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Product Information

MONOCLONAL ANTI-EPIDERMAL GROWTH FACTOR (EGF) RECEPTOR

Clone F4

Mouse Ascites Fluid

Product Number **E 3138**

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. A peptide representing residues 985 to 996 of the human EGF receptor (EGF-R) coupled to KLH was used as the immunogen. 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-EGF Receptor recognizes the intracellular domain of the EGF receptor. Tumor staining by the antibody generally appears to be cytoplasmic, although in the more strongly staining squamous cell carcinoma the outer edges of the cells are also stained. Monoclonal Anti-EGF receptor also stains the EGF-R expressed in the A-431 cell line using an immunofluorescent technique.

The receptor for Epidermal Growth Factor is an integral cell membrane protein of 170 kD, 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 including 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.

Reagents

The product 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

Monoclonal Anti-Epidermal Growth Factor Receptor may be used for the identification of the intracellular domain of the EGF-R in the immunohistological staining of both frozen and formalin-fixed, paraffin-embedded tissue and in immunoprecipitation, immunoblotting and ELISA techniques.

A minimum titer of 1:2,000 was determined by immunoblotting on SDS-denatured preparation of human epidermoid carcinoma cell line A-431.

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

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