

## IRL-1620 TFA

<b>Cat. No.:</b>	HY-16465A		
<b>Molecular Formula:</b>	C <sub>88</sub> H <sub>118</sub> F <sub>3</sub> N <sub>17</sub> O <sub>29</sub>		
<b>Molecular Weight:</b>	1934.97		
<b>Sequence:</b>	{Suc}-Asp-Glu-Glu-Ala-Val-Tyr-Phe-Ala-His-Leu-Asp-Ile-Ile-Trp	{Suc}-DEEAVYFAHLDIIW (TFA salt)	
<b>Sequence Shortening:</b>	{Suc}-DEEAVYFAHLDIIW		
<b>Target:</b>	Endothelin Receptor		
<b>Pathway:</b>	GPCR/G Protein		
<b>Storage:</b>	Sealed storage, away from moisture and light		
	Powder	-80°C	2 years
		-20°C	1 year
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)		

### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (25.84 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		0.5168 mL	2.5840 mL	5.1680 mL
		<b>5 mM</b>		0.1034 mL	0.5168 mL	1.0336 mL
	<b>10 mM</b>		0.0517 mL	0.2584 mL	0.5168 mL	
Please refer to the solubility information to select the appropriate solvent.						

### BIOLOGICAL ACTIVITY

<b>Description</b>	IRL-1620 (TFA) is a potent and selective endothelin receptor type B (ETB) agonist with a K <sub>i</sub> of 16 pM <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	ET <sub>B</sub>
<b>In Vitro</b>	IRL-1620 (TFA) is the most potent and specific ligand for the ETB receptor (K <sub>i</sub> ETA/ K <sub>i</sub> ETB=120,000) as judged by the K <sub>i</sub> values for ETA (19 μM) and ETB (16 PM) receptors <sup>[1]</sup> . IRL-1620 (TFA) is 60 times more selective for the ETB receptor than ET-3 (K <sub>i</sub> ETA/ K <sub>i</sub> ETB=1,900) <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	IRL-1620 (TFA) (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 <sup>[1]</sup> . IRL-1620 (TFA) (1-100 nM) increases cytosolic Ca <sup>2+</sup> 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, <sup>[1]</sup> .

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IRL-1620 (TFA) improves both acquisition (learning) and retention (memory) on the water maze task and enhances angiogenic and neurogenic remodeling. Rats treated with IRL-1620 significantly reduces the cognitive impairment induced by A $\beta$ . IRL-1620 treatment enhances the number of blood vessels labeled with VEGF compared to vehicle treatment<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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[1]. 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.

[2]. 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.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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