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Datasheet for 200-301-D15

Calcitonin Gene Related Peptide (CGRP) Antibody

Overview

Description:	Anti-Calcitonin Gene Related Peptide (CGRP) (MOUSE) Antibody - 200-301-D15
Item No.:	200-301-D15
Size:	100 µL
Applications:	ELISA, Multiplex, IF, IHC
Reactivity:	Human, Rat
Host Species:	Mouse

Product Details

Background:	CGRP antibody recognizes Calcitonin Gene Related Peptide or CGRP which is a 37 amino acid peptide and is the most potent endogenous vasodilator currently known. CGRP is primarily produced in nervous tissue, however, its receptors are expressed throughout the body. CGRP is also strongly implicated in the vasodilatory effect of endogenous cannabinoid anandamide in the brain. This effect was found to be antagonized by capsazepine. CGRP is also currently a major target of research in regards to factors effecting the onset of migraine headaches. CGRP antibodies have been used successfully in immunoneutralization. Anti-CGRP antibody is ideal for investigators involved in Cell Signaling, Neuroscience, Signal Transduction research.
Synonyms:	Alpha-type CGRP, Calcitonin gene-related peptide I, Calcitonin gene-related peptide 1, CGRP-I, Calca, Calc
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	4901
Format:	IgG2a

Target Details

Gene Name:	Calca
Reactivity:	Human, Rat
Immunogen Type:	Recombinant Protein

Immunogen:	Anti-CGRP Monoclonal Antibody was produced by repeated immunizations with purified rat alpha-CGRP.
Purity/Specificity:	Anti-CGRP Monoclonal Antibody is directed against rat CGRP protein. The antibody was purified from concentrated tissue culture supernate by Protein G chromatography. This antibody is specific for human and rat CGRP protein. A BLAST analysis was used to suggest cross-reactivity with CGRP from most mammalian sources based on very high homology with the immunizing sequence. Calcitonin Gene Related Peptide antibody also recognizes rat beta-CGRP and human alpha-CGRP (10-fold less sensitivity compared to rat alpha-CGRP).
Relevant Links:	• UniProtKB - P01256 • GeneID - 24241 • NCBI - NP_001029128.1

Application Details

Tested Applications:	ELISA, Multiplex
Suggested Applications:	IF, IHC (Based on references)
Application Note:	Anti-Calcitonin Gene Related Peptide antibody has been tested by ELISA and ICC. This product is not recommended for use in Western Blotting. Specific conditions for reactivity should be optimized by the end user. Suggested positive controls are dorsal root ganglia, pancreas and gut.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000
IF:	User Optimized
IHC:	1:50-1:100
IP:	1:50-1:100
WB:	not recommended

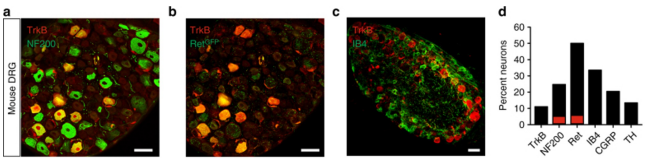
Formulation

Physical State:	Liquid
Concentration:	titrated reagent Sufficient to run approximately 10 miniblots
Buffer:	0.01 M HEPES, 0.15 M Sodium Chloride, pH 7.5
Stabilizer:	0.1 mg/ml Bovine Serum Albumin (BSA) - IgG and Protease free, 50% (v/v) Glycerol

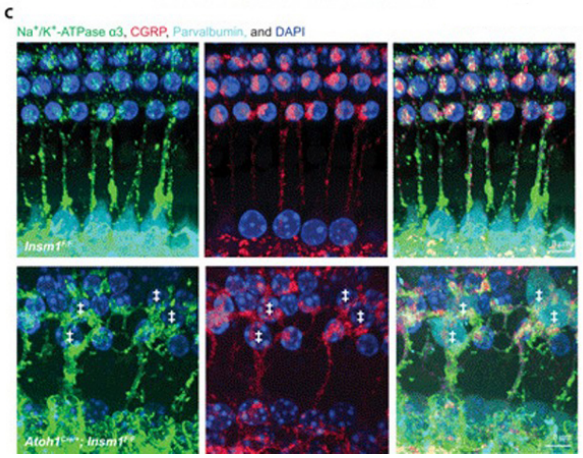
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

