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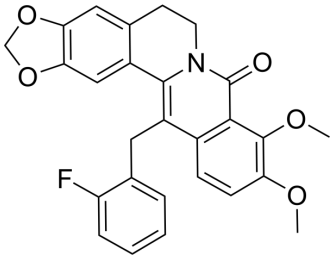
KRN5

Cat. No.:	HY-112126
CAS No.:	1800465-47-7
Molecular Formula:	$C_{27}H_{22}FNO_5$
Molecular Weight:	459.47
Target:	Nuclear Factor of activated T Cells (NFAT)
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (10.88 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1764 mL	10.8821 mL	21.7642 mL
	5 mM	0.4353 mL	2.1764 mL	4.3528 mL
	10 mM	0.2176 mL	1.0882 mL	2.1764 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 0.5 mg/mL (1.09 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 0.5 mg/mL (1.09 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

KRN5, a derivative of KRN2, is an oral active Nuclear factor of activated T cells 5 (NFAT5) suppressor, with an IC_{50} of 750 nM. KRN5 has potential to treat NFAT5-mediated Chronic Arthritis[1].

IC_{50} & Target

IC50: 750 nM (NFAT5)[1].

In Vitro

KRN5 is less toxic than BBR as determined by a cytotoxicity assay, hERG K+ channel assay, cytochrome inhibition assay, and liver microsomal metabolic stability test, which makes it a potential drug candidate[1].
KRN5 at a concentration of 1 μM inhibits the expressions of NFAT5, IL-6,MCP-1, and GM-CSF,which are NFAT5 target molecules, in RAW264.7 macrophages stimulated with LPS[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Oral feeding of KRN5 (15 mg/kg and 60 mg/kg) every other day for 3 weeks from day 21 dose-dependently mitigates arthritis severity[1].

The concentration of serum anti-type II collagen IgG also significantly decreases in the sera of KRN5-treated mice. TNF-α and IL-6 production by LPS-stimulated splenocytes are significantly lower in KRN5-treated CIA mice than in vehicle-treated mice [1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	8-week-old DBA/1Jmice immunized with bovine type II collagen[1].
Dosage:	15 mg/kg and 60 mg/kg.
Administration:	Orally on alternate days (every other day) for 3 weeks.
Result:	Dose-dependently mitigated arthritis severity.

CUSTOMER VALIDATION

- Microbiol Spectr. 2023 May 25;e0011723.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Han EJ, et al. Suppression of NFAT5-mediated Inflammation and Chronic Arthritis by Novel κB-binding Inhibitors. EBioMedicine. 2017 Apr;18:261-273.

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