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Product Information

Anti-Grb-2 antibody, Mouse monoclonal
clone GRB-232,purified from hybridoma cell culture

Product Number **G2791**

Product Description

Monoclonal Anti-Grb2 (mouse IgG3 isotype) is derived from the GRB-232 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a BALB/c mouse immunized with a synthetic peptide corresponding to the C-terminal region of human, rat and mouse Grb2 (a.a. 200-217) conjugated to KLH. The isotype is determined using Sigma ImmunoType™ Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Grb2 reacts specifically with Grb2. The epitope recognized by the antibody resides in the C-terminal region of Grb2 (a.a. 200-217). The antibody may be used for ELISA, immunoblotting (24 kDa), immunocytochemistry and immunohistochemistry (formalin-fixed paraffin-embedded sections). Reactivity has been observed with human, rat and mouse Grb2.

Signaling by protein-tyrosine kinases involves a regulated series of protein-protein interactions mediated by modules such as Src homology 2 (SH2) and SH3 domains.[1] Proteins with SH2 and SH3 domains link tyrosine kinases to intracellular pathways, by serving physiologically as adaptors.[2] SH2 domains recognize specific phosphotyrosine (pTyr)-containing motifs,[3] while SH3 domains bind proline-rich motifs that adopt a polyproline type II helix.[4] A subset of SH2-containing proteins, including the growth factor receptor-bound protein 2 (Grb2), Crk, and Nck, have no catalytic activity, but posses one or more SH3 domains. Grb2[5] (also called Ash, abundant src homology) is an adaptor protein that consists of SH2 flanked by two SH3 domains. In mammalian cells, especially in nonhemopoietic lineage cells, Grb2 binds to a receptor-type tyrosine kinase and mediates the Ras signal pathway. Stimulation of cells with growth factors leads to the association of Grb2-Sos complexes with activated receptors or docking proteins, including activated RTKs, docking proteins such as Shc and FRS-2, and the cytoplasmic tyrosine kinases Bcr-Abl and FAK. This process is proposed to stimulate Ras through the juxtaposition of Sos and Ras at the membrane.[6-8] Grb2 is also required during embryogenesis for the differentiation of endodermal cells and formation of the epiblast. It is also rate limiting for mammary carcinomas induced by polyomavirus middle T antigen.[6] Antibodies reacting specifically with Grb2 are useful tools in the study of the detailed mechanisms of the Grb2 signaling in intracellular pathways, resulting from membrane receptor engagement, the tissue distribution and expression pattern of Grb2, and its essential roles during developmental and pathological processes.

Reagents

Monoclonal Anti-Grb2 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

This product is for R&D use only, not for drug, household, or other uses.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. 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.

Product Profile

A working concentration of 1-2 μg/ml is determined by immunoblotting using a whole extract of cultured human acute T cell leukemia Jurkat cells.

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

References

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