

Calcitonin (H-66): sc-20725

BACKGROUND

Calcitonin is a 32 amino acid polypeptide hormone that preserves skeletal integrity and reduces blood calcium levels by decreasing osteoclast activity in bones, calcium and phosphate reabsorption by kidney tubules and calcium absorption by the intestines. The secretion of Calcitonin from the thyroid is regulated in part by estrogen, which increases Calcitonin mRNA levels. The Calcitonin gene, CALCA, undergoes tissue-specific RNA alternative splicing, resulting in the production of different mRNA transcripts. One transcript encodes procalcitonin as well as both calcium-lowering processed active polypeptides, Calcitonin and katecalcitonin. An alternative transcript of CALCA encodes the precursor for the neuropeptide referred to as Calcitonin gene-related peptide 1, also designated CGRP1 or α -CGRP. CGRP is a widely distributed vasodilatory peptide. Calcitonin and katecalcitonin are produced primarily in the thyroid, while CGRP is produced in neuronal cells. A second CGRP related gene, CALCB, thought to be derived from a gene duplication event, has been identified in mouse, rat and human. Unlike CALCA, CALCB is not subject to alternative splicing and encodes a single transcript designated CGRP2 or β -CGRP. Mature CGRP1 and CGRP2 share significant sequence identity at the protein level differing by only 1-3 amino acid residues, depending on the species.

REFERENCES

- Hillyard, C.J., et al. 1983. Katalcalcitonin: a new plasma calcium-lowering hormone. *Lancet* 1: 846-848.
- McDermott, M.T., et al. 1987. The role of calcitonin in the development and treatment of osteoporosis. *Endocr. Rev.* 8: 377-390.
- Wronski, T.J., et al. 1991. Skeletal effects of calcitonin in ovariectomized rats. *Endocrinol.* 129: 2246-2250.
- Silver, J., et al. 1993. Calcitonin gene regulation *in vivo*. *Horm. Metab. Res.* 25: 470-472.

CHROMOSOMAL LOCATION

Genetic locus: CALCA (human) mapping to 11p15.1; Calca (mouse) mapping to 7 F1.

SOURCE

Calcitonin (H-66) is a rabbit polyclonal antibody raised against amino acids 76-141 mapping at the C-terminus of Calcitonin of human origin.

PRODUCT

Each vial contains 200 μ g 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.

RESEARCH USE

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

APPLICATIONS

Calcitonin (H-66) is recommended for detection of calcitonin precursor, calcitonin and katecalcitonin active forms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 CALCA siRNA (h): sc-39277, CALCA siRNA (m): sc-39278, CALCA shRNA Plasmid (h): sc-39277-SH, CALCA shRNA Plasmid (m): sc-39278-SH, CALCA shRNA (h) Lentiviral Particles: sc-39277-V and CALCA shRNA (m) Lentiviral Particles: sc-39278-V.

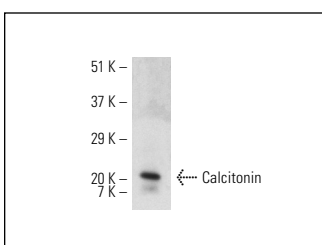
Molecular Weight of Calcitonin: 15 kDa.

Positive Controls: TT whole cell lysate: sc-364195.

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



Calcitonin (H-66): sc-20725. Western blot analysis of Calcitonin expression in TT whole cell lysate.

SELECT PRODUCT CITATIONS

- Lin, H., et al. 2007. Cdk5 regulates STAT3 activation and cell proliferation in medullary thyroid carcinoma cells. *J. Biol. Chem.* 282: 2776-2784.



Try **Calcitonin (16B5): sc-51798**, our highly recommended monoclonal alternative to Calcitonin (H-66).