

产品名称： 苏拉明钠
产品别名： **Suramin sodium salt**

生物活性:					
Description	Suramin sodium salt (Suramin hexasodium salt), a polysulfonated naphthylurea, is a potent competitive DNA topoisomerase II inhibitor with an IC50 of 5 μM[1][2][3][4]. Suramin sodium salt inhibits IL-4 with an IC50 of 55-70 μM. Suramin sodium salt has antiproliferative, anticancer, and anti-HIV activities and prevents binding of a variety of growth factors to their respective receptors[5].				
	IC50: 5 μM (DNA topoisomerase II)[3]; 55-70 μM (IL-4) [5]				
In Vitro	Suramin inhibits cell proliferation and DNA synthesis in cultured HeLa cells. The replication of SV40 DNA is completely abolished by 40 μM suramin. DNA polymerase α is sensitive to lower concentrations of suramin (IC50=8 μM) than is DNA polymerase δ (IC50=36 μM), whereas DNA polymerase β is relatively insensitive to the drug (IC50 of 90 μM)[1]. Suramin is a potent inhibitor of DNA strand exchange and ATPase activities of bacterial RecA proteins. Suramin inhibits RecA-catalysed proteolytic cleavage of the LexA repressor. The mechanism underlying such inhibitory actions of suramin involves its ability to disassemble RecA–single-stranded DNA filaments[2]. Suramin is a potent inhibitor of the nuclear enzyme DNA topoisomerase II. Suramin inhibits purified yeast topoisomerase II with an IC50 of about 5 μM[3].				
	Treatment with suramin shows lower values for pulmonary artery pressure, right ventricular hypertrophy, and distal vessel muscularization on day 21 compared to control rats. Suramin treatment suppresses PA-SMC proliferation and attenuates both the inflammatory response and the deposition of collagen[4].				
Solvent&Solubility	In Vitro: H2O : ≥ 200 mg/mL (139.94 mM) DMSO : 5.6 mg/mL (3.92 mM; Need warming) * "≥" means soluble, but saturation unknown.				
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div><div>Mass</div></div>	1 mg	5 mg	10 mg
		1 mM	0.6997 mL	3.4985 mL	6.9971 mL
		5 mM	0.1399 mL	0.6997 mL	1.3994 mL
		10 mM	0.0700 mL	0.3499 mL	0.6997 mL
*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液，一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。 储备液的保存方式和期限：-80℃，6 months; -20℃，1 month。-80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。					
References	<p>[1]. Jindal HK, et al. Suramin affects DNA synthesis in HeLa cells by inhibition of DNA polymerases. Cancer Res. 1990 Dec 15;50(24):7754-7.</p> <p>[2]. Nautiyal A, et al. Suramin is a potent and selective inhibitor of Mycobacterium tuberculosis RecA protein and the SOS response: RecA as a potential target for antibacterial drug discovery. J Antimicrob Chemother. 2014 Jul;69(7):1834-43.</p> <p>[3]. Bojanowski K, et al. Suramin is an inhibitor of DNA topoisomerase II in vitro and in Chinese hamster fibrosarcomacells. Proc Natl Acad Sci U S A. 1992 Apr 1;89(7):3025-9.</p> <p>[4]. Izikki M, et al. The beneficial effect of suramin on monocrotaline-induced pulmonary hypertension in rats. PLoS One. 2013 Oct 15;8(10):e77073.</p>				

	<p>[5]. J Biol Chem. 1999 Jul 2;274(27):18997-9002.Differential pharmacological properties and signal transduction of the sphingosine 1-phosphate receptors EDG-1, EDG-3, and EDG-5.</p>
实验参考:	
Animal Administration	<p>Rats: To assess the potential preventive and curative effects of suramin, rats are randomly divided into four groups after MCT injection. In the preventive strategy, the treatment is started on the first day, and one group receives 10 mg/kg suramin intravenously twice weekly for 3 weeks, while a second group receives only the vehicle at the same time points. To assess the potential curative effects of suramin, rats are given MCT and are left untreated for 21 days before being randomly divided into two groups that are subsequently treated with either suramin or vehicle from day 21 to day 42 inclusive. The effect of suramin on survival is evaluated from the day 21 of MCT injection to day 42 corresponding to the treatment period[4].</p>
Kinase Assay	<p>The ATPase assay is performed in a 10 μL reaction mixture containing 20 mM Tris-HCl (pH 7.5), 1 mM DTT, 8 mM MgCl₂, 5 μM M13 circular ssDNA, 2.5 μM RecA from the specified bacterial species and increasing concentrations of suramin. The reaction is initiated by the addition of 2 mM [α-³²P]ATP, incubated for 30 min at 37°C and stopped by the addition of 25 mM EDTA[2].</p>
References	<p>[1]. Jindal HK, et al. Suramin affects DNA synthesis in HeLa cells by inhibition of DNA polymerases. Cancer Res. 1990 Dec 15;50(24):7754-7.</p> <p>[2]. Nautiyal A, et al. Suramin is a potent and selective inhibitor of Mycobacterium tuberculosis RecA protein and the SOS response: RecA as a potential target for antibacterial drug discovery. J Antimicrob Chemother. 2014 Jul;69(7):1834-43.</p> <p>[3]. Bojanowski K, et al. Suramin is an inhibitor of DNA topoisomerase II in vitro and in Chinese hamster fibrosarcomacells. Proc Natl Acad Sci U S A. 1992 Apr 1;89(7):3025-9.</p> <p>[4]. Izikki M, et al. The beneficial effect of suramin on monocrotaline-induced pulmonary hypertension in rats. PLoS One. 2013 Oct 15;8(10):e77073.</p> <p>[5]. J Biol Chem. 1999 Jul 2;274(27):18997-9002.Differential pharmacological properties and signal transduction of the sphingosine 1-phosphate receptors EDG-1, EDG-3, and EDG-5.</p>

源叶生物