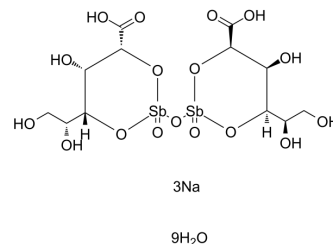


Sodium stibogluconate

Cat. No.:	HY-100595
CAS No.:	16037-91-5
Molecular Formula:	C ₁₂ H ₃₈ Na ₃ O ₂₆ Sb ₂
Molecular Weight:	910.9
Target:	Phosphatase; Parasite; SHP2
Pathway:	Metabolic Enzyme/Protease; Anti-infection; Protein Tyrosine Kinase/RTK
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 3 mg/mL (3.29 mM; ultrasonic and warming and heat to 60°C)
DMSO : 1 mg/mL (1.10 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	1.0978 mL	5.4891 mL	10.9782 mL
	5 mM	---	---	---	
	10 mM	---	---	---	

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Sodium stibogluconate (Stibogluconate trisodium nonahydrate) is a potent inhibitor of protein tyrosine phosphatase. Sodium stibogluconate inhibits 99% of SHP-1, SHP-2 and PTP1B activity at 10, 100, 100 µg/mL, respectively.

IC₅₀ & Target

Phosphatase^[1]

In Vitro

Sodium stibogluconate (Stibogluconate trisodium nonahydrate) inhibits 99% of SHP-1 activity at 10 µg/mL, a therapeutic concentration of the drug for leishmaniasis. Similar degrees of inhibition of SHP-2 and PTP1B required 100 µg/mL Sodium stibogluconate. The inhibition of cellular PTPases by the Sodium stibogluconate is suggested by its rapid induction of tyrosine phosphorylation of cellular proteins in Baf3 cells and its augmentation of IL-3-induced Janus family kinase 2/Stat5 tyrosine phosphorylation and proliferation of Baf3 cells. The augmentation of the opposite effects of GM-CSF and IFN-α on TF-1 cell growth by Sodium stibogluconate indicate its broad activities in the signaling of various cytokines^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Sodium stibogluconate (Stibogluconate trisodium nonahydrate) induces 61% growth inhibition of Renca tumors in BALB/c mice coincident with an increase (2-fold) in tumor-infiltrating macrophages. A combination of Sodium stibogluconate and IL-2 is more effective in inhibiting tumor growth (91%) and inducing tumor-infiltrating (4-fold), whereas IL-2 alone has little

effect^[2].

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

PROTOCOL

Cell Assay ^[1]

Human myeloid cell line TF-1 is maintained in RPMI 1640 supplemented with 10% FCS and 40 ng/mL recombinant human GM-CSF. For cell proliferation assays, cells are washed in 10% FCS medium twice, resuspended in 10% FCS medium, incubated at 37°C for 16 h, and then cultured at 37°C in 10% FCS medium containing various amounts of cytokines, sodium stibogluconate, or potassium antimonyl tartrate for 3-6 days. The cell numbers in proliferation assays are determined by an MTT assay or by microscopic cell counting^[1].

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

Animal Administration ^[2]

BALB/c and athymic nude BALB/c mice are inoculated (s.c.) at the flanks with Renca cells (106 cells/site). Four days after inoculation, the mice are subjected to no treatment (control) or treatment with IL-2 (105 IU/day for 5 days i.p.), Stibogluconate sodium (12 mg/day i.m. at hip regions), or the combination of the two agents for 2 wk. Tumor volume is measured during the study period and calculated using the formula for a prolate spheroid^[2].

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

CUSTOMER VALIDATION

- J Exp Clin Cancer Res. 2019 Feb 14;38(1):80.
- Cell Rep. 2022 Apr 12;39(2):110622.
- Parasit Vectors. 2020 Oct 12;13(1):510.
- Parasit Vectors. 2020 Feb 21;13(1):94.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Pathak MK, et al. Sodium stibogluconate is a potent inhibitor of protein tyrosine phosphatases and augments cytokine responses in hemopoietic cell lines. J Immunol. 2001 Sep 15;167(6):3391-7.

[2]. Fan K et al. Sodium Stibogluconate Interacts with IL-2 in Anti-Renca Tumor Action via a T Cell-Dependent Mechanism in Connection with Induction of Tumor-Infiltrating Macrophages. J Immunol. 2005 Nov 15;175(10):7003-8.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA