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产品名称：阿维菌素 B1a
产品别名：Avermectin B1a ；Abamectin B1a

生物活性：

Description	Avermectin B1a is an antiparasitic agent that paralyzes nematodes without causing hypercontraction or flaccid paralysis.
In Vitro	[^{3}H]AVM B1a preferentially binds to synaptic membranes from several regions of rat brain. [^{3}H]AVM B1a specific binding to intact monolayers of granule cells increases rapidly with time of incubation and reaches equilibrium after approximately 20 min at 24°C. Higher concentrations of [^{3}H]AVM B1a leads to markedly greater nonspecific binding, 60% at 25 nM. Various AVM analogs also produce concentration-dependent inhibition of [^{3}H]AVM B1a binding in intact cerebellar neurons. AVM B1a and moxidectin are similar in potency (IC_{50} values, 120 and 126 nM, respectively)[3]. AVMB1a-stimulated chloride efflux from mouse brain synaptic vesicles results from the activation of GABA-insensitive chloride channels and that this action is distinct from their previously documented effects on GABA-gated chloride channels in mouse brain preparations[4].
In Vivo	Bacteria are significantly inhibited when the AVM B1a concentration is higher than 83.3 mg/kg, while fungi are less impaired in soil. Soil respiration is also inhibited by high concentration AVM B1a, which differs with soil types. The half lethal dosage (LD_{50}) of AVM B1a to soil earthworm is estimated as 4.63 mg × cm^2 in filter paper contact test, and as 24.13 and 17.06 mg/kg, respectively after treated 7 and 14 days in artificial soil[1]. Iin artificial soil, the LC50 of AVM B1a on earthworms are 24.1 mg/kg and 17.1 mg/kg, respectively, for 7 and 14 days. About 80.0% and 94.8% of the accumulated AVM B1a are eliminated respectively in two groups within 1 day after they are exposed to AVM B1a-free soil, but a trace amount of AVM B1a is found for a relative long time in earthworms[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 100 mg/mL (114.54 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	1.1454 mL	5.7269 mL	11.4537 mL
5 mM	0.2291 mL	1.1454 mL	2.2907 mL
10 mM	0.1145 mL	0.5727 mL	1.1454 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 (2.86 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (2.86 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 (2.86 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (2.86 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]. Sun Y, et al. [Effects of avermectin B1a on soil microorganism and earthworm (Eisenia fetida)]. Ying Yong Sheng Tai Xue Bao. 2005 Nov;16(11):2140-3. [2]. Sun Y, et al. Bioaccumulation and elimination of avermectin B1a in the earthworms (Eisenia fetida). Chemosphere. 2005 Jul;60(5):699-704. [3]. Huang J, et al. Avermectin B1a binds to high- and low-affinity sites with dual effects on the gamma-aminobutyric acid-gated chloride channel of cultured cerebellar granule neurons. J Pharmacol Exp Ther. 1997 Apr;281(1):261-6. [4]. Payne GT, et al. Activation of gamma-aminobutyric acid insensitive chloride channels in mouse brain synaptic vesicles by avermectin B1a. J Biochem Toxicol. 1991 Winter;6(4):283-92.