SANTA CRUZ BIOTECHNOLOGY, INC.

V1RA1 (K-17): sc-241730

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vomeronasal organ receptors commonly known as pheromone receptors are an essential part of the olfactory sensory system that play a role in the recognition and response to chemical communication. The three subfamilies of vomeronasal organ receptors include, V1R, V2R and V3R, each of which are comprised of potentially 100 or more family members, including several nonfunctional pseudogenes. V1RA1 (vomeronasal 1 receptor, A1), also known as V1R, V1r1, VN12, mV1R1 or Vmn1r51, is a 319 amino acid multi-pass membrane protein expressed in a subset of sensory neurons located in the apical layer of the vomeronasal organ. Belonging to the G-protein coupled receptor 1 family, V1RA1 is a pheromone receptor implicated in the regulation of social as well as reproductive behavior. V1RA1 contains seven transmembrane domains.

REFERENCES

1. Del Punta, K., Rothman, A., Rodriguez, I. and Mombaerts, P. 2000. Sequence diversity and genomic organization of vomeronasal receptor genes in the mouse. Genome Res. 10: 1958-1967.
2. Giorgi, D., Friedman, C., Trask, B.J. and Rouquier, S. 2000. Characterization of nonfunctional V1R-like pheromone receptor sequences in human. Genome Res. 10: 1979-1985.
3. Rodriguez, I., Greer, C.A., Mok, M.Y. and Mombaerts, P. 2000. A putative pheromone receptor gene expressed in human olfactory mucosa. Nat. Genet. 26: 18-19.
4. Rodriguez, I. and Mombaerts, P. 2002. Novel human vomeronasal receptor-like genes reveal species-specific families. Curr. Biol. 12: R409-R411.
5. Boschat, C., Pɛlofi, C., Randin, O., Roppolo, D., Lüscher, C., Broillet, M.C. and Rodriguez, I. 2002. Pheromone detection mediated by a V1r vomeronasal receptor. Nat. Neurosci. 5: 1261-1262.
6. Zhang, J. and Webb, D.M. 2003. Evolutionary deterioration of the vomeronasal pheromone transduction pathway in catarrhine primates. Proc. Natl. Acad. Sci. USA 100: 8337-8341.
7. Young, J.M., Kambere, M., Trask, B.J. and Lane, R.P. 2005. Divergent V1R repertoires in five species: Amplification in rodents, decimation in primates, and a surprisingly small repertoire in dogs. Genome Res. 15: 231-240.
8. Shi, P., Bielawski, J.P., Yang, H. and Zhang, Y.P. 2005. Adaptive diversification of vomeronasal receptor 1 genes in rodents. J. Mol. Evol. 60: 566-576.
9. Kurzweil, V.C., Getman, M., Green, E.D. and Lane, R.P. 2009. Dynamic evolution of V1R putative pheromone receptors between Mus musculus and Mus spretus. BMC Genomics 10: 74.

CHROMOSOMAL LOCATION

Genetic locus: Vmn1r51 (mouse) mapping to 6 D1.

SOURCE

V1RA1 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of V1RA1 of mouse 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-241730 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

V1RA1 (K-17) is recommended for detection of V1RA1 of mouse 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); may cross-react with V1ra2 and other family members.

Suitable for use as control antibody for V1RA1 siRNA (m): sc-154966, V1RA1 shRNA Plasmid (m): sc-154966-SH and V1RA1 shRNA (m) Lentiviral Particles: sc-154966-V.

Molecular Weight of V1RA1: 37 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.

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 or our catalog for detailed protocols and support products.