

# Orexin R-1/2 (E-9): sc-166111

## 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 (Orexin R-1) and Orexin receptor-2 (Orexin R-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 upregulated 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, HCRTR2 (human) mapping to 6p12.1.

## SOURCE

Orexin R-1/2 (E-9) is a mouse monoclonal antibody raised against amino acids 126-425 mapping at the C-terminus of Orexin R-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Orexin R-1/2 (E-9) is available conjugated to agarose (sc-166111 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166111 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166111 PE), fluorescein (sc-166111 FITC), Alexa Fluor® 488 (sc-166111 AF488), Alexa Fluor® 546 (sc-166111 AF546), Alexa Fluor® 594 (sc-166111 AF594) or Alexa Fluor® 647 (sc-166111 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166111 AF680) or Alexa Fluor® 790 (sc-166111 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Orexin R-1/2 (E-9) is recommended for detection of Orexin R-1 and Orexin R-2 of human origin by Western Blotting (starting dilution 1:100, 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).

Molecular Weight of Orexin R-1: 56 kDa.

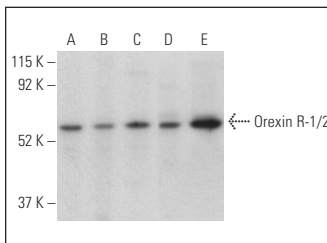
Molecular Weight of Orexin R-2: 40 kDa.

Positive Controls: H4 cell lysate: sc-2408, SH-SY5Y cell lysate: sc-3812 or SK-N-MC cell lysate: sc-2237.

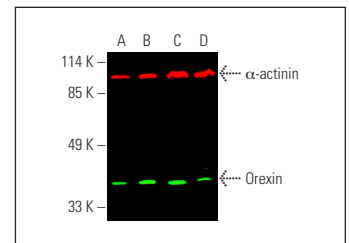
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Orexin R-1/2 (E-9): sc-166111. Western blot analysis of Orexin R-1/2 expression in SH-SY5Y (A), SK-N-MC (B), H4 (C), RAW 264.7 (D) and C6 (E) whole cell lysates. Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.



Simultaneous direct near-infrared western blot analysis of Orexin R-1/2 expression, detected with Orexin R-1/2 (E-9) Alexa Fluor® 680: sc-166111 AF680 and α-actinin expression, detected with α-actinin (H-2) Alexa Fluor® 790: sc-17829 AF790 in SK-N-MC (A), SH-SY5Y (B), H4 (C) and C6 (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

- Gao, S., et al. 2019. Long non-coding RNA MEG3 attends to morphine-mediated autophagy of HT22 cells through modulating ERK pathway. *Pharm. Biol.* 57: 536-542.
- Morales-Mulia, M. 2019. Intra-accumbal Orexin-1 receptor inhibition prevents the anxiolytic-like effect of ethanol and leads to increases in Orexin-A content and receptor expression. *Pharmacol. Biochem. Behav.* 185: 172761.
- Wang, Q., et al. 2020. Targeting Opsin4/melanopsin with a novel small molecule suppresses PKC/RAF/MEK/ERK signaling and inhibits lung adenocarcinoma progression. *Mol. Cancer Res.* 18: 1028-1038.
- Fierros-Campuzano, J., et al. 2020. Irreversible hippocampal changes induced by high fructose diet in rats. *Nutr. Neurosci.* E-published.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.