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Product Information

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor

Clone 29.1.1

Mouse Ascites Fluid

Product Number **E 2760**

Product Description

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Mice were immunized with paraformaldehyde-fixed carcinoma cell line A431, which contains 2×10^6 EGF receptors per cell. 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).

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor is immunospecific for epidermal growth factor receptor as determined by ELISA. The antibody is reactive with both mouse and human EGF receptors. It binds to a carbohydrate residue on the external portion of the receptor molecule in such a way that it does not affect the binding of EGF to its receptor, nor does it influence the binding of other monoclonal antibodies to EGF Receptor to the receptor. When used with highly purified preparations of EGF Receptor, the antibody enhances self-phosphorylation of the receptor induced by EGF, provided that the concentration of the antibody has been optimized. It has been reported that in human tissue this clone (29.1) localizes blood group type A related determinants on various glycoproteins and glycolipids in addition to the determinants specifically confined to the EGF Receptor. This co-localization of epitopes has only been observed in human tissue.

The receptor for Epidermal Growth Factor is an integral cell membrane protein of 170 kDa, which spans the membranes of a wide range of normal and malignant epithelial cells. It is a tyrosine-specific protein kinase with the capacity to phosphorylate tyrosine residues located near its carboxy-terminus. EGF-R has an extracellular region which binds EGF and consequently

mediates the initial response of cells to EGF and an intra-cellular region which possesses the tyrosine kinase activity. As a result of EGF binding to its specific receptor, there is increased DNA synthesis as well as other events such as cell proliferation, differentiation and repair of damaged epithelial tissue. The EGF-R has a half-life of approximately 10 hours in human fibroblasts, but in the presence of EGF this value is reduced to about 1 hour. A close similarity has been found between the sequence of the v-erb-B oncogene and the cytoplasmic and transmembrane part of the EGF-R (truncated EGF-R). It is hypothesized that an inappropriate activation of the human erb-B gene either by truncation or overexpression plays a role in the development of the malignancy. This hypothesis is supported by studies which have shown an increased number of EGF-R in various malignant tumors. High levels of EGF-R have been identified in sarcomas, gliomas, gynecological, breast, bladder and lung tumors.

Monoclonal Anti-Epidermal Growth Factor Receptor antibody may be used for the identification of the EGF-R in various immunochemical techniques (ELISA or immunoblotting), for immunoprecipitation, or immunoaffinity purification of the EGF Receptor. The product can be used to study structural and functional parameters of the EGF Receptor and also to investigate cell transformation versus oncogenesis.

Reagent

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor is provided as ascites fluid with 0.1% sodium azide as 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 hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen 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.

Product Profile

By ELISA, a minimum working antibody dilution of 1:10,000 is recommended using an extract of the A431 cell line.

By immunoblotting, a minimum working antibody dilution of 1:3,000 is recommended using an A431 cell extract.

In order to obtain the best results in various assays, it is recommended that each individual user determine their working dilution by titration.

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