
Product Data Sheet

Applications No 125I-Orexin B could be detected in intact form in brain when injected peripherally in male albino ICR mice at a dose of 6pmol/mouse through the isolated left jugular vein, while most of the injected 125I-Orexin A reached the brain as intact peptide.

References:

- [1]. An H, Cho M H, Kim D H, et al. Orexin impairs the phagocytosis and degradation of amyloid- β fibrils by microglial cells[J]. Journal of Alzheimer's Disease, 2017, 58(1): 253-261.
- [2]. Kastin A J, Akerstrom V. Orexin A but not orexin B rapidly enters brain from blood by simple diffusion[J]. The Journal of pharmacology and experimental therapeutics, 1999, 289(1): 219-223.

Background

Orexin B (human), a 28-residue peptides, has affinity for the OX1 and OX2 receptor with K_i of 420 and 36nM, respectively^[1].

Orexin B induces depolarization in both type 1 and type 2 neurons of the PVN with dose-dependent, and the changes in membrane potential are larger in type 2 neurons than in type 1^[2]. Orexin B can inhibit the uptake of fA β in BV2 cell line, reducing the levels of p-p38, p-Akt, and PI3K^[3].

Orexin B was acutely administered into the lateral ventricle of male rats through preimplanted indwelling catheters, Orexin B significantly augmented food intake; at the 2h time point, observed 5-and 12-fold stimulation of food consumption by 3nmol and 30nmol Orexin B, respectively, as compared with vehicle controls^[4]. Orexin B will be rapidly degraded in blood, so no 125I-Orexin B could be detected in intact form in brain when injected peripherally in male albino ICR mice at a dose of 6pmol/mouse through the isolated left jugular vein^[5].

References:

- [1] Smart D. Orexins: a new family of neuropeptides[J]. British journal of anaesthesia, 1999, 83(5): 695-697.
- [2] Shirasaka T, Miyahara S, Kunitake T, et al. Orexin depolarizes rat hypothalamic paraventricular nucleus neurons[J]. American Journal of Physiology-Regulatory, Integrative and Comparative Physiology, 2001, 281(4): R1114-R1118.
- [3] An H, Cho M H, Kim D H, et al. Orexin impairs the phagocytosis and degradation of amyloid- β fibrils by microglial cells[J]. Journal of Alzheimer's Disease, 2017, 58(1): 253-261.
- [4] Sakurai T, Amemiya A, Ishii M, et al. Orexins and orexin receptors: a family of hypothalamic neuropeptides and G protein-coupled receptors that regulate feeding behavior[J]. Cell, 1998, 92(4): 573-585.
- [5] Kastin A J, Akerstrom V. Orexin A but not orexin B rapidly enters brain from blood by simple diffusion[J]. The Journal of pharmacology and experimental therapeutics, 1999, 289(1): 219-223.

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

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