

CT-R (H-80): sc-20743

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.
3. Yamin, M., et al. 1994. Cloning and characterization of a mouse brain calcitonin receptor complementary deoxyribonucleic acid and mapping of the calcitonin receptor gene. Endocrinology 135: 2635-2643.
4. Chen, Y., et al. 1998. The calcitonin receptor stimulates Shc tyrosine phosphorylation and Erk1/2 activation. Involvement of G_i, protein kinase C, and calcium. J. Biol. Chem. 273: 19809-19816.
5. Shyu, J.F., et al. 1999. Protein kinase C antagonizes pertussis-toxin-sensitive coupling of the calcitonin receptor to adenylyl cyclase. Eur. J. Biochem. 262: 95-101.

CHROMOSOMAL LOCATION

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

SOURCE

CT-R (H-80) is a rabbit polyclonal antibody raised against amino acids 411-490 mapping within a C-terminal cytoplasmic 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.

STORAGE

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

APPLICATIONS

CT-R (H-80) is recommended for detection of CT-R of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 CT-R siRNA (h): sc-39908, CT-R shRNA Plasmid (h): sc-39908-SH and CT-R shRNA (h) Lentiviral Particles: sc-39908-V.

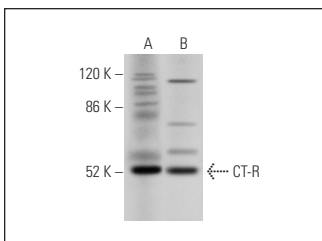
Molecular Weight of CT-R isoforms: 59/55/50/52/34/32 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812 or ACHN whole cell lysate: sc-364365.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CT-R (H-80): sc-20743. Western blot analysis of CT-R expression in SH-SY5Y (A) and ACHN (B) whole cell lysates.

RESEARCH USE

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

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Try **CT-R (2F7): sc-293299**, our highly recommended monoclonal alternative to CT-R (H-80).