LE135

Cat. No.: HY-107436

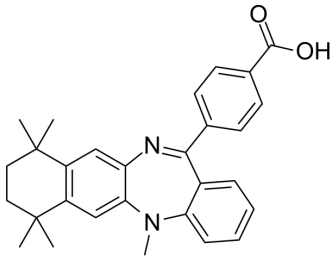
CAS No.: 155877-83-1

Molecular Formula: $C_{29}H_{30}N_2O_2$

Molecular Weight: 438.56

Target: RAR/RXR; TRP Channel

Pathway: Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor; Membrane Transporter/Ion Channel; Neuronal Signaling



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 : 50 mg/mL (114.01 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2802 mL	11.4009 mL	22.8019 mL
	5 mM	0.4560 mL	2.2802 mL	4.5604 mL
	10 mM	0.2280 mL	1.1401 mL	2.2802 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 (5.70 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.70 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

LE135 is a potent RAR antagonist that binds selectively to RARα (K_i of 1.4 μM) and RARβ (K_i of 220 nM), and has a higher affinity to RARβ. LE135 is highly selective over RARγ, RXRα, RXRβ and RXRγ. LE135 is also a potent TRPV1 and TRPA1 receptors activator with EC_{50}s of 2.5 μM and 20 μM, respectively[1][2].

IC_{50} & Target

TRPV1	TRPA1
2.5 μM (EC50)	20 μM (EC50)

In Vitro

LE135 inhibits Am80-induced differentiation of human promyelocytic leukemia cells HL-60 with an IC_{50} of 150 nM[1].
LE135 inhibits retinoic acid (RA)-induced transcriptional activation of RARβ, but not RARα, RARγ or retinoid X receptor α (RXR

	α), on a variety of RA response elements. LE135 strongly represses 12-O-tetradecanoylphorbol-13-acetate-induced AP-1 activity in the presence of RARβ and RXRα[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	LE135 provokes nociceptive responses and elicited thermal hyperalgesia mainly through TRPV1 channels, but required both TRPA1 and TRPV1 channels for producing mechanical allodynia. Intraplantar injection of LE135 (30 nmol/10 μL) induces mechanical hypersensitivity in wild-type and Trpa1$^{-/-}$ mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Res. 2022 Jun;32(6):513-529.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. H Umemiya, et al. Regulation of retinoidal actions by diazepinylbenzoic acids. Retinoid synergists which activate the RXR-RAR heterodimers. J Med Chem. 1997 Dec 19;40(26):4222-34.

[2]. Shijin Yin, et al. LE135, a retinoid acid receptor antagonist, produces pain through direct activation of TRP channels. Br J Pharmacol. 2014 Mar;171(6):1510-20.

[3]. Y Li, et al. Identification of a novel class of retinoic acid receptor beta-selective retinoid antagonists and their inhibitory effects on AP-1 activity and retinoic acid-induced apoptosis in human breast cancer cells. J Biol Chem. 1999 May 28;274(22):15360-6.

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