

IRL-1620 acetate

Chemical Properties

CAS No. :

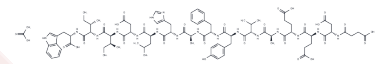
Formula: C88H121N17O29

Molecular Weight: 1881

Keep away from moisture

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	IRL-1620 acetate is an effective and selective agonist of Endothelin B receptor (ETB) with a K_i of 16 pM which is more selective than ETA with a K_i of 19 μ M.
Targets(IC50)	Endothelin Receptor
In vitro	IRL-1620 acetate is 60 times more selective for the ETB receptor than ET-3 (K_i ETA/ K_i ETB=1900)[3].
In vivo	IRL-1620 acetate improves both acquisition (learning) and retention (memory) on the water maze task and enhances angiogenic and neurogenic remodeling. Rats treated with IRL-1620 acetate significantly reduces the cognitive impairment induced by A β . IRL-1620 acetate treatment enhances the number of blood vessels labeled with VEGF compared to vehicle treatment[1]. IRL-1620 acetate, restores analgesic tolerance to morphine and oxycodone, but it does not affect morphine and oxycodone induced decrease in NGF/PI3K expression. IRL-1620 acetate attenuates opioid tolerance without the involvement of NGF/PI3K pathway[2]. IRL-1620 acetate (1-100 nM) induces contractions of the guinea pig trachea. The effective concentration that produces 30 % of 60 mM KCl-induced contraction is estimated to be 28 nM for IRL 1620[3]. IRL-1620 acetate (1-100 nM) increases cytosolic Ca ²⁺ in the vascular endothelium ([Ca] ^E) with little effect on resting muscle tone, and relaxes the norepinephrine-stimulated tone with an increase in [Ca] ^E , in rat aorta[3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.5316 mL	2.6582 mL	5.3163 mL
5 mM	0.1063 mL	0.5316 mL	1.0633 mL
10 mM	0.0532 mL	0.2658 mL	0.5316 mL
50 mM	0.0106 mL	0.0532 mL	0.1063 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Briyal S, et al. Stimulation of endothelin B receptors by IRL-1620 decreases the progression of Alzheimer's disease. *Neuroscience*. 2015 Aug 20;301:1-11.

Gulati S, et al. Attenuation of opioid tolerance by ETB receptor agonist, IRL-1620, is independent of an accompanied decrease in nerve growth factor in mice. *Heliyon*. 2017 Jun 7;3(6):e00317.

Takai M, et al. A potent and specific agonist, Suc-[Glu9,Ala11,15]-endothelin-1(8-21), IRL 1620, for the ETB receptor. *Biochem Biophys Res Commun*. 1992 Apr 30;184(2):953-9.

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