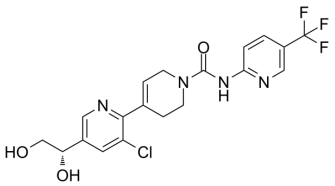
V116517

Cat. No.:	HY-12914
CAS No.:	1073616-61-1
Molecular Formula:	$C_{19}H_{18}ClF_3N_4O_3$
Molecular Weight:	442.82
Target:	TRP Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	V116517 is a potent, orally active transient receptor potential vanilloid (TRPV1) antagonist. V116517 shows potent activity in inhibiting both capsaicin (CAP)- and acid (pH 5)-induced currents in rat DRG neurons expressing native TRPV (IC_{50}=423.2 nM for CAP; IC_{50}=180.3 nM for acid). V116517 can be used for the research of pain[1].
IC_{50} & Target	TRPV1
In Vitro	V116517 is highly selective for TRPV1 and did not show potency up to 10 μM in both TRPV3 and TRPV4 assays[1]. V116517 has fast-off kinetics for antagonism of both mode activations of TRPV1[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	V116517 shows dose-dependent reversal of thermal hyperalgesia with an ED_{50} of 2 mg/kg (PO) in complete Freund's adjuvant (CFA) inflammatory pain model[1]. V116517 exhibits high oral bioavailability (rat 74%, dog 100%, monkey 107%) and Cmax (rat 1380, dog 1120, monkey 459 ng/mL) following oral administration (rat 3, dog 3, monkey 3 mg/kg)[1]. V116517 exhibits terminal elimination half-lives (rat 3.3, dog 3.6 and, monkey 18 h) due to high plasma clearance (0.24, 0.28, and 0.36 L/h/kg respectively) combined with large volumes of distribution (0.68, 1.2, and 6.0 L/kg respectively) following intravenous administration (rat 1, dog 1 and, monkey 1 mg/kg)[1]. V116517 (rat 3 mg/kg; oral administration) is primarily restricted in periphery.The ratio of brain-to-plasma concentration is 0.09 at 3 h[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (6 weeks, 180-280 g) bearing acute inflammatory CFA model[1]
Dosage:	0.3, 1, 3, 10, 30 mg/kg
Administration:	Oral administration
Result:	Dose-dependently reversed inflammatory thermal hyperalgesia.

REFERENCES

[1]. Laykea Tafesse, et al. Structure-activity relationship studies and discovery of a potent transient receptor potential vanilloid (TRPV1) antagonist 4-[3-chloro-5-[(1S)-1,2-dihydroxyethyl]-2-pyridyl]-N-[5-(trifluoromethyl)-2-pyridyl]-3,6-dihydro-2H-pyridine-1-carboxamide (V116517) as a clinical candidate for pain management. J Med Chem. 2014 Aug 14;57(15):6781-94.

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