

# GPR54 (M-20): sc-48218

## BACKGROUND

G protein-coupled receptors (GPCRs), also designated seven transmembrane (7TM) receptors and heptahelical receptors, are a protein family which interact with G proteins (heterotrimeric GTPases) to synthesize intracellular second messengers such as diacylglycerol, cyclic AMP, inositol phosphates and calcium ions. Their diverse biological functions range from vision and olfaction to neuronal and endocrine signaling and are involved in many pathological conditions. G protein receptor 54 (GPR54), a member of the rhodopsin family of GPCRs, is the receptor for the KiSS1 gene product, metastin. Mutations in GPCR54 are associated with a lack of puberty onset and autosomal recessive idiopathic hypogonadotropic hypogonadism, a deficient or decreased function of the gonads. Proper function of GPR54 is essential for puberty. In the rat, GPR54 is expressed in the liver, intestine and most areas of the brain, while in the human it is expressed in the placenta, pituitary, pancreas and spinal cord.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: GPR54 (human) mapping to 19p13.3; Gpr54 (mouse) mapping to 10 C1.

## RESEARCH USE

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

## SOURCE

GPR54 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of GPR54 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, ready P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GPR54 (M-20) is recommended for detection of GPR54 of mouse and rat 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).

Suitable for use as control antibody for GPR54 siRNA (m): sc-60748, GPR54 shRNA Plasmid (m): sc-60748-SH and GPR54 shRNA (m) Lentiviral Particles: sc-60748-V.

Molecular Weight of GPR54: 43 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.

## SELECT PRODUCT CITATIONS

- Shoji, I., et al. 2010. Expression of kisspeptins and kisspeptin receptor in the kidney of chronic renal failure rats. *Peptides* 31: 1920-1925.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.