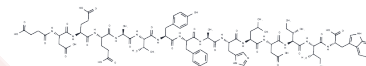


IRL-1620

Chemical Properties

CAS No. : 142569-99-1
 Formula: C₈₆H₁₁₇N₁₇O₂₇
 Molecular Weight: 1820.974
 Storage: Keep away from moisture
 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 is an effective and selective agonist of endothelin receptor type B (ETB) (K _i : 16 pM).
Targets(IC ₅₀)	Endothelin Receptor,Others
In vitro	IRL-1620 is 60 times more selective for the ETB receptor than ET-3 (K _i ETA/ K _i ETB=1,900). IRL-1620 is the most effective and specific ligand for the ETB receptor (K _i ETA/ K _i ETB=120,000) as judged by the K _i values for ETA (19 μM) and ETB (16 PM) receptors[1].
In vivo	IRL-1620 improves both acquisition (learning) and retention (memory) on the water maze task and enhances angiogenic and neurogenic remodeling. In rat aorta, IRL-1620 (1-100 nM) enhances cytosolic Ca ²⁺ in the vascular endothelium ([Ca] _i E) with little effect on resting muscle tone and relaxes the norepinephrine-stimulated tone with an increase in [Ca] _i E. IRL-1620 (1-100 nM) causes contractions of the guinea pig trachea. For IRL 1620, the effective concentration that produces 30 % of 60 mM KCl-induced contraction is estimated to be 28 nM [1]. Rats treated with IRL-1620 obviously decreases the cognitive impairment induced by Aβ. IRL-1620 treatment enhances the number of blood vessels labeled with VEGF compared to vehicle treatment[2]. IRL-1620 restores analgesic tolerance to morphine and oxycodone, but it does not affect morphine and oxycodone induced decrease in NGF/PI3K expression. IRL-1620 attenuates opioid tolerance without the involvement of NGF/PI3K pathway[3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.5492 mL	2.7458 mL	5.4916 mL
5 mM	0.1098 mL	0.5492 mL	1.0983 mL
10 mM	0.0549 mL	0.2746 mL	0.5492 mL
50 mM	0.011 mL	0.0549 mL	0.1098 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

Takai M, et al. A potent and specific agonist, Suc-[Glu⁹,Ala^{11,15}]-endothelin-1(8-21), IRL 1620, for the ETB receptor. *Biochem Biophys Res Commun.* 1992 Apr 30;184(2):953-9.

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.

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