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产品名称：反苯环丙胺半硫酸盐
产品别名：Tranylcypromine hemisulfate；dl-Tranylcypromine hemisulfate; trans-2-Phenylcyclopropylamine hemisulfate salt

生物活性：

Description	Tranylcypromine hemisulfate (dl-Tranylcypromine hemisulfate) is an irreversible, nonselective monoamine oxidase (MAO) inhibitor used in the treatment of depression. Tranylcypromine hemisulfate is also a lysine-specific demethylase 1 (LSD1) inhibitor, suppresses lesion growth and improves generalized hyperalgesia in mouse with induced endometriosis. Tranylcypromine has antidepressant effects[1][2].
In Vitro	Tranylcypromine (10 nM to 10 μM) exerts neuroprotective effects against toxicity induced by human Aβ(1-42) oligomers independently from the presence of glial cells[1]. Tranylcypromine (100 μM) significantly protects RGCs from glutamate neurotoxicity-induced apoptosis as well as apoptosis induced by oxidative stress. Tranylcypromine promotes mitogen-activated protein kinase 12 (p38 MAPKγ) expression under conditions of glutamate (Glu)-induced stress. Besides, tranylcypromine contributes to RGC survival via alterations of p38 MAPKγ activity[3].
In Vivo	Tranylcypromine treatment significantly and substantially reduces the lesion size and improves generalized hyperalgesia in a dose-dependent fashion in mice with induced endometriosis. In addition, tranylcypromine treatment results in reduced immunoreactivity to biomarkers of proliferation, angiogenesis, and H3K4 methylation, leading to arrested EMT and lesion growth[2]. Tranylcypromine (500 mM) injection exerts neuroprotective effects within intracellular apoptotic signaling pathways and suppresses morphologic changes in the retina of the rat, suppresses caspase 3 activity and recovers p38 MAPKγ expression in the retina after NMDA-induced injury, and enhances RGC survival after retinal injury via the attenuation of NMDA neurotoxicity[3]. Tranylcypromine (10 μg/g) causes an approximate and significant doubling of labeled cells in the combined brain regions examined, as detected by BrdU immunohistochemistry. Tranylcypromine causes the greatest increase in cell proliferation in the cerebellum[4].
Solvent&Solubility	***In Vitro:*** **H_2O : 25 mg/mL** (**137.19 mM**; Need ultrasonic) **DMSO : 5 mg/mL** (**27.44 mM**; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.4876 mL	27.4379 mL	54.8757 mL
	5 mM	1.0975 mL	5.4876 mL	10.9751 mL
	10 mM	0.5488 mL	2.7438 mL	5.4876 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°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

[1]. Caraci F, et al. Neuroprotective effects of the monoamine oxidase inhibitor tranylcypromine and its amide derivatives against Aβ(1-42)-induced toxicity. Eur J Pharmacol. 2015 Oct 5;764:256-263.

[2]. Sun Q, et al. Tranylcypromine, a lysine-specific demethylase 1 (LSD1) inhibitor, suppresses lesion

References	growth and improves generalized hyperalgesia in mouse with induced endometriosis. Reprod Biol Endocrinol. 2016 Apr 9;14:17. [3]. Tsutsumi T, et al. Potential Neuroprotective Effects of an LSD1 Inhibitor in Retinal Ganglion Cells via p38 MAPK Activity. Invest Ophthalmol Vis Sci. 2016 Nov 1;57(14):6461-6473. [4]. Romanczyk TB, et al. The antidepressant tranylcypromine alters cellular proliferation and migration in the adult goldfish brain. Anat Rec (Hoboken). 2014 Oct;297(10):1919-26.

实验参考：

Animal Administration	Briefly, the rats are anesthetized with an intraperitoneal injection of a 1:1 mixture of xylazine hydrochloride (4 mg/kg) and ketamine hydrochloride (10 mg/kg). Then, the pupil is dilated with phenylephrine hydrochloride and tropicamide eye drops, and 20 nmol NMDA with or without tranylcypromine is injected into the vitreous cavity. To assess the inhibitory effect of mitogen-activated protein kinase (MAPK), 100 nmol BIRB796 is intravitreally injected at the same time of NMDA injection. The injections are performed under a microscope using a 33-gauge needle connected to a microsyringe; the needle is inserted approximately 1.0 mm behind the corneal limbus. Next, either PBS (vehicle control) or 500 mM tranylcypromine (1000 nmol) mixed with 10 mM NMDA (20 nmol) in a total volume of 2.0 μL is injected into the vitreous cavity. [3]
References	[1]. Caraci F, et al. Neuroprotective effects of the monoamine oxidase inhibitor tranylcypromine and its amide derivatives against Aβ(1-42)-induced toxicity. Eur J Pharmacol. 2015 Oct 5;764:256-263. [2]. Sun Q, et al. Tranylcypromine, a lysine-specific demethylase 1 (LSD1) inhibitor, suppresses lesion growth and improves generalized hyperalgesia in mouse with induced endometriosis. Reprod Biol Endocrinol. 2016 Apr 9;14:17. [3]. Tsutsumi T, et al. Potential Neuroprotective Effects of an LSD1 Inhibitor in Retinal Ganglion Cells via p38 MAPK Activity. Invest Ophthalmol Vis Sci. 2016 Nov 1;57(14):6461-6473. [4]. Romanczyk TB, et al. The antidepressant tranylcypromine alters cellular proliferation and migration in the adult goldfish brain. Anat Rec (Hoboken). 2014 Oct;297(10):1919-26.