

Orexin A (human, rat, mouse)

**Chemical Properties**

CAS No.:	205640-90-0
Formula:	C <sub>15</sub> H <sub>24</sub> N <sub>4</sub> O <sub>4</sub> S <sub>4</sub>
Molecular Weight:	3561.1
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

**Biological Description**

Description	Orexin A human, rat, mouse, a 33 amino acid excitatory neuropeptide, orchestrates diverse central and peripheral processes. Orexin A human, rat, mouse has been used to study its effect on the functioning of porcine pancreatic islets. It has also been used as an orexin receptor 1 (OX1R) antagonist to study the effect of orexin systems in the effect of etonogestrel on respiratory response to prolonged metabolic acidosis.
In vitro	Orexin A human, rat, mouse has high affinity for OX1R, with 38 nM IC <sub>50</sub> and 34 nM EC <sub>50</sub> values in the the [Ca <sup>2+</sup> ] <sub>i</sub> transient assay[1].
In vivo	Orexin A human, rat, mouse (3-30 mg/kg; i.v.; 5 min pre-test) significantly increases the latency to response at 10 and 30 mg/kg i.v. when given 5 min pre-test from 24.8±2.0 s in vehicle-treated mice to 35.0±3.7 s and 45.7±4.5 s, respectively[2]. Orexin A human, rat, mouse (3, 10 and 30 mg/kg; i.v.) was given immediately before phenylp-quinone (PPQ) and increases the latency to the first PPQ-induced constriction from 357.4±35.2 s in vehicle-treated mice to 500.3±31.2 s at 10 mg/kg and 594.5±5.5 s at 30 mg/kg[2].

**Solubility Information**

Solubility	H <sub>2</sub> O: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.281 mL	1.404 mL	2.808 mL
5 mM	0.056 mL	0.281 mL	0.562 mL
10 mM	0.028 mL	0.14 mL	0.281 mL
50 mM	0.006 mL	0.028 mL	0.056 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. 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.
2. Bingham S, et al. Orexin-A, an hypothalamic peptide with analgesic properties. Pain. 2001 May;92(1-2):81-90.

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