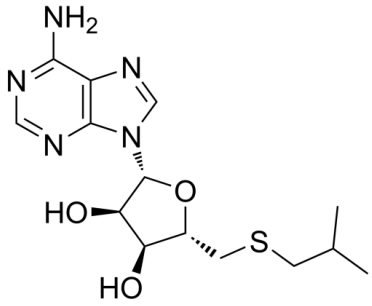
Data Sheet

Product Name:	SIBA
Cat. No.:	CS-5062
CAS No.:	35899-54-8
Molecular Formula:	$C_{14}H_{21}N_5O_3S$
Molecular Weight:	339.41
Target:	HSV; Nucleoside Antimetabolite/Analog; Parasite
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Solubility:	DMSO : ≥ 100 mg/mL (294.63 mM)



BIOLOGICAL ACTIVITY:

SIBA (5'-Isobutylthioadenosine) is a **transmethylation** inhibitor (SAH (HY-19528) analogue), with potent anti-proliferative activity. SIBA reversibly inhibits the production of HSV-1 by blocking methylation, specifically by blocking the 5' end-capping of viral mRNA. SIBA also inhibits the growth of tumour cells in vitro and metastatic spread in vivo. SIBA can be used in cancer, HSV-1 infection and anti-malaria studies[1][2][3]. IC50 & Target:Parasite, HSV-1[2]. ***In Vitro:*** SIBA (0.5 mM; 24-96 h) shows strong anti-proliferative activity against 3LL and RMS-J1 tumour cells[1].

SIBA (1 mM; 12, 24 h) reversibly inhibits HSV production in HEp2 cells (infected by HSV-1)[2].

SIBA inhibits protein synthesis by 98% after 10 h infection of HEp2 cells (infected by HSV-1)[2].

SIBA (1 mM; 8.5 h) inhibits protein synthesis and RNA methylation in HEp2 cells (infected by HSV-1)[2].

SIBA (0.5, 1.0 mM; 24, 48 h) inhibits the conversion of putrescine into spermidine and/or spermine and that this inhibition is a reversible one (interferes with polyamine biosynthesis, probably by blocking aminopropyltransferase)[3]. ***In Vivo:*** SIBA (150 mg/kg; i.p.; twice weekly for 3 weeks) inhibits tumor growth in vivo[1].

SIBA (15 mg/kg; i.p.; thrice weekly for 4 weeks) inhibits metastatic spread of RMS-J1 cells in vivo[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [2] For reversal experiments cells are treated with SIBA for 24 h, and the medium is then removed and fresh medium without drug is added for 24 h. Cell viability is estimated by the Trypan Blue exclusion method.

References:

[1]. F Breillout , et al. Association of SIBA treatment and a Met-depleted diet inhibits in vitro growth and in vivo metastatic spread of experimental tumor cell lines. Clin Exp Metastasis. Jan-Feb 1988;6(1):3-16.

[2]. B Jacquemont, et al. Inhibition of viral RNA methylation in herpes simplex virus type 1-infected cells by 5' S-isobutyl-adenosine. J Virol. 1977 Apr;22(1):160-7.

[3]. Lawrence F, et al. Effect of 5'-deoxy-5'-isobutylthioadenosine on putrescine uptake and polyamine biosynthesis by chick embryo fibroblasts. Biochem J. 1982 Jun 15;204(3):853-9.

CAIndexNames:

Adenosine, 5'-S-(2-methylpropyl)-5'-thio-

SMILES:

O[C@@H]([C@H]([C@H](N1C=NC2=C1N=CN=C2N)O3)O)[C@H]3CSCC(C)C

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