

# OR5AY1 (S-14): sc-103716

## BACKGROUND

Olfactory receptors are G protein-coupled receptors that localize to the cilia of olfactory sensory neurons where they display affinity for and bind to a variety of odor molecules. The genes encoding olfactory receptors comprise the largest family in the human genome. The binding of olfactory receptor proteins to odor molecules triggers a signal transduction that propagates nerve impulses throughout the body, ultimately leading to transmission of the signal to the brain and the subsequent perception of smell. OR5AY1 (olfactory receptor 5AY1), also known as OR14K1 (olfactory receptor 14K1) or olfactory receptor OR1-39, is a 314 amino acid multi-pass membrane protein that functions as an odorant receptor and belongs to the G protein coupled receptor 1 family. The gene encoding OR5AY1 maps to human chromosome 1q44.

## REFERENCES

1. Parmentier, M., Libert, F., Schurmans, S., Schiffmann, S., Lefort, A., Eggerickx, D., Ledent, C., Mollereau, C., Gerard, C. and Perret, J. 1992. Expression of members of the putative olfactory receptor gene family in mammalian germ cells. *Nature* 355: 453-455.
2. Sullivan, S.L., Ressler, K.J. and Buck, L.B. 1994. Odorant receptor diversity and patterned gene expression in the mammalian olfactory epithelium. *Prog. Clin. Biol. Res.* 390: 75-84.
3. Lane, R.P., Cutforth, T., Young, J., Athanasiou, M., Friedman, C., Rowen, L., Evans, G., Axel, R., Hood, L. and Trask, B.J. 2001. Genomic analysis of orthologous mouse and human olfactory receptor loci. *Proc. Natl. Acad. Sci. USA* 98: 7390-7395.
4. Fuchs, T., Malecova, B., Linhart, C., Sharan, R., Khen, M., Herwig, R., Shmulevich, D., Elkon, R., Steinfath, M., O'Brien, J.K., Radelof, U., Lehrach, H., Lancet, D. and Shamir, R. 2002. DEFOG: a practical scheme for deciphering families of genes. *Genomics* 80: 295-302.
5. Gaillard, I., Rouquier, S. and Giorgi, D. 2004. Olfactory receptors. *Cell. Mol. Life Sci.* 61: 456-469.
6. Hatt, H. 2004. Molecular and cellular basis of human olfaction. *Chem. Biodivers.* 1: 1857-1869.
7. Malnic, B., Godfrey, P.A. and Buck, L.B. 2004. The human olfactory receptor gene family. *Proc. Natl. Acad. Sci. USA* 101: 2584-2589.
8. Kato, A. and Touhara, K. 2009. Mammalian olfactory receptors: pharmacology, G protein coupling and desensitization. *Cell. Mol. Life Sci.* 66: 3743-3753.

## CHROMOSOMAL LOCATION

Genetic locus: OR14K1 (human) mapping to 1q44.

## SOURCE

OR5AY1 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of OR5AY1 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-103716 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

OR5AY1 (S-14) is recommended for detection of OR5AY1 of 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).

Molecular Weight of OR5AY1: 35 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](http://www.scbt.com) or our catalog for detailed protocols and support products.