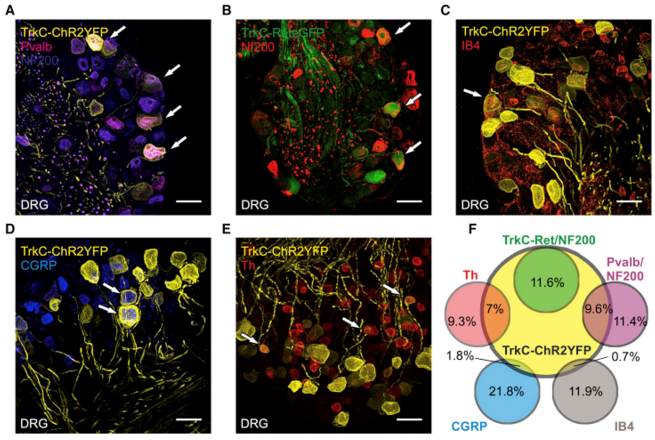
Images



Immunofluorescence Microscopy
TrkB-positive sensory neurons are putative mechanoreceptors. a–d Double immunofluorescence of DRG sections from TrkBCreERT2::Rosa26RFP mice with a NF200, b Ret, visualized using TrkBCreERT2::Rosa26RFP::RetEGFP triple transgenic mice, c IB4, d quantification of staining on mouse DRG sections; TrkB+ cells account for ~10% of all DRG neurons and all co-express NF200 or NF200 + ReteGFP, while they are negative for IB4, CGRP, and TH.
Fig 1.
PMID: 29691410

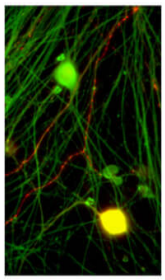


Immunofluorescence Microscopy
(C) Top view of adult control (top) and cKO (bottom) cochleae from middle turns with Na+/K+-ATPase α3 labeling MOC efferents and type I afferents (28, 54), and CGRP labeling both LOC and MOC efferents. Parvalbumin labels IHCs and oc-IHCs (‡). In both control and mutant animals, all efferent (CGRP-positive) fibers that cross into the outer compartment are colabeled for Na+/K+-ATPase α3, suggesting that they are MOC fibers. Fig 6. PMID: 33523928



Immunofluorescence Microscopy
(A–F) Immunofluorescent staining of DRG sections from TrkCCreERT2::Rosa26ChR2-YFP (yellow) showed that 9.6% of DRG neurons co-express markers of proprioceptors (Pvalb, red; NF200, magenta) (A and F) and 11.6% of slowly adapting (SA) field mechanoreceptors (Ret, green; NF200, red) (B and F). Very few TrkC+ neurons overlap with markers of non-peptidergic nociceptors (IB4, red) (C and F) or peptidergic nociceptors (CGRP, blue) (D and F); 7% of all DRG neurons are also positive for Th (red), a marker of C-fiber low-threshold mechanoreceptors (C-LTMRs) (E and F). (F) Quantification of TrkC co-expression with the other markers in DRGs showing the percentage of total neurons.
Fig 1.
PMID: 34077727

Anti-Calcitonin Gene Related Peptide (CGRP)



Immunostaining of CGRP (red) in cryopreserved DRG neurons grown on coverslips. 40xmag. Green staining is PGP9.5. Yellow staining is the colocalization of CGRP and PGP9.5. Cells were obtained and photo was provided courtesy of QBM Cell Science.

Immunocytochemistry
Immunocytochemistry of Anti-Calcitonin Gene Related Peptide (CGRP) (Mouse) Antibody. Tissue: cryopreserved DRG neurons. Fixation: grown on coverslips. Antigen retrieval: not required. Primary antibody: Calcitonin Gene Related Peptide antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Peroxidase mouse secondary antibody at 1:10,000 for 45 min at RT. Localization: Calcitonin Gene Related Peptide is nuclear and occasionally cytoplasmic. Staining: CGRP (red). Green staining is PGP9.5. Yellow staining is the colocalization of CGRP and PGP9.5.

References

- Webber JL et al. Axodendritic versus axosomatic cochlear efferent termination is determined by afferent type in a hierarchical logic of circuit formation. *Sci Adv.* (2021)
- Morelli C et al. Identification of a population of peripheral sensory neurons that regulates blood pressure. *Cell Rep.* (2021)
- Dhandapani et al. Control of mechanical pain hypersensitivity in mice through ligand-targeted photoablation of TrkB-positive sensory neurons. *Nature Communications* (2018)

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