PRODUCT DATA SHEET

Product name(s):	Sheep polyclonal antiserum to Calcitonin Gene-Related Peptide (CGRP)

Catalogue number:	CA 1137	Batch number:	Z05180	Expiry date:	12 months from receipt

Introduction:

Calcitonin gene-related peptide (CGRP) [1,2,3] is a 37-amino acid disulphide-bridged sensory neuropeptide present in the central and peripheral nervous systems of many animal species. Two forms of CGRP (α and β) have been identified from both rat and human, and the sequence of chicken CGRP has also been reported, showing striking structural similarity to the mammalian forms. CGRP is abundant in perivascular sensory neurons and is known to be a potent vasodilator. Recent work supports the rôle of CGRP in mediating skin vasodilatation[4] and differential mesenteric artery vasorelaxation[5], as well as serving as an endogenous myocardial protective substance[6] with a possible involvement in the inhibition of human platelet aggregation[7]. CGRP is frequently co-localised with Substance P and immunoelectron microscopic observations have shown that the peptides are co-stored in single secretory granules both in sensory neurons[8-10] and in thyroid C-cells[11]. There are many hundreds of reports in the scientific literature describing the localisation and co-existence of CGRP with other transmitter molecules in a vast array of mammalian and non-mammalian species.

Product information:

Synthetic rat α–calcitonin gene-related peptide (CGRP) was conjugated to bovine serum albumin using glutaraldehyde. The antiserum (ARP297/1) has been partially purified by caprylic acid and ammonium sulphate precipitation and contains 0.1% w/v sodium azide as a preservative.

Application Data

Test tissues: Rat thoracolumbar spinal cord.

Fixatives: Recommended fixative is 4% formaldehyde (prepared from para-polymer) in 0.1M sodium phosphate buffer (pH 7.2-7.4). Perfusion fixation is recommended if possible.

Processing: Vibratome® slices, cryostat sections and de-paraffinised tissue sections have all been used successfully. Antigen retrieval techniques may be necessary to enhance immunostaining on de-waxed tissue sections.

Dilution range: 1:200-1:4000, using overnight incubation (at 4C) and ABC/PAP procedure. Up to 1:500 when using an overnight incubation at 4C with the indirect immunofluorescence method. Longer incubation times (up to 3 days) are recommended on Vibratome or whole cell preparations to improve permeability of the antibodies.

Specificity: On rat spinal cord immunostaining may be abolished by pre-incubation with 10nmol CGRP (rat α) *per* mL diluted antiserum. Neither substance P nor galanin have any effect on immunostaining when used at 10nmol/mL diluted antiserum. It is believed that CA 1137 cross-reacts with all known forms of rat and human CGRP.

Vial Contents, Storage and Use:

See vial label for volume.

The antiserum has been purified by salt precipitation and contains 0.1% w/v sodium azide as a preservative. Dilute to working strength with phosphate-buffered saline (PBS) containing 0.1% w/v sodium azide.

Store unopened vial at -20°C until required for use. AVOID REPEATED FREEZE-THAW CYCLES. Aliquot undiluted antibody into smaller volumes prior to freezing if appropriate. Store diluted antibody at 2-4°C and use within 1 month.

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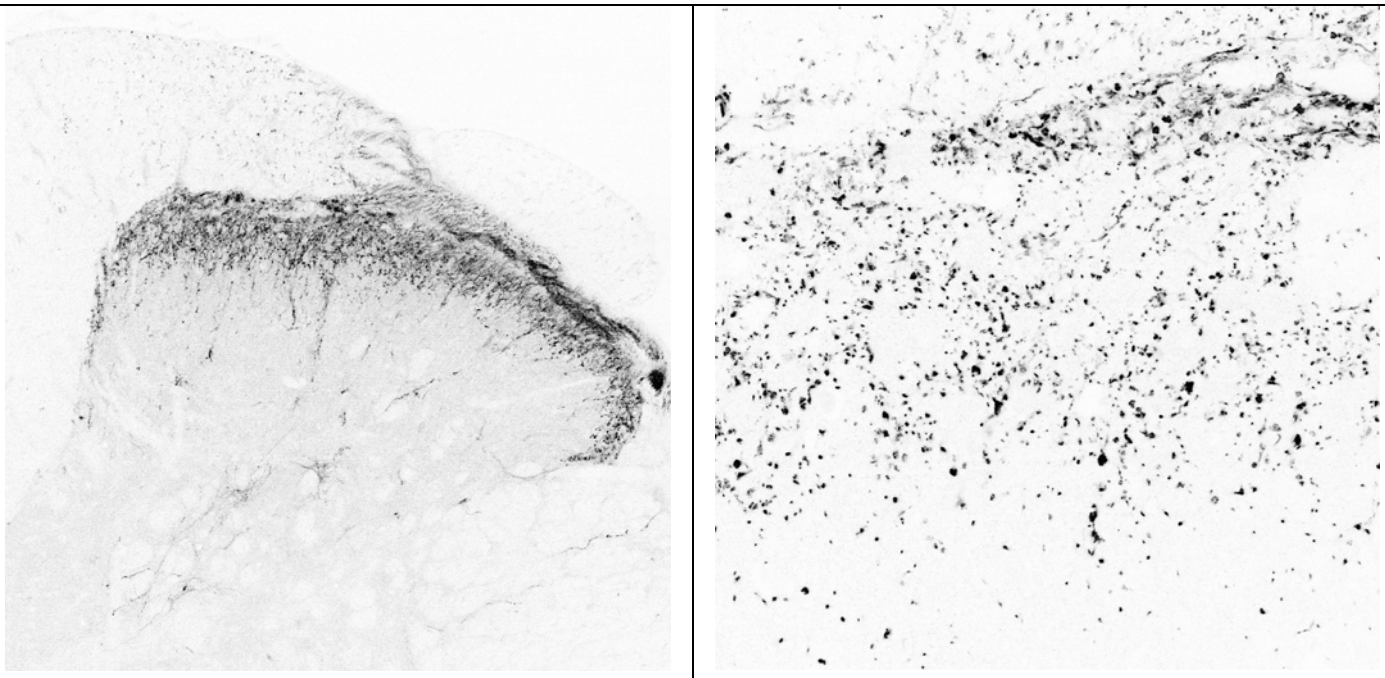

Vibratome (70µm) sections of rat spinal cord immunostained with sheep polyclonal antiserum to CGRP (CA1137) at a dilution of 1:1000. Negative images of fluorescence detection procedure (Alexa488 conjugated secondary antibody). Micrograph courtesy of Professor Andrew Todd (university of Glasgow).

References:

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4. Tan K. K. C. *et al.* Calcitonin gene-related peptide as an endogenous vasodilator. Immunoblockade studies *in vivo* with an anti-calcitonin gene-related peptide monoclonal antibody and its Fab' fragment. *Clinical Science* **89**: 565-573, 1995.
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9. Feher E. *et al.* Calcitonin gene-related peptide-immunoreactive nerve fibres in the small intestine of the guinea pig: Electron microscopic immunocytochemistry. *Cell Tissue Res.,* **245**: 353-358, 1986.
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