

# Orexin R-2 (C-20): sc-8074

## BACKGROUND

The hypothalamus is essential for maintaining homeostasis by integrating the vertebrate endocrine and nervous systems, thereby controlling temperature, thirst and hunger. Orexin-A and Orexin-B (also designated hypocretins) are hypothalamic neuropeptides that are derived from a single precursor, prepro-orexin, by proteolytic processing. These peptides bind to and activate two closely related, G protein-coupled receptors, designated Orexin receptor-1 and Orexin receptor-2. Orexin-A protein and prepro-orexin mRNA are localized to neurons within the lateral section of the hypothalamus, designated the "feeding center". Prepro-orexin mRNA is up-regulated during fasting, suggesting that orexins may play a role in the central feedback mechanism that regulates feeding behavior. Orexin has been shown to increase the release of GABA and glutamate from axons, a response seen as a result of most synaptic activities in the hypothalamic region.

## CHROMOSOMAL LOCATION

Genetic locus: HCRTR2 (human) mapping to 6p12.1; Hcrtr2 (mouse) mapping to 9 D.

## SOURCE

Orexin R-2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Orexin R-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8074 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Orexin R-2 (C-20) is recommended for detection of Orexin R-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Orexin R-2 (C-20) is also recommended for detection of Orexin R-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Orexin R-2 siRNA (h): sc-36133, Orexin R-2 siRNA (m): sc-36134, Orexin R-2 shRNA Plasmid (h): sc-36133-SH, Orexin R-2 shRNA Plasmid (m): sc-36134-SH, Orexin R-2 shRNA (h) Lentiviral Particles: sc-36133-V and Orexin R-2 shRNA (m) Lentiviral Particles: sc-36134-V.

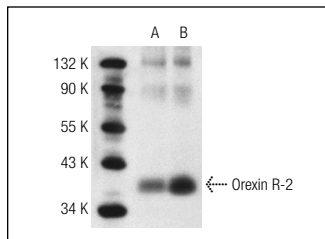
Molecular Weight of Orexin R-2: 38 kDa.

Positive Controls: Rat hypothalamus extract: sc-395022 or rat brain extract: sc-2392.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Orexin R-2 (C-20): sc-8074. Western blot analysis of Orexin R-2 expression in rat hypothalamus (A) and rat brain (B) tissue extracts.

## SELECT PRODUCT CITATIONS

- Ziolkowska, A., et al. 2005. Orexins stimulate glucocorticoid secretion from cultured rat and human adrenocortical cells, exclusively acting via the OX1 receptor. *J. Steroid Biochem. Mol. Biol.* 96: 423-429.
- Takahashi, K., et al. 2006. Expression of orexin-A and orexin receptors in the kidney and the presence of orexin-A-like immunoreactivity in human urine. *Peptides* 27: 871-877.
- Suzuki, H., et al. 2007. Differential distribution of Orexin-A-like and Orexin R-1-like immunoreactivities in the *Xenopus* pituitary. *Tissue Cell* 39: 423-430.
- Brischoux, F., et al. 2008. Muscarinic-2 and Orexin-2 receptors on GABAergic and other neurons in the rat mesopontine tegmentum and their potential role in sleep-wake state control. *J. Comp. Neurol.* 510: 607-630.
- Nollet, M., et al. 2011. Activation of orexin neurons in dorsomedial/perifornical hypothalamus and antidepressant reversal in a rodent model of depression. *Neuropharmacology* 61: 336-346.
- Kim, S. and Thompson, R.F. 2011. c-Fos, Arc, and stargazin expression in rat eyeblink conditioning. *Behav. Neurosci.* 125: 117-123.
- Gatta, C., et al. 2014. The orexin system in the enteric nervous system of the bottlenose dolphin (*Tursiops truncatus*). *PLoS ONE* 9: e105009.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Orexin R-2 (Y-2D7): sc-134408**, our highly recommended monoclonal alternative to Orexin R-2 (C-20).