

CGRP (4901): sc-57053

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 katecalcin. An alternative transcript of *CALCA* encodes the precursor for the neuropeptide known as Calcitonin gene-related peptide 1, also designated CGRP1 or α -CGRP. CGRP1 is a widely distributed vasodilatory peptide. Calcitonin and katecalcin are produced primarily in the thyroid, while CGRP1 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.

CHROMOSOMAL LOCATION

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

SOURCE

CGRP (4901) is a mouse monoclonal antibody raised against CGRP1 of rat origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CGRP (4901) is available conjugated to agarose (sc-57053 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57053 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-57053 PE), fluorescein (sc-57053 FITC), Alexa Fluor® 488 (sc-57053 AF488), Alexa Fluor® 546 (sc-57053 AF546), Alexa Fluor® 594 (sc-57053 AF594) or Alexa Fluor® 647 (sc-57053 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-57053 AF680) or Alexa Fluor® 790 (sc-57053 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, CGRP (4901) is available conjugated to biotin (sc-57053 B), 200 μ g/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

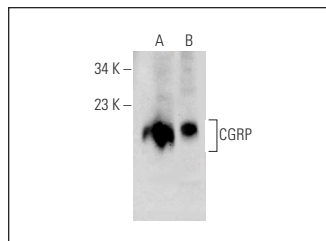
CGRP (4901) is recommended for detection of CGRP1 and CGRP2 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of pro CGRP/active form: 13/5 kDa.

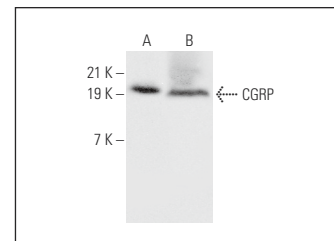
STORAGE

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

DATA



CGRP (4901): sc-57053. Western blot analysis of CGRP expression in rat epididymus (A) and mouse ovary (B) tissue extracts.



CGRP (4901): sc-57053. Western blot analysis of CGRP expression in rat testis (A) and rat epididymis (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Delgado, O., et al. 2011. Multipotent capacity of immortalized human bronchial epithelial cells. *PLoS ONE* 6: e22023.
- Fischer, G., et al. 2014. Sustained relief of neuropathic pain by AAV-targeted expression of CBD3 peptide in rat dorsal root ganglion. *Gene Ther.* 21: 44-51.
- Eastham, J., et al. 2015. The expression of β 3-adrenoceptor and muscarinic type 3 receptor immuno-reactivity in the major pelvic ganglion of the rat. *Naunyn Schmiedeberg Arch. Pharmacol.* 388: 695-708.
- Mahdee, A., et al. 2016. Complex cellular responses to tooth wear in rodent molar. *Arch. Oral Biol.* 61: 106-114.
- Persyn, S., et al. 2016. Adrenergic signaling elements in the bladder wall of the adult rat. *Auton. Neurosci.* 201: 40-48.
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- Mahdee, A., et al. 2019. Evidence for changing nerve growth factor signalling mechanisms during development, maturation and ageing in the rat molar pulp. *Int. Endod. J.* 52: 211-222.
- Huang, J., et al. 2020. Hyperactivity of innate immunity triggers pain via TLR2-IL-33-mediated neuroimmune crosstalk. *Cell Rep.* 33: 108233.
- Anderson, M.B., et al. 2021. Open-source method of image cytometry in dorsal root ganglia tissue with immunofluorescence. *Anal. Biochem.* 627: 114184.
- Li, F., et al. 2022. Topical treatment of colquhounia root relieves skin inflammation and itch in imiquimod-induced psoriasiform dermatitis in mice. *Mediators Inflamm.* 2022: 5782922.

RESEARCH USE

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

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