

## Product Information

# Anti-EGF Receptor Antibody, Mouse Monoclonal

Clone 225, purified from hybridoma cell culture

**E2156**

## Product Description

Anti-EGFR (mouse IgG1 isotype) is derived from the hybridoma 225 produced by the fusion of mouse myeloma cells (NS-1-503 cells) and splenocytes from BALB/c mice immunized with partially purified EGF receptors from A-431 cells. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Cat. No.ISO2.

Anti-EGF Receptor recognizes human EGF Receptor. The antibody blocks the binding of EGF to the receptor, inhibits the growth of A-431 tumor cells *in vitro*,<sup>1-2</sup> and activates caspase-8 thus inducing apoptosis in DiFi colon cancer cells.<sup>3</sup> The antibody can be used in immunoprecipitation.

The receptor for epidermal growth factor is an integral cell membrane glycoprotein of 170 kDa, which spans the membranes of a wide range of normal and malignant epithelial cells.<sup>4-5</sup> The EGF receptor has an intracellular domain that exhibits tyrosine kinase activity. Overexpression of the receptor can produce a neoplastic phenotype in cells, which has been associated with poor prognosis or short survival in patients with several types of cancer. EGFR protein tyrosine kinase is activated when EGF binds the extracellular binding domain. The first detectable response is the autophosphorylation of the C-terminal tyrosines followed by phosphorylation of other endogenous substrates. The phosphorylated sequences of EGFR have a high affinity to SH2 domain containing proteins. These proteins are phosphorylated and activated by the receptor tyrosine kinases.<sup>6</sup> Activation of EGFR can be achieved in the absence of EGF by receptor dimerization with antibody<sup>7</sup> or by 10 mM Mn<sup>2+</sup> ion.

## Reagent

Supplied in 0.01 M phosphate buffered saline, pH 7.4, 0.2 µm filtered.

Antibody concentration: ~1.5 mg/mL

## Precautions and Disclaimer

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, or 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

### Immunoprecipitation

4-8 µg of antibody can immunoprecipitate EGF Receptor from A431 cell lysate.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

## References

1. Sato, J.D., et al., *Mol. Biol. Med.*, 1, 511-529 (1983).
2. Masui, H., et al., *Cancer Res.*, 44, 1002-1007 (1984).
3. Liu, B., and Fan, Z., *Oncogene*, 20, 3726-3734 (2001).
4. Ullrich, A., et al., *Nature*, 309, 418-425 (1984).
5. Carpenter, G., *Annu. Rev. Biochem.*, 56, 881-914 (1987).
6. Margolis, B., et al., *EMBO J.*, 9, 4375-4380 (1990).
7. Yarden, Y., and Schlessinger, J., *Biochemistry*, 26, 1443-1451 (1987).

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