

# GPR178 (E-15): sc-247066

## 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. GPR178, also known as TMEM181 (transmembrane protein 181), is a 612 amino acid multi-pass membrane protein that influences the activity of cytolethal distending toxins. GPR178 expression is rate-limiting for intoxication and is encoded by a gene that maps to human chromosome 6q25.3. Chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES

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2. Szekeres, P.G. 2002. Functional assays for identifying ligands at orphan G protein-coupled receptors. *Recept. Channels* 8: 297-308.
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4. Vassilatis, D.K., et al. 2003. The G protein-coupled receptor repertoires of human and mouse. *Proc. Natl. Acad. Sci. USA* 100: 4903-4908.
5. Wollscheid, B., et al. 2009. Mass-spectrometric identification and relative quantification of N-linked cell surface glycoproteins. *Nat. Biotechnol.* 27: 378-386.
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7. Fan, J., et al. 2010. Linkage disequilibrium mapping of the chromosome 6q21-22.31 bipolar I disorder susceptibility locus. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 153B: 29-37.
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## CHROMOSOMAL LOCATION

Genetic locus: TMEM181 (human) mapping to 6q25.3; Tmem181a (mouse) mapping to 17 A1.

## SOURCE

GPR178 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GPR178 of human origin.

## STORAGE

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

## 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-247066 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GPR178 (E-15) is recommended for detection of GPR178 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).

GPR178 (E-15) is also recommended for detection of GPR178 in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for GPR178 siRNA (h): sc-95349, GPR178 siRNA (m): sc-145726, GPR178 shRNA Plasmid (h): sc-95349-SH, GPR178 shRNA Plasmid (m): sc-145726-SH, GPR178 shRNA (h) Lentiviral Particles: sc-95349-V and GPR178 shRNA (m) Lentiviral Particles: sc-145726-V.

Molecular Weight of GPR178: 69 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](http://www.scbt.com) or our catalog for detailed protocols and support products.