SANTA CRUZ BIOTECHNOLOGY, INC.

CT-R (T-19): sc-8860

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Calcitonin (CT) is a circulating peptide hormone that is secreted from the thyroid and specifically binds to surface calcitonin receptors (CT-R) to regulate calcium homeostasis. These receptors represent a distinct family of seven transmembrane proteins, which include receptors for parathyroid hormone/parathyroid-related peptide, secretin and glucagon. CT-Rs induce intracellular signaling by coupling to multiple heterotrimeric G proteins, where they then activate several signal transduction pathways involving adenylyl cyclase, phospholipase C and map kinases. The gene encoding CT-R consists of numerous exons separated by larger introns, which are modified to produce multiple splice variants. These functionally unique isoforms display differential tissue distribution and preferentially associate with specific G proteins to recruit distinct signaling intermediates. In osteoclasts and embryonic kidney cells, CT binding to the CT-R stimulates the map kinases Erk1/2 and PKC activity through the phosphorylation of the adaptor proteins Shc and HEF1, and this induction occurs independently from PKA and adenylyl cyclase mediated signaling.

REFERENCES

1. Copp, D.H. 1994. Calcitonin: discovery, development, and clinical application. Clin. Invest. Med. 17: 268-277.
2. Kuestner, R.E., et al. 1994. Cloning and characterization of an abundant subtype of the human calcitonin receptor. Mol. Pharmacol. 46: 246-255.

CHROMOSOMAL LOCATION

Genetic locus: Calcr (mouse) mapping to 6 A1.

SOURCE

CT-R (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CT-R 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, sc-8860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CT-R (T-19) is recommended for detection of CT-R 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

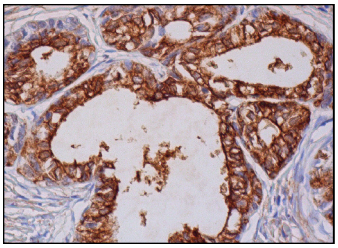
Suitable for use as control antibody for CT-R siRNA (m): sc-39909, CT-R siRNA (r): sc-270180, CT-R shRNA Plasmid (m): sc-39909-SH, CT-R shRNA Plasmid (r): sc-270180-SH, CT-R shRNA (m) Lentiviral Particles: sc-39909-V and CT-R shRNA (r) Lentiviral Particles: sc-270180-V.

Molecular Weight of CT-R isoforms: 59/55/50/52/34/32 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CT-R (T-19): sc-8860. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Redlich, K., et al. 2002. Osteoclasts are essential for TNF-α-mediated joint destruction. J. Clin. Invest. 110: 1419-27.
2. Ikeda, T., et al. 2003. Multimerization of the receptor activator of nuclear factor κB ligand (RANKL) isoforms and regulation of osteoclastogenesis. J. Biol. Chem. 278: 47217-47222.
3. Wang, Y., et al. 2009. Rac1 and Rac2 in osteoclastogenesis: a cell immortalization model. Calcif. Tissue Int. 85: 257-266.
4. de Castro, L.F., et al. 2010. Role of the N- and C-terminal fragments of parathyroid-hormone-related protein as putative therapies to improve bone regeneration under high glucocorticoid treatment. Tissue Eng. Part A 16: 1157-1168.

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 for detailed protocols and support products.