产品名称：9-(四氢-2-呋喃)腺嘌呤
产品别名：SQ22536

生物活性：

Description	SQ22536 is an effective **adenylate cyclase** (**AC**) inhibitor.
IC_{50} & Target	adenylate cyclase (AC)[1]
In Vitro	SQ22536 (SQ22,536) effectively inhibits the effect of forskolin with respective IC50 values of 5 μM.Preincubation with graded concentrations of SQ22536 reveals that both SQ22536 effectively inhibits PACAP-induced reporter gene activation with approximate IC50 value of 5 μM. SQ22536 more potently inhibits forskolin-induced Elk activation (IC50=10 μM) than 8-Br-cAMP-induced Elk activation (IC50=170 μM). Most notably, there are substantial differences in the reported potencies of SQ22536 to inhibit the activities of recombinant AC5 and AC6, with respective IC50 values of 2 μM and 360 μM. At a greater concentration (500 μM), SQ22536 significantly inhibits neurite elongation due to either forskolin or 8-Br-cAMP[1].
Solvent&Solubility	***In Vitro:*** **DMSO : 100 mg/mL (487.28 mM; Need ultrasonic)**

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.8728 mL	24.3641 mL	48.7282 mL
	5 mM	0.9746 mL	4.8728 mL	9.7456 mL
	10 mM	0.4873 mL	2.4364 mL	4.8728 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。

In Vivo:

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 **In Vitro** 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶

1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline

Solubility: ≥ 2.5 mg/mL (12.18 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (12.18 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。

2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline)

Solubility: ≥ 2.5 mg/mL (12.18 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (12.18 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。

	3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (12.18 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (12.18 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Emery AC, et al. A new site and mechanism of action for the widely used adenylate cyclase inhibitor SQ22,536. Mol Pharmacol. 2013 Jan;83(1):95-105.

实验参考：

Cell Assay	HEK293 CRE-luc2P GloResponse luciferase reporter cells are transduced with retroviral vectors expressing rat PAC1hop receptors. Individual cell lines are obtained by limiting dilution cloning, and a clonal PAC1-expressing line is propagated and used for CRE luciferase assays. In brief, HEK293 CRE-luc2P cells are plated in 96-well plates (10,000 cells in 80 μL media per well) in assay media (DMEM supplemented with 1% fetal bovine serum). One day after plating, cells are treated with AC inhibitors (10 μL in assay media/well) for 30 minutes, followed by agonists (10 μL in assay media/well), and are incubated for 4 hours. Luciferase activity is determined after the addition of 100 μL/well Bright-Glo Luciferase Assay Reagent. Luminescence (RLU) is measured in a Victor3 microtiter plate reader after 2 minutes of agitation at room temperature. Cyclic AMP is measured in NS-1 cells. In brief, NS-1 cells are seeded and grown overnight in 96-well plates. The next day, cells are pretreated for 20 minutes in media containing the phosphodiesterase inhibitor 3-isobutyl-1-methylxanthine (0.5 mM) with or without SQ22536. After pretreatment with inhibitors, cells are stimulated with agonists, added as 10× solutions, for an additional 20 minutes. Intracellular cAMP is then assayed using the cAMP Biotrak enzyme immunoassay kit for measurement of nonacetylated cAMP[1].
References	[1]. Emery AC, et al. A new site and mechanism of action for the widely used adenylate cyclase inhibitor SQ22,536. Mol Pharmacol. 2013 Jan;83(1):95-105.