SANTA CRUZ BIOTECHNOLOGY, INC.

CT-R (N-20): sc-8858

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.

CHROMOSOMAL LOCATION

Genetic locus: CALCR (human) mapping to 7q21.3.

SOURCE

CT-R (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of CT-R 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-8858 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

CT-R (N-20) is recommended for detection of CT-R of 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), 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).

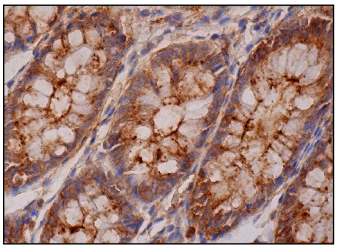
Suitable for use as control antibody for CT-R siRNA (h): sc-39908, CT-R shRNA Plasmid (h): sc-39908-SH and CT-R shRNA (h) Lentiviral Particles: sc-39908-V.

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 (N-20): sc-8858. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Lorget, F., et al. 2002. Lactoferrin reduces *in vitro* osteoclast differentiation and resorbing activity. Biochem. Biophys. Res. Commun. 296: 261-266.
2. Tobon-Arroyave, S.I., et al. 2005. Immunohistochemical expression of RANK, GRα and CT-R in central giant cell granuloma of the jaws. Oral Oncol. 41: 480-488.
3. Clowes, J.A., et al. 2009. Estrogen action on bone marrow osteoclast lineage cells of postmenopausal women *in vivo*. Osteoporos. Int. 20: 761-769.
4. Fong, D., et al. 2013. Bone morphogenetic protein-9 activates Smad and ERK pathways and supports human osteoclast function and survival *in vitro*. Cell. Signal. 25: 717-728.

PROTOCOLS

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