SANTA CRUZ BIOTECHNOLOGY, INC.

PTH2 Receptor (V-20): sc-16385

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Parathyroid hormone (PTH) and parathyroid hormone-related peptide (PTHrP) regulate calcium, phosphate and hydrogen ions in the kidney. In addition, PTHrP is also expressed in a variety of tissues, where it acts as an autocrine/paracrine factor to influenceskeletal and cartilage development. Both ligands preferentially bind to the type 1 PTH/PTHrP receptor (PTH1R), whereas the type 2 PTH receptor (PTH2 receptor or PTH2R) binds only PTH, but not PTHrP. The PTH2 receptor also binds to tuberoinfundibular peptide of 39 residues (TIP39), which shares limited homology with PTH and may, subsequently, activate the PTH2 receptor through alternative methods. Both PTH receptors are members of the glucagon/secretin/calcitonin subfamily of G protein-coupled receptors (GPCRs), and are characterized as seven transmembrane receptors that recruit G proteins and signal through intracellular adenyl cyclase/cAMP pathways. The PTH2 receptor is highly expressed in brain and pancreas, with lower expression in testis, and is thought to play a role in the regulation of several physiological systems, including pituitary hormone secretion and pain perception.

REFERENCES

1. Bruns, M.E., et al. 1995. Expression of parathyroid hormone-related peptide and its receptor messenger ribonucleic acid in human amnion and chorion-decidua: implications for secretion and function. Am. J. Obstet. Gynecol. 173: 739-746.
2. Usdin, T.B., et al. 1996. Distribution of parathyroid hormone-2 receptor messenger ribonucleic acid in rat. Endocrinology 137: 4285-4297.
3. Iezzoni, J.C., et al. 1998. Coexpression of parathyroid hormone-related protein and its receptor in breast carcinoma: a potential autocrine effector system. Mod. Pathol. 11: 265-270.
4. Takasu, H., et al. 1999. Dual signaling and ligand selectivity of the human PTH/PTHrP receptor. J. Bone Miner. Res. 14: 11-20.
7. Huang, Z., et al. 1999. Role of signal transduction in internalization of the G protein-coupled receptor for parathyroid hormone (PTH) and PTH-related protein. Endocrinology 140: 1294-1300.
5. Usdin, T.B., et al. 2000. New members of the parathyroid hormone/parathyroid hormone receptor family: the parathyroid hormone 2 receptor and tuberoinfundibular peptide of 39 residues. Front. Neuroendocrinol. 21: 349-383.
6. Piserchio, A., et al. 2000. Structure of tuberoinfundibular peptide of 39 residues. J. Biol. Chem. 275: 27284-27290.
8. Wang, T., et al. 2000. Distribution of parathyroid hormone-2 receptor-like immunoreactivity and messenger RNA in the rat nervous system. Neuroscience 100: 629-649.

CHROMOSOMAL LOCATION

Genetic locus: PTH2R (human) mapping to 2q34; Pth2r (mouse) mapping to 1 C2.

RESEARCH USE

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

SOURCE

PTH2 Receptor (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PTH2 Receptor 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-16385 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTH2 Receptor (V-20) is recommended for detection of PTH2 Receptor of human and, to a lesser extent, 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).

PTH2 Receptor (V-20) is also recommended for detection of PTH2 Receptor in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PTH2 Receptor siRNA (h): sc-40156, PTH2 Receptor siRNA (m): sc-40157, PTH2 Receptor shRNA Plasmid (h): sc-40156-SH, PTH2 Receptor shRNA Plasmid (m): sc-40157-SH, PTH2 Receptor shRNA (h) Lentiviral Particles: sc-40156-V and PTH2 Receptor shRNA (m) Lentiviral Particles: sc-40157-V.

Molecular Weight of PTH2 Receptor: 62 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.