

Orexin R-1 (C-19): sc-8072

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 -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: HCRTR1 (human) mapping to 1p35.2; Hcrtr1 (mouse) mapping to 4 D2.2.

SOURCE

Orexin R-1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Orexin R-1 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-8072 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Orexin R-1 (C-19) is recommended for detection of Orexin R-1 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-1 (C-19) is also recommended for detection of Orexin R-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Orexin R-1 siRNA (h): sc-36131, Orexin R-1 siRNA (m): sc-36132, Orexin R-1 shRNA Plasmid (h): sc-36131-SH, Orexin R-1 shRNA Plasmid (m): sc-36132-SH, Orexin R-1 shRNA (h) Lentiviral Particles: sc-36131-V and Orexin R-1 shRNA (m) Lentiviral Particles: sc-36132-V.

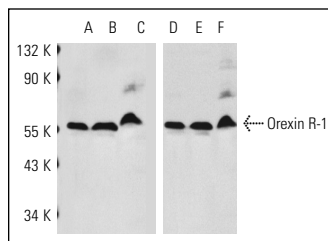
Molecular Weight of Orexin R-1: 56 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, SK-N-MC cell lysate: sc-2237 or mouse brain extract: sc-2253.

STORAGE

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

DATA



Western blot analysis of Orexin R-1 expression in SK-N-SH (A, D), SK-N-MC (B, E) whole cell lysates and mouse brain (C, F) extract. Antibodies tested include Orexin R-1 (C-19): sc-8072 (A-C) and Orexin R-1 (R-20): sc-8073 (D-F).

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.
- Paranjape, S., et al. 2007. Role of dorsal vagal motor nucleus orexin R-1 in glycemic responses to acute versus repeated insulin administration. *Neuropeptides* 41: 111-116.
- Sikder, D., et al. 2007. The neurohormone orexin stimulates hypoxia-inducible factor-1 activity. *Genes Dev.* 21: 2995-3005.
- 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.
- Liguori, G., et al. 2012. Presence, distribution and steroidogenic effect of the peptides orexin A and receptor 1 for orexins in the testis of the South American camelid alpaca (*Vicugna pacos*). *Gen. Comp. Endocrinol.* 179: 137-142.
- Liguori, G., et al. 2014. Expression of Orexin A and its Receptor 1 in the epididymis of the South American camelid alpaca (*Vicugna pacos*). *Anat. Histol. Embryol.* 43: 42-47.
- 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-1/2 (E-9): sc-166111**, our highly recommended monoclonal alternative to Orexin R-1 (C-19).