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产品名称：AN-2728
产品别名：克瑞沙硼；Crisaborole；PF-06930164

生物活性：

Description	Crisaborole (AN-2728) is a potent inhibitor of PDE4 and cytokine release; inhibit PDE4 with an IC50 of 0.49 μM.
IC_{50} & Target	IC50: 0.49 μM (PDE4)[1]
In Vitro	Crisaborole (AN-2728) inhibits PDE4, TNF-α, IL-2, IFN-γ, IL-5 and IL-10 with IC50 values of 0.49, 0.54, 0.61, 0.83, 2.4 and 5.3 μM. Crisaborole (AN-2728) shows the most potent activity against PDE4 catalytic domain, but it also shows inhibition against PDE1A3, PDE3Cat, and PDE7A1. Crisaborole (AN-2728) inhibits PDE isozymes PDE1A3, PDE3Cat , PDE4Cat and PDE7A1 with IC50 values of 6.1, 6.4, 0.11 and 0.73 μM[1]. Crystallography reveals that interaction of benzoxaboroles with the hydrophobic pocket in the PDE4 catalytic domain increase their affinity for PDE4. These benzoxaboroles strongly suppresses the secretion of cytokines associated with Ps and AD[2]. Crisaborole (AN-2728) is a topically administered, boron-containing, anti-inflammatory compound that inhibits PDE4 activity and thereby suppresses the release of TNFalpha, IL-12, IL-23 and other cytokines[3].
In Vivo	Crisaborole (AN-2728) shows significant inhibition against the ear edema caused by phorbol ester after dosing at 1 mg/ear×2 (78% and 68%, respectively). The efficacy is comparable to that of dexamethasone, suggesting that Crisaborole (AN-2728) has good anti-inflammatory activity as well as skin penetration[1]. Crisaborole (AN-2728) is reported to be well tolerated and to demonstrate significant effects on markers of efficacy, with results that are comparable to positive controls in clinical trials[3].
Solvent&Solubility	***In Vitro:*** **DMSO： ≥ 100 mg/mL (398.33 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9833 mL	19.9164 mL	39.8327 mL
5 mM	0.7967 mL	3.9833 mL	7.9665 mL
10 mM	0.3983 mL	1.9916 mL	3.9833 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 (9.96 mM); Clear solution

	此方案可获得 ≥ 2.5 mg/mL (9.96 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 (9.96 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (9.96 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 (9.96 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (9.96 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]. Akama T, et al. Discovery and structure-activity study of a novel benzoxaborole anti-inflammatory agent (AN2728) for the potential topical treatment of psoriasis and atopic dermatitis. Bioorg Med Chem Lett. 2009 Apr 15;19(8):2129-32. [2]. Nazarian R, et al. AN-2728, a PDE4 inhibitor for the potential topical treatment of psoriasis and atopic dermatitis. Curr Opin Investig Drugs. 2009 Nov;10(11):1236-42. [3]. Nazarian R, et al. AN-2728, a PDE4 inhibitor for the potential topical treatment of psoriasis and atopic dermatitis. Curr Opin Investig Drugs. 2009 Nov;10(11):1236-42.