

Product Information

Anti-Epidermal Growth Factor (EGF) Receptor, Mouse monoclonal

Clone 29.1, purified from hybridoma cell culture

Product Number **SAB4200809**

Product Description

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor (mouse IgG1 isotype) is derived from the 29.1 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from mouse immunized with paraformaldehyde-fixed carcinoma cell line A431. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Product Number ISO2.). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Epidermal Growth Factor (EGF) Receptor specifically binds to a carbohydrate residue on the external region of the EGF receptor molecule with no interference to the binding of EGF to its receptor, nor does it influence the binding of other monoclonal antibodies to the EGF Receptor.¹ Reactivity has been observed with EGF receptors from mouse,¹ human,¹⁻³ and bovine⁴ origin. The antibody is recommended to use in various immunological techniques, including immunoblotting (~170 kDa),¹⁻³ immunoprecipitation,² flow cytometry (FACS), immunohistochemistry,^{3-4,6} and immunofluorescence.³

When used with highly purified preparations of EGF Receptor, the antibody enhances self-phosphorylation of the receptor induced by EGF, provided the concentration of the antibody has been optimized.¹ It has been reported that in human tissue, 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.⁶⁻⁷

Epidermal growth factor receptor (EGFR), also known as Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, or HER-1, is an integral cell membrane protein which spans the membranes of a wide range of normal and malignant epithelial cells. EGFR is a tyrosine-specific protein kinase domain. It has an extracellular region which binds EGF and an intracellular carboxy-terminal region which possesses the tyrosine kinase activity. EGF binding to its specific EGFR, results in an increased DNA synthesis initiating a signaling cascades including cell proliferation, differentiation, and repair of damaged epithelial tissue.⁸

The EGFR has a half-life of ~10 hours in human fibroblasts, but in the presence of EGF this value is reduced to about 1 hour.⁹ A close similarity has been found between the sequence of the v-erb-B oncogene and the cytoplasmic transmembrane domain of the EGFR (truncated EGFR).

Overexpression or mutation of EGFR may enhance DNA repair mechanisms, thereby contributing to radio- and chemotherapy resistance.¹⁰ High levels of EGFR have been identified in sarcomas, gliomas, breast, gynecological, bladder, and lung tumors.^{2,4,6-7}

Reagent

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

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet 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, freeze in working aliquots. Repeated freezing and thawing 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

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using human epidermoid carcinoma A431 cell line extract.

Immunofluorescence: a working concentration of 2-4 µg/mL is recommended using human epidermoid carcinoma A431 cells.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

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