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Product Information

Monoclonal Anti-Calcitonin Gene-Related Peptide

Clone #4901

Purified Mouse Immunoglobulin

Product Number **C 7113**

Product Description

Monoclonal Anti-Calcitonin Gene-Related Peptide (CGRP) (mouse IgG1 isotype) is derived from the #4901 hybridoma produced by the fusion of mouse myeloma cells (FOX-NY) and splenocytes from Robertsonian mice immunized with rat α -CGRP peptide. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Calcitonin Gene-Related Peptide (CGRP) recognizes rat α -CGRP and may be used in ELISA, RIA, immunoneutralization, and immunocytochemistry.¹ The antibody cross-reacts with human and dog α - and β -CGRP.¹ The epitope recognized by the antibody resides within the C-terminal ten amino acids of rat α -CGRP.

Calcitonin gene-related peptide (CGRP), amylin (AMY), and adrenomedullin (ADM) are structurally related peptides of the same family. They are characterized by six to seven amino acid ring structure linked by a disulfide bridge and an amidated C-terminus. CGRP is a 37 amino acid peptide derived from the alternative splicing, which is tissue specific, of the calcitonin gene and may exist in two forms α and β with similar biological functions.²⁻⁴

Calcitonin gene-related peptide is widely found in both the central and peripheral (sensory and motor neurons) nervous systems. Structural activity studies have found that following peripheral or intracerebroventricular injections of CGRP, several biological actions have been demonstrated that are mediated by the activation of the CGRP receptor subtypes designated CGRP₁ and CGRP₂.²⁻⁴ BIBN4096BS, a potent non-peptide antagonist, competitively antagonizes the effects of

CGRP in the rat atrium with a potency of about 10-fold higher than that of CGRP (8-37). BIBN4096BS was much less potent at antagonizing the effects of CGRP, proposed to be mediated by the CGRP₂ subtype. An orphan receptor originally described as the calcitonin-receptor-like receptor (CRLR) has been identified as a CGRP receptor. Co-expression with a single transmembrane receptor, termed receptor-activity-modifying protein 1 (RAMP1), is required for this receptor to behave as a CGRP₁ receptor.²⁻⁴

Reagent

Monoclonal Anti-Calcitonin Gene-Related Peptide (CGRP) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 2 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

By ELISA, a working antibody concentration of 0.25- 0.5 μ g/ml is recommended using rat α -CGRP.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilution by titration.

References

1. Wong, H.C., et al., Hybridoma, **12**, 93-106 (1993).
2. Doods, H., et al., Br. J. Pharmacol., **129**, 420-423 (2000).
3. Esfandyari, T., et al. FASEB J., **14**, 1439-1446 (2000).
4. Juaneda, C., et al., Trends Pharmacol. Sci., **21**, 432-438 (2000).

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