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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Orexin A (human, rat, mouse)

Cat. No.:	HY-106224	
CAS No.:	205640-90-0	
Molecular Formula:	C ₁₅₂ H ₂₄₃ N ₄₇ O ₄₄ S ₄	{Glp}-Pro-Leu-Pro-Asp-Cys-Cys-Arg-Gln-Lys-Thr-Cys-Ser-Cys-Arg-Leu-Tyr-Glu-Leu-Leu-His-Gly-Ala-Gly-Asn-His-Ala-Ala-Gly-Ile-Leu-Thr-Leu-NH ₂ (Disulfide bridge: Cys6-Cys12, Cys7-Cys14)
Molecular Weight:	3561.1	
Sequence:	{Glp}-Pro-Leu-Pro-Asp-Cys-Cys-Arg-Gln-Lys-Thr-Cys-Ser-Cys-Arg-Leu-Tyr-Glu-Leu-Leu-His-Gly-Ala-Gly-Asn-His-Ala-Ala-Gly-Ile-Leu-Thr-Leu-NH ₂ (Disulfide bridge: Cys6-Cys12, Cys7-Cys14)	
Sequence Shortening:	{Glp}-PLPDCCRQKTCSCRLYELLHGAGNHAAGILTL-NH ₂ (Disulfide bridge: Cys6-Cys12, Cys7-Cys14)	
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

DMSO : 100 mg/mL (28.08 mM; Need ultrasonic)
 H₂O : ≥ 50 mg/mL (14.04 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	0.2808 mL	1.4041 mL	2.8081 mL
	5 mM	0.0562 mL	0.2808 mL	0.5616 mL
	10 mM	0.0281 mL	0.1404 mL	0.2808 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Orexin A (human, rat, mouse) (Hypocretin-1 (human, rat, mouse)), a 33 amino acid excitatory neuropeptide, orchestrates diverse central and peripheral processes. Orexin A (human, rat, mouse) binds and activates two types of G protein-coupled receptors, the orexin-1 receptor (OX1R) and the orexin-2 receptor (OX2R). Orexin A (human, rat, mouse) has a role in the regulation of feeding behavior. Orexin A (human, rat, mouse) is an effective anti-nociceptive and anti-hyperalgesic agent in mice and rats^{[1][2]}.

IC₅₀ & Target

OX ₁ Receptor	OX ₂ Receptor
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In Vitro	Orexin A (human, rat, mouse) has high affinity for OX1R and OX2R, with 38 nM IC ₅₀ and 34 nM EC ₅₀ values in the the [Ca ²⁺] _i transient assay ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
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] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
	<table border="1"> <tr> <td>Animal Model:</td> <td>Female mice (mouse carrageenan-induced thermal hyperalgesia test)^[2]</td> </tr> <tr> <td>Dosage:</td> <td>3, 10 and 30 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>i.v.; 5 min pre-test</td> </tr> <tr> <td>Result:</td> <td>Significantly increased the latency to response at 10 and 30 mg/kg.</td> </tr> </table>	Animal Model:	Female mice (mouse carrageenan-induced thermal hyperalgesia test) ^[2]	Dosage:	3, 10 and 30 mg/kg	Administration:	i.v.; 5 min pre-test	Result:	Significantly increased the latency to response at 10 and 30 mg/kg.
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Result:	Significantly increased the latency to response at 10 and 30 mg/kg.								

CUSTOMER VALIDATION

- Research (Wash D C). 2024 May 31:7:0384.
- J Neuroinflammation. 2024 May 17;21(1):131.
- J Inflamm Res. 2021 May 18;14:2007-2017.
- Brain Res Bull. 2021 Apr;169:81-93.
- Med Sci Monit. 2019 Apr 19;25:2886-2895.

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REFERENCES

- [1]. Kaminski T, et al. Expression of orexin receptors in the pituitary. Vitam Horm. 2012;89:61-73.
- [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]. Bingham S, et al. Orexin-A, an hypothalamic peptide with analgesic properties. Pain. 2001 May;92(1-2):81-90.

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

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