Mouse EGF R/ErbB1 Antibody

Monoclonal Rat IgG_1 Clone # 176436

Catalog Number: MAB1280

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse EGF R in direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody shows no cross-reactivity with recombinant human (rh) EGF R, rhErbB2, rhErbB3, or rhErbB4.
Source	Monoclonal Rat IgG_1 Clone # 176436
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse EGF R Leu25-Ser647 Accession # Q01279
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse EGF R/ErbB1 Fc Chimera (Catalog # 1280-ER)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

BACKGROUND

The EGF R subfamily of receptor tyrosine kinases comprises four members: EGF R (also known as HER-1, ErbB1, or ErbB), ErbB2 (Neu, HER-2), ErbB3 (HER-3), and ErbB4 (HER-4). All family members are type I transmembrane glycoproteins. They contain an extracellular ligand binding domain containing two cysteine-rich domains and a cytoplasmic domain containing a membrane-proximal tyrosine kinase domain followed by multiple tyrosine autophosphorylation sites (1, 2). The mouse EGF R cDNA encodes a 1210 amino acid (aa) precursor with a 24 aa signal peptide, a 623 aa extracellular domain (ECD), a 23 aa transmembrane segment, and a 540 aa cytoplasmic domain (3). Soluble receptors consisting of the extracellular ligand binding domain are generated by alternate splicing in human and mouse (4 - 6). Within the ECD, mouse EGF R shares 88% and 93% aa sequence identity with human and rat EGF R, respectively. It shares 44% - 48% aa sequence identity with the ECD of mouse ErbB2, ErbB3, and ErbB4. EGF R binds a subset of the EGF family ligands, including EGF, amphiregulin, TGF-α, betacