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产品名称：
(4R)-4-benzyl-2-(3H-imidazol-4-ylmethyl)-5-thiophen-2-ylsulfonyl-2,5-diazabicyclo[5.4.0]undeca-8,10,12-triene-9-carbonitrile
产品别名：BMS-214662

生物活性：

Description	BMS-214662 is a potent and selective farnesyl transferase inhibitor with potent antitumor activity with an IC_{50} of 1.35 nM.
IC_{50} & Target	IC50: 1.35 nM (farnesyl transferase), 1.3 μM (Ras-CVLL), 2.3 μM (K-Ras)[1]
In Vitro	BMS-214662 is over 1000-fold selective for farnesyl transferase, having IC_{50} values for inhibition of geranylgeranylation of Ras-CVLL and K-Ras of 1.3 and 2.3 μM, respectively[1]. BMS-214662 shows good potency in inhibiting H-ras-transformed rodent cells, A2780 human ovarian carcinoma tumor cells, and HCT-116 human colon carcinoma tumor cells. BMS-214662 is the most potent apoptotic FTI known and demonstrates broad spectrum yet robust cell-selective cytotoxic activity against a panel of cell lines with diverse histology[2].
In Vivo	Tumors from BMS-214662-treated mice have increased numbers of apoptotic cells as compared with the nontreated control mice. The AIs in HCT-116 tumors are increased 4-10-fold in BMS-214662-treated mice as compared with nontreated controls. BMS-214662 is significantly cytotoxic to both HCT-116 and EJ-1 tumor cells; the doses of BMS-214662 required to kill 90% of clonogenic tumor cells are approximately 75 and 100 mg/kg for HCT-116 and EJ-1 tumors[2].
Solvent&Solubility	***In Vitro:*** **DMSO :≥ 100 mg/mL (204.24 mM)** **H_2O : < 0.1 mg/mL** (insoluble) * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0424 mL	10.2122 mL	20.4244 mL
5 mM	0.4085 mL	2.0424 mL	4.0849 mL
10 mM	0.2042 mL	1.0212 mL	2.0424 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 (5.11 mM); Clear solution

	此方案可获得 ≥ 2.5 mg/mL (5.11 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% corn oil Solubility: ≥ 2.5 mg/mL (5.11 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.11 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]. Hunt JT, et al. Discovery of (R)-7-cyano-2,3,4, 5-tetrahydro-1-(1H-imidazol-4-ylmethyl)-3-(phenylmethyl)-4-(2-thienylsulfonyl)-1H-1,4-benzodiazepine (BMS-214662), a farnesyltransferase inhibitor with potent preclinical antitumor activity. J Med Chem. 2000 Oct 5;43(20):3587-95. [2]. Rose WC, et al. Preclinical antitumor activity of BMS-214662, a highly apoptotic and novel farnesyltransferase inhibitor. Cancer Res. 2001 Oct 15;61(20):7507-17.

实验参考：

Cell Assay	The hydrochloride salt of BMS-214662 is dissolved in DMSO with dilutions made using either water or RPMI 1640 plus 10% fetal bovine serum. BMS-214662 is added at various concentrations. The cells are incubated at 37 ° C for 72 h, at which time MTS in combination with phenazine methosulfate is added. After an additional 3 h, the absorbance is measured at 492 nm, and the growth inhibition results are eventually expressed as IC50s[2].
AnimalAdministration	Mice: BMS-214662 is dissolved in ethanol, followed by dilution with water to a final ethanol concentration of 10%. Mice implanted with HCT-116 xenografts are administered a single dose of BMS-214662 at 250 mg/kg i.v., 300 mg/kg i.p., or 400 mg/kg p.o. An additional group receives 400 mg/kg BMS-214662 daily for 2 days (administered p.o. on day 1 and i.p. on day 2). Nontreated mice with time-matched HCT-116 tumors served as controls. Tumors are collected at 24 h after dose, processed following standard methods, sectioned, and stained with H&E. Serial sections of each tumor are processed for in situ apoptotic cell labeling by the TUNEL method[2].
References	[1]. Hunt JT, et al. Discovery of (R)-7-cyano-2,3,4, 5-tetrahydro-1-(1H-imidazol-4-ylmethyl)-3-(phenylmethyl)-4-(2-thienylsulfonyl)-1H-1,4-benzodiazepine (BMS-214662), a farnesyltransferase inhibitor with potent preclinical antitumor activity. J Med Chem. 2000 Oct 5;43(20):3587-95. [2]. Rose WC, et al. Preclinical antitumor activity of BMS-214662, a highly apoptotic and novel farnesyltransferase inhibitor. Cancer Res. 2001 Oct 15;61(20):7507-17.