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产品名称：Buparvaquone
产品别名：布帕伐醌

生物活性：

Description	Buparvaquone is a hydroxynaphthoquinone antiprotozoal drug related to parvaquone and atovaquone.
In Vitro	In 4-day proliferation assays, buparvaquone efficiently inhibits N. caninum tachyzoite replication(IC50=4.9 nM; IC100=100 nM)[1]. Buparvaquone is significantly selective against L. (L.) infantum chagasi intracellular amastigotes, with an IC50 value of 1.5 μM. Other cutaneous species are also susceptible to buparvaquone, with IC50 values in the range 1-4 μM[2].
In Vivo	Treatment of N. caninum infected mice with buparvaquone (100 mg/kg) either by intraperitoneal injection or gavage prevents neosporosis symptoms in 4 out of 6 mice in the intraperitoneally treated group, and in 6 out of 7 mice in the group receiving oral treatment[1]. Both a hydrous gel and water-in-oil emulsion of buparvaquone significantly reduce cutaneous parasite burden and lesion size, compared with the untreated control[3].

Solvent&Solubility

In Vitro:

DMSO : 33.33 mg/mL (102.10 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0634 mL	15.3172 mL	30.6344 mL
	5 mM	0.6127 mL	3.0634 mL	6.1269 mL
	10 mM	0.3063 mL	1.5317 mL	3.0634 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 (7.66 mM); Suspended solution; Need ultrasonic

此方案可获得 2.5 mg/mL (7.66 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。

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 (7.66 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (7.66 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 (7.66 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (7.66 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]. Müller J, et al. Buparvaquone is active against Neospora caninum in vitro and in experimentally infected mice. Int J Parasitol Drugs Drug Resist. 2015 Feb 13;5(1):16-25. [2]. Reim?o JQ, et al. Effectiveness of liposomal buparvaquone in an experimental hamster model of Leishmania (L.) infantum chagasi. Exp Parasitol. 2012 Mar;130(3):195-9. [3]. Garnier T, et al. In vivo studies on the antileishmanial activity of buparvaquone and its prodrugs. J Antimicrob Chemother. 2007 Oct;60(4):802-10.

实验参考：

Cell Assay	To study whether pretreatment of host cells prior to invasion had any effect on parasite proliferation, confluent HFF grown in 6-well plates are treated with 1 μM buparvaquone in medium for 1 h or 5 h, and controls are exposed to the corresponding amounts of DMSO. Subsequently, the drug-containing medium is removed and monolayers are ished 4 times with Hank's Balanced Salt Solution, and are infected with Nc-Liv tachyzoites in 5 mL medium without any drug or solvent. After 2 days, cells are collected with a cell scraper, centrifuged, ished once more in PBS, and the pellet is stored at −20 °C prior to quantification of N. caninum proliferation by N. caninum-specific real time PCR as outlined below[1].
Animal Administration	Mice: On day 0, all mice are infected by intraperitoneal (i.p.) injection of freshly purified N. caninum tachyzoites. After 48 h, mice receive BPQ (100 mg/kg) as suspension in corn oil either by i.p. injection of a volume of 100 μl or by oral application of 100 μl by gavage. The control groups obtained the corresponding amount of the solvent only, either i.p. or orally (see Table 2). The treatments are performed 5 times on a daily basis. If not indicated otherwise, mice are inspected twice daily for clinical signs (ruffled coat, apathy, hind limb paralysis) until day 21 post infection (p.i.), at which time they are euthanized[1].
References	[1]. Müller J, et al. Buparvaquone is active against Neospora caninum in vitro and in experimentally infected mice. Int J Parasitol Drugs Drug Resist. 2015 Feb 13;5(1):16-25. [2]. Reim?o JQ, et al. Effectiveness of liposomal buparvaquone in an experimental hamster model of Leishmania (L.) infantum chagasi. Exp Parasitol. 2012 Mar;130(3):195-9. [3]. Garnier T, et al. In vivo studies on the antileishmanial activity of buparvaquone and its prodrugs. J Antimicrob Chemother. 2007 Oct;60(4):802-10.