

# Calcitonin (F-13): sc-9174

## ZBACKGROUND

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  $\alpha$ -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  $\beta$ -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

1. Le Moulllec, J.M., et al. 1984. The complete sequence of human procalcitonin. *FEBS Lett.* 167: 93-97.
2. Höppener, J.W., et al. 1985. The second human Calcitonin/CGRP gene is located on chromosome 11. *Hum. Genet.* 70: 259-263.
3. Amara, S.G., et al. 1985. Expression in brain of a messenger RNA encoding a novel neuropeptide homologous to Calcitonin gene-related peptide. *Science* 229: 1094-1097.
4. Wronski, T.J., et al. 1991. Skeletal effects of calcitonin in ovariectomized rats. *Endocrinology* 129: 2246-2250.
5. Hoovers, J.M., et al. 1993. High-resolution chromosomal localization of the human Calcitonin/CGRP/IAPP gene family members. *Genomics* 15: 525-529.
6. Silver, J. and Naveh-Many, T. 1993. Calcitonin gene regulation *in vivo*. *Horm. Metab. Res.* 25: 470-472.
7. Wimalawansa, S.J. 1997. Amylin, Calcitonin gene-related peptide, Calcitonin, and adrenomedullin: a peptide superfamily. *Crit. Rev. Neurobiol.* 11: 167-239.
8. Bracq, S., et al. 1997. Calcitonin mRNA is produced in liver by two different splicing pathways. *Mol. Cell. Endocrinol.* 128: 111-115.

## CHROMOSOMAL LOCATION

Genetic locus: CALCA (human) mapping to 11p15.2; Calca (mouse) mapping to 7 F1.

## SOURCE

Calcitonin (F-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Calcitonin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9174 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Calcitonin (F-13) is recommended for detection of calcitonin precursor and active form of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

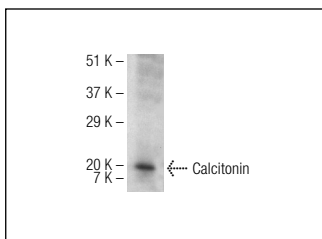
Calcitonin (F-13) is also recommended for detection of Calcitonin in additional species, including equine.

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.

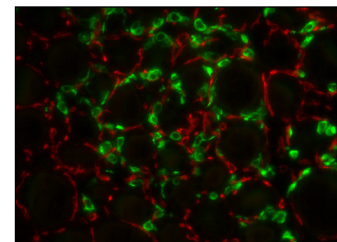
Molecular Weight of Calcitonin: 15 kDa.

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

## DATA



Calcitonin (F-13): sc-9174. Western blot analysis of Calcitonin expression in TT whole cell lysate.



Calcitonin (F13): sc-9174. Mouse thyroid tissue; Calcitonin Green, Keratin 14 Red. Formalin fixed paraffin sections with tris retrieval. Kindly provided by A.G. Farr, University of Washington, and M.C. Zúñiga University of California Santa Cruz.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **Calcitonin (16B5): sc-51798**, our highly recommended monoclonal alternative to Calcitonin (F-13).