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Product Information

Monoclonal Anti-Calcium Sensing Receptor antibody produced in mouse
clone HL1499 (6D4-3F4-6C4)
purified from hybridoma cell culture

Catalog Number **C0493**

Product Description

Monoclonal Anti-Calcium Sensing Receptor (mouse IgG1 isotype) is derived from the hybridoma HL1499 (6D4-3F4-6C4) produced by the fusion of mouse myeloma cells (Sp2/0 cells) and splenocytes from Balb/cByJ mice immunized with a peptide corresponding to amino-acids 15-29 at the extracellular N-terminus of Calcium Sensing Receptor.[1] The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Calcium Sensing Receptor recognizes human,[2] rabbit, rat and mouse[1] Calcium Sensing Receptor, ~130 kDa. The product is useful in ELISA,[1,2] immunoblotting,[1,2] immunocytochemistry[1] and immunohistochemistry

The extracellular Ca^{2+} sensing receptor (CaR) is a G protein-coupled receptor expressed in the parathyroid and kidney, and senses extracellular Ca^{2+} at millimolar ranges. This receptor regulates mainly intracellular enzymes that control production of second messengers including cAMP, inositol trisphosphate (IP3), diacylglycerol (DAG), intracellular Ca^{2+} ($Ca^{2+}i$) and arachidonic acid (AA) metabolites. [1-4]
For example, in the parathyroid, the CaR protein inhibits parathyroid hormone production and secretion in response to elevated extracellular Ca^{2+} levels. In the kidney, activation of CaR inhibits NaK2Cl cotransporter activity, Ca^{2+} reabsorption and the action of vasopressin, leading to a Na^+, Cl^-, Ca^{2+} and H_2O diuresis. In many tissues, CaR may also sense Ca^{2+} extrusion by adjacent cells and function in cell-cell communication. The CaR protein was found to be involved in induction of cell apoptosis via a signaling pathway involving ($G\alpha_i$)-dependent ceramide accumulation, SAPK/JNK activation, c-Jun phosphorylation, caspase-3 activation and DNA cleavage.[1-4]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~2 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is 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. For continuous use, store at 2-8°C for up to one month.

Product Profile

Immunoblotting: a working concentration of 3-6 µg/ml is determined using total extract from rat kidney.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Awata, H., et al., *J. Biol. Chem.*, **276**, 34871-34879 (2001).

2. Vargas-Poussou, R., et al., *J. Am. Soc. Nephrol*., **13**, 2259-2266 (2002).
3. Handlogten, M.E., et al., *J. Biol. Chem*., **276**, 13941-13948 (2001).
4. Wu, Z., et al., *J. Lip. Res*., **46**, 1396-1404 (2005).

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