

NMUR2 (N-12): sc-47250

BACKGROUND

Neuromedin U is a neuropeptide with high activity on smooth muscle. It is widely expressed in gastrointestinal systems and central nervous system (CNS). Peripheral activities of neuromedin U include smooth muscle stimulation, ion transport alterations in the gut, and the regulation of local blood flow and adrenocortical function. Neuromedin U receptors 1 and 2 (NMUR1 and NMUR2) are multi-pass membrane proteins that belong to the G protein-coupled receptor 1 family of proteins. Both NMUR1 and NMUR2 act as receptors for the neuromedin U neuropeptide. NMUR1 is detected in peripheral organs, particularly in urogenital and gastrointestinal systems, with highest levels in testis. Expression of NMUR1 in CNS is low, but it has been detected in cerebellum, hippocampus, dorsal root ganglia and spinal cord. NMUR2 is predominantly detected in CNS, with highest levels detected in medulla oblongata, spinal cord and thalamus. It may also be detected in testis but has low levels of expression in peripheral tissues.

REFERENCES

- Bhattacharyya, S., Luan, J., Farooqi, I.S., Keogh, J., Montague, C., Brennan, J., Jorde, L., Wareham, N.J. and O'Rahilly, S. 2004. Studies of the neuromedin U-2 receptor gene in human obesity: evidence for the existence of two ancestral forms of the receptor. *J. Endocrinol.* 183: 115-120.
- Brighton, P.J., Szekeres, P.G., Wise, A. and Willars, G.B. 2004. Signaling and ligand binding by recombinant neuromedin U receptors: evidence for dual coupling to $G_{\alpha q/11}$ and $G_{\alpha i}$ and an irreversible ligand-receptor interaction. *Mol. Pharmacol.* 66: 1544-1556.
- Aiyar, N., Disa, J., Foley, J.J., Buckley, P.T., Wixted, W.E., Pullen, M., Shabon, U., Dul, E., Szekeres, P.G., Elshourbagy, N.A., Sarau, H.M., Appelbaum, E. and Bolaky, J. 2004. Radioligand binding and functional characterization of recombinant human NmU1 and NmU2 receptors stably expressed in clonal human embryonic kidney-293 cells. *Pharmacology* 72: 33-41.
- Garlton, J., Szekeres, P., Pullen, M., Sarau, H.M., Aiyar, N., Shabon, U., Michalovich, D., Steplewski, K., Ellis, C., Elshourbagy, N., Duxon, M., Ashmeade, T.E., Harrison, D.C., Murdock, P., et al. 2004. Localisation of NMU1R and NMU2R in human and rat central nervous system and effects of neuromedin-U following central administration in rats. *Psychopharmacology* 177: 1-14.
- Brighton, P.J., Szekeres, P.G. and Willars, G.B. 2004. Neuromedin U and its receptors: structure, function, and physiological roles. *Pharmacol. Rev.* 56: 231-248.
- Qiu, D.L., Chu, C.P., Tsukino, H., Shirasaka, T., Nakao, H., Kato, K., Kunitake, T., Katoh, T. and Kannan, H. 2005. Neuromedin U receptor-2 mRNA and HCN channels mRNA expression in NMU-sensitive neurons in rat hypothalamic paraventricular nucleus. *Neurosci. Lett.* 374: 69-72.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: NMUR2 (human) mapping to 5q33.1; Nmur2 (mouse) mapping to 11 B1.3.

SOURCE

NMUR2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NMUR2 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-47250 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NMUR2 (N-12) is recommended for detection of NMUR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NMUR2 (N-12) is also recommended for detection of NMUR2 in additional species, including avian.

Suitable for use as control antibody for NMUR2 siRNA (h): sc-61211, NMUR2 siRNA (m): sc-61212, NMUR2 shRNA Plasmid (h): sc-61211-SH, NMUR2 shRNA Plasmid (m): sc-61212-SH, NMUR2 shRNA (h) Lentiviral Particles: sc-61211-V and NMUR2 shRNA (m) Lentiviral Particles: sc-61212-V.

Molecular Weight of NMUR2: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.