

GPR154 (G-14): sc-162894

BACKGROUND

G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G protein-coupled receptors translate extracellular signals into intracellular signals (G protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR154 (G-protein-coupled receptor 154), also known as NPSR1 (neuropeptide S receptor), GPRA (G-protein-coupled receptor for asthma susceptibility) or PGR14, is a 371 amino acid protein that is thought to play a role in autocrine or paracrine signaling pathways. Ubiquitously expressed, GPR154 exists as nine alternatively spliced isoforms. Defects in the gene encoding GPR154 is the cause of asthma-related traits type 2 (ASRT2).

REFERENCES

- Laitinen, T., et al. 2001. A susceptibility locus for asthma-related traits on chromosome 7 revealed by genome-wide scan in a founder population. *Nat. Genet.* 28: 87-91.
- Xu, Y.L., et al. 2004. Neuropeptide S: a neuropeptide promoting arousal and anxiolytic-like effects. *Neuron* 43: 487-497.
- Laitinen, T., et al. 2004. Characterization of a common susceptibility locus for asthma-related traits. *Science* 304: 300-304.
- Vendelin, J., et al. 2005. Characterization of GPRA, a novel G protein-coupled receptor related to asthma. *Am. J. Respir. Cell Mol. Biol.* 33: 262-270.
- Melén, E., et al. 2005. Haplotypes of G protein-coupled receptor 154 are associated with childhood allergy and asthma. *Am. J. Respir. Crit. Care Med.* 171: 1089-1095.
- Kormann, M.S., et al. 2005. G-Protein-coupled receptor polymorphisms are associated with asthma in a large German population. *Am. J. Respir. Crit. Care Med.* 171: 1358-1362.
- Orsmark-Pietras, C., et al. 2008. Biological and genetic interaction between tenascin C and neuropeptide S receptor 1 in allergic diseases. *Hum. Mol. Genet.* 17: 1673-1682.
- Bruce, S., et al. 2009. The protective effect of farm animal exposure on childhood allergy is modified by NPSR1 polymorphisms. *J. Med. Genet.* 46: 159-167.
- Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 608595. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NPSR1 (human) mapping to 7p14.3; Npsr1 (mouse) mapping to 9 A3.

SOURCE

GPR154 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of GPR154 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-162894 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR154 (G-14) is recommended for detection of GPR154 isoform A, isoform F, isoform G, isoform B long form and isoform B short form 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); non cross-reactive with GPR154 isoforms C, D, E, or 8; non cross-reactive with other GPR family members.

GPR154 (G-14) is also recommended for detection of GPR154 isoform A, isoform F, isoform G, isoform B long form and isoform B short form in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GPR154 siRNA (h): sc-89534, GPR154 siRNA (m): sc-145711, GPR154 shRNA Plasmid (h): sc-89534-SH, GPR154 shRNA Plasmid (m): sc-145711-SH, GPR154 shRNA (h) Lentiviral Particles: sc-89534-V and GPR154 shRNA (m) Lentiviral Particles: sc-145711-V.

Molecular Weight of GPR154 isoforms A/B: 50 kDa.

Molecular Weight of glycosylated GPR154: 60 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.