Data Sheet

Product Name:	Orexin B, rat, mouse
Cat. No.:	CS-0029470
CAS No.:	202801-92-1
Molecular Formula:	C126H215N45O34S
Molecular Weight:	2936.40
Target:	Orexin Receptor (OX Receptor)
Pathway:	GPCR/G Protein; Neuronal Signaling
Solubility:	10 mM in DMSO

RPGPPGLQGRLQRLLQANGNHAAGILTM-NH_2

BIOLOGICAL ACTIVITY:

Orexin B, rat, mouse is an endogenous agonist at **Orexin** receptor with K_is of 420 and 36 nM for OX1 and OX2, respectively. IC50 & Target: Ki: 420 nM (OX1), 36 nM (OX2)[1] **In Vitro:** Orexin B is derived by proteolytic amino acid precursor, prepro-orexin, which is encoded by a gene localized to chromosome 17q21 in humans. In radioligand binding studies, Orexin B has a higher affinity for the OX2 receptor[1]. Human Orexin B has two amino acid substitutions when compared with the rodent sequence. OX2 receptor is indeed a high-affinity receptor for human orexin B, with an IC_{50} of 36 nM in the binding assay and an EC_{50} of 60 nM in the $[Ca^{2+}]$i transient assay. Human Orexin B has significantly lower affinity for the human OX1: the calculated IC_{50} in the competitive binding assay and the EC_{50} in the $[Ca^{2+}]$i transient assay are 420 nM and 2500 nM for human orexin-B, respectively[2]. **In Vivo:** Human Orexin B significantly augments food intake; at the 2 hr time point, 5- and 12-fold stimulation of food consumption is observed by 3 nM and 30 nM orexin-B, respectively[2].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: Orexin B is prepared in sterile water[2].[2]Rats[2]

3 nM and 30 nM of synthetic human Orexin B is administered in a 5 mL bolus through a catheter placed in the left lateral ventricle of **Male Wistar rats (180–200 g)** in early light phase. Cumulative food consumption is observed and plotted over the period of 4 hr after injection[2].

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.

CAIndexNames:

L-Methioninamide, L-arginyl-L-prolylglycyl-L-prolyl-L-prolylglycyl-L-leucyl-L-glutaminylglycyl-L-arginyl-L-leucyl-L-glutaminyl-L-arginyl-L-leucyl-L-leucyl-L-glutaminyl-L-alanyl-L-asparaginylglycyl-L-asparaginyl-L-histidyl-L-alanyl-L-alanylglycyl-L-isoleucyl-L-leucyl-L-threonyl-

SMILES:

[RPGPPGLQGRLQRLLQANGNHAAGILTM-NH2]

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

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