kg, p.o.) 1,4-butanedisulfonate shows antiepileptic, memory-enhancing, and</p>																

antioxidant properties in a Pentylentetrazole-induced rat epilepsy model^[7].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Valproic acid treated young mice ^[6]
Dosage:	30 mg/kg
Administration:	p.o., for 3 days
Result:	Alleviated most ASD like neurobehavioral symptoms. Normalized the redox potential in the prefrontal cortex.

CUSTOMER VALIDATION

- J Agric Food Chem. 2021 Jul 30.
- Biochem Pharmacol. 2023 Dec 6:219:115967.
- Int Immunopharmacol. 2021 Mar 22;95:107545.
- Epigenetics Chromatin. 2021 Dec 4;14(1):52.
- J Pharm Biomed Anal. 2024 Jan 20, 115991.

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- [2]. Wadie I Najm, et al. S-adenosyl methionine (SAMe) versus celecoxib for the treatment of osteoarthritis symptoms: a double-blind cross-over trial. [ISRCTN36233495]. BMC Musculoskelet Disord. 2004 Feb 26;5:6.
- [3]. Shelly C Lu, et al. S-adenosylmethionine in liver health, injury, and cancer. Physiol Rev. 2012 Oct;92(4):1515-42.
- [4]. Mosca L, et al. Effects of S-adenosylmethionine on the invasion and migration of head and neck squamous cancer cells and analysis of the underlying mechanisms. Int J Oncol. 2020 May;56(5):1212-1224.
- [5]. Ham MS, et al. S-adenosyl methionine specifically protects the anticancer effect of 5-FU via DNMTs expression in human A549 lung cancer cells. Mol Clin Oncol. 2013 Mar;1(2):373-378.
- [6]. Ornoy A, et al. S-adenosyl methionine prevents ASD like behaviors triggered by early postnatal valproic acid exposure in very young mice. Neurotoxicol Teratol. 2019 Jan-Feb;71:64-74.
- [7]. Dhediya RM, et al. Evaluation of antiepileptic effect of S-adenosyl methionine and its role in memory impairment in pentylentetrazole-induced kindling model in rats. Epilepsy Behav. 2016 Aug;61:153-157.

Caution: Product has not been fully validated for medical applications. For research use only.

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