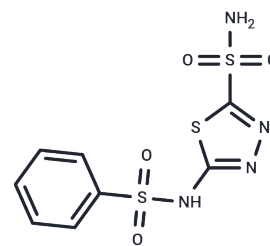


Benzolamide

Chemical Properties

CAS No. :	3368-13-6
Formula:	C ₈ H ₈ N ₄ O ₄ S ₃
Molecular Weight:	320.37
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Benzolamide (CL 11366) inhibits carbonic anhydrase effectively and low-threshold calcium currents in hippocampal pyramidal neurons.
Targets(IC50)	Carbonic Anhydrase
In vitro	Benzolamide inhibits hCA I, hCA II, EcoCAγ and VchCAγ, with Kis of 15 nM, 9 nM, 94 nM and 78 nM, respectively[1]. Benzolamide shows selectivity for CAS3 with a Ki of 54 nM over CAS1 with a Ki of 2115 nM and CAS2 with a Ki of 410 nM[2].
In vivo	Administration of 90 μmol/kg Benzolamide decreases brain pH and suppresses electrographic post-asphyxia seizures in rats[3].

Solubility Information

Solubility	DMSO: 250 mg/mL (780.35 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (15.61 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1214 mL	15.607 mL	31.2139 mL
5 mM	0.6243 mL	3.1214 mL	6.2428 mL
10 mM	0.3121 mL	1.5607 mL	3.1214 mL
50 mM	0.0624 mL	0.3121 mL	0.6243 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Prete SD, et, al. Escherichia coli γ -carbonic anhydrase: characterisation and effects of simple aromatic/heterocyclic sulphonamide inhibitors. *J Enzyme Inhib Med Chem*. 2020 Dec;35(1):1545-1554.
- Vullo D, et, al. Sulfonamide Inhibition Studies of the β -Class Carbonic Anhydrase CAS3 from the Filamentous Ascomycete *Sordaria macrospora*. *Molecules*. 2020 Feb 25;25(5):1036.
- Pospelov AS, et, al. Carbonic anhydrase inhibitors suppress seizures in a rat model of birth asphyxia. *Epilepsia*. 2021 Jun 27.
- Cecchi A, Winum JY, Innocenti A, Vullo D, Montero JL, Scozzafava A, Supuran CT. Carbonic anhydrase inhibitors: synthesis and inhibition of cytosolic/tumor-associated carbonic anhydrase isozymes I, II, and IX with sulfonamides derived from 4-isothiocyanato-benzolamide. *Bioorg Med Chem Lett*. 2004 Dec 6;14(23):5775-80. PubMed PMID: 15501039.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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