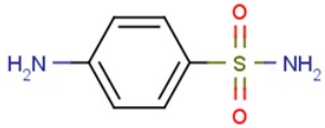
Data Sheet (Cat.No.T0123)

TargetMol
A DRUG SCREENING EXPERT

Sulfanilamide

Chemical Properties



CAS No.:	63-74-1
Formula:	C6H8N2O2S
Molecular Weight:	172.2
Appearance:	Solid
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Sulfanilamide can competitively inhibit bacterial enzyme dihydropteroate synthetase with IC50 of 320 μM.
Targets(IC_{50})	DHPS: 320μM
In vitro	Sulfanilamide能够抑制具有野生型 FOL1基因的重组酵母菌株, IC50为286.8 μg/mL。但若真菌二氢喋呤合成酶活性区域的55Trp变为55Ala或 57Pro变为57Ser的单一突变，就会对Sulfanilamide产生抗性，IC50 >800 μg/mL。 Sulfanilamide的磺胺类基团可以抑制大肠杆菌中纯化的二氢喋呤合成酶，在嘌呤，嘧啶和其他氨基酸合成时，对氨基苯甲酸合成被用于必需的叶酸，Sulfanilamide作用于二氢喋呤合成酶时，IC50为320 μM，作用于PABA时，Km为2.5 uM。 Sulfanilamide能够一定程度的抑制含恶性疟原虫pKOS-pfPPPK-DHPS(His)细菌细胞生长，IC50为380 uM。
In vivo	在免疫抑制大鼠模型中，每天给100mg/kg Sulfanilamide，可有效预防P.卡氏肺囊虫感染。当磺胺胍和Sulfanilamide的剂量降为每天10mg/kg时, 发现P.卡氏肺囊虫感染的出现。
Animal Research	Animal Model：Sprague-Dawley rats

Solubility Information

Solubility	DMSO: 32 mg/mL (185.8 mM) Ethanol: 14 mg/mL (81.3 mM) Water: <1 mg/mL (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.807 mL	29.036 mL	58.072 mL
5 mM	1.161 mL	5.807 mL	11.614 mL
10 mM	0.581 mL	2.904 mL	5.807 mL
50 mM	0.116 mL	0.581 mL	1.161 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. McCullough JL, et al. Antimicrob Agents Chemother, 1973, 3(6), 665-669.
2. Meneau I, et al. Antimicrob Agents Chemother, 2004, 48(7), 2610-2616.
3. Kasekarn W, et al. Mol Biochem Parasitol, 2004, 137(1), 43-53.
4. Hughes WT, et al. Antimicrob Agents Chemother, 1996, 40(4), 962-965.

Inhibitors · Natural Compounds · Compound Libraries

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use.

Tel:781-999-4286 E-mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481