

## Orexin B, rat, mouse TFA

Cat. No.:	HY-P1349A	
Molecular Formula:	C128H216F3N45O36S	
Molecular Weight:	3050.42	
Sequence Shortening:	RPGPPGLQGRLLQANGNHAAGILTM-NH2	RPGPPGLQGRLLQANGNHAAGILTM-NH <sub>2</sub> (TFA salt)
Target:	Orexin Receptor (OX Receptor)	
Pathway:	GPCR/G Protein; Neuronal Signaling	
Storage:	Sealed storage, away from moisture	
	Powder	-80°C 2 years -20°C 1 year
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 100 mg/mL (32.78 mM; Need ultrasonic)					
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div></div>	Mass	1 mg	5 mg	10 mg
		1 mM	0.3278 mL	1.6391 mL	3.2782 mL	
		5 mM	0.0656 mL	0.3278 mL	0.6556 mL	
		10 mM	0.0328 mL	0.1639 mL	0.3278 mL	
Please refer to the solubility information to select the appropriate solvent.						

### BIOLOGICAL ACTIVITY

Description	Orexin B, rat, mouse (Rat orexin B) TFA is an endogenous orexin receptor agonist. Orexin B, rat, mouse TFA binds and activates two closely related orphan G protein-coupled receptors OX1-R and OX2-R. Orexin B, rat, mouse TFA stimulates food intake and energy expenditure and plays a significant role in sleep-wakefulness regulation <sup>[1][2][3]</sup> .
In Vitro	OX2 receptor is indeed a high-affinity receptor for human orexin B, with an IC <sub>50</sub> of 36 nM in the binding assay and an EC <sub>50</sub> of 60 nM in the [Ca <sup>2+</sup> ] <sub>i</sub> transient assay. Human Orexin B has significantly lower affinity for the human OX1: the calculated IC <sub>50</sub> in the competitive binding assay and the EC <sub>50</sub> in the [Ca <sup>2+</sup> ] <sub>i</sub> transient assay are 420 nM and 2500 nM for human orexin-B, respectively <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Orexin-B modulates the activity of rod bipolar cells (RBCs) located in the outer retina of rat. Intravitreal injection of orexin-B increased the amplitude of the scotopic electroretinographic b-wave, a reflection of RBC activity, recorded in vivo <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

---

## REFERENCES

- [1]. Smart D, et al. Orexins: a new family of neuropeptides. Br J Anaesth. 1999 Nov;83(5):695-7.
- [2]. Sakurai T, et al. Orexins and orexin receptors: a family of hypothalamic neuropeptides and G protein-coupled receptors that regulate feeding behavior. Cell. 1998 Feb 20;92(4):573-85.
- [3]. Ziolkowska A, et al. Orexin B inhibits proliferation and stimulates specialized function of cultured rat calvarial osteoblast-like cells. Int J Mol Med. 2008;22(6):749-755.
- [4]. Zhang G, et al. Orexin-B modulates synaptic transmission of rod bipolar cells in rat retina. Neuropharmacology. 2018;133:38-50.
- 

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA