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ProductInformation

MONOCLONAL ANTI-PLATELET DERIVED GROWTH Factor (PDGF) β-RECEPTOR
Clone PDGFR-B2
Mouse Ascites Fluid

Product Number **P 7679**

Product Description

Monoclonal Anti-PDGF β-Receptor (mouse IgG2b isotype) is derived from the PDGFR-B2 hybridoma produced by the fusion of mouse myeloma cells and lymph node cells from DBA/1 mice immunized with PDGF-β Receptor purified from pig uterus.[1] The isotype is determined by a double diffusion assay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-PDGF β-Receptor recognizes an epitope located on the extracellular domain of PDGF β-receptor and does not react with the PDGF α- receptor. The antibody induces clustering and to some extent down-regulation of PDGF receptors, although it is not mitogenic nor does it block the binding of PDGF to the receptor. In a cell-free system, the antibody stimulates the PDGF receptor kinase, both when it is measured as autophosphorylation and as phosphorylation of exogenous substrate. The antibody recognizes human and pig receptors, but not receptors from mouse or rat. It is useful for the immuno-precipitation of autophosphorylated receptor (175 kDa) and for immunoblotting of denatured, non-reduced receptor (approximately 180 kDa). Immunostaining of cultured cells with high antibody concentration results in a uniform cell surface staining, whereas at lower concentrations a patchy staining is observed, possibly representing clustered receptors. The antibody detects PDGF β-receptors in unfixed or acetone-fixed, frozen sections of pig uterus and of human inflamed tissues. It reacts with vascular smooth muscle cells in atherosclerotic plaques, chronically inflamed or rejected kidneys and in rheumatic synovial membranes.

Platelet derived growth factor (PDGF), the major mitogen in serum for cultured connective tissue cells, exerts its actions via specific receptors on the cell surface. A receptor for PDGF has been identified as a transmembrane glycoprotein of 170-185 kDa, with an intrinsic protein tyrosine kinase activity. The receptor is synthesized as a 140-160 kD precursor that carries immature N-linked carbohydrate groups, and then further post-translationally modified to its final size. The receptor is composed of an extracellular portion containing 5 immunoglobulin-like domains and an intracellular part with a protein tyrosine kinase domain. The different isoforms of PDGF (PDGF-AA, PDGF-AB and PDGF-BB) bind with different affinities to two distinct receptors.[2] Ligand-binding induces receptor dimerization; the A-subunit of PDGF binds to α-receptors, whereas the B-subunit binds to both α- and β-receptors. Binding of PDGF to its receptor activates the tyrosine kinase domain and leads to enhanced phosphorylation of intracellular substrates as well as to autophosphorylation of the receptor itself. In addition, several other cellular responses are induced. Studies have indicated that PDGF β-receptors are not present on most cells of normal tissues, but are upregulated, in conjunction with inflammation,[3] excess cell proliferation,[4] malignancytic,[5] and fibrotic conditions.[6,7]

Monoclonal Anti-PDGF β-Receptor may be used for the localization of PDGF β-receptors using various immunochemical assays such as ELISA, immunoprecipitation, immunoblotting or immunocytochemistry.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide a preservative.

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 hazardous and safe handling practices.

Storage/Stability
For extended storage, freeze in working aliquots. For continuous use, store at 2-8 °C. 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.

Product Profile
Titer was determined by immunoblotting using denatured, non-reduced pig uterus extract.

In order to obtain best results in different techniques, it is recommended that each individual user determine their optimum working dilution by titration assay.

References

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