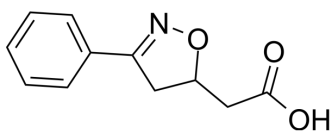
VGX-1027

Cat. No.:	HY-15507
CAS No.:	6501-72-0
Molecular Formula:	$C_{11}H_{11}NO_3$
Molecular Weight:	205.21
Target:	Interleukin Related; TNF Receptor
Pathway:	Immunology/Inflammation; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 56 mg/mL (272.89 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.8731 mL	24.3653 mL	48.7306 mL
5 mM	0.9746 mL	4.8731 mL	9.7461 mL
10 mM	0.4873 mL	2.4365 mL	4.8731 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: ≥ 2.5 mg/mL (12.18 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.18 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.18 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

VGX-1027 is an orally active isoxazole compound that exhibits various immunomodulatory properties. VGX-1027 targets macrophages, reducing the production of the proinflammatory mediators TNF-α, IL-1β, IL-10. VGX-1027 has antidiabetogenic effects by limiting cytokine-mediated immunoinflammatory events[1][2][3].

IC_{50} & Target		
	IL-1β	IL-10

In Vitro	VGX-1027 (37.5, 75, 150, 300 μM; for 24 h) does not affect the viability of tumor cells including the three malignant rodent cell lines (mouse fibrosarcoma L929, rat astrocytoma C6, and mouse melanoma B16) and the four human cell lines (adenocarcinoma HeLa, breast carcinoma BT20, colon carcinoma LS174, and glioblastoma U251)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	VGX-1027 (10, 20 mg/kg of i.p. for 12 day or 100 mg/kg of p.o. for 11 day) successfully counteractes the development of destructive insulitis and hyperglycemia[1]. VGX-1027 (25 mg/kg; ip; single dose) counteracts the uveitis-inducing effect of LPS in eight-week-old male Lewis rats (180-220 g)[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male mice, at 6 to 8 weeks of age with 25 to 30 g[1]
Dosage:	10, 20 mg/kg for i.p. or 100 mg/kg for p.o.
Administration:	IP daily for 12 consecutive day or PO daily for 11 consecutive day
Result:	Successfully counteracted the development of destructive insulitis and hyperglycemia to the mice made diabetic with multiple low doses of Streptozotocin.

CUSTOMER VALIDATION

- mustansiriya medical journal. 2018, 17(2):85.

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REFERENCES

[1]. Stosic-Grujicic S, et al. A potent immunomodulatory compound, (S,R)-3-Phenyl-4,5-dihydro-5-isoxazole acetic acid, prevents spontaneous and accelerated forms of autoimmune diabetes in NOD mice and inhibits the immunoinflammatory diabetes induced by multiple low doses of streptozotocin in CBA/H mice. J Pharmacol Exp Ther. 2007 Mar;320(3):1038-49.

[2]. Danijela Maksimovic-Ivanic, et al. Anticancer properties of the novel nitric oxide-donating compound (S,R)-3-phenyl-4,5-dihydro-5-isoxazole acetic acid-nitric oxide in vitro and in vivo. Mol Cancer Ther. 2008 Mar;7(3):510-20.

[3]. K Mangano, et al. Effects of the immunomodulator, VGX-1027, in endotoxin-induced uveitis in Lewis rats. Br J Pharmacol. 2008 Nov;155(5):722-30.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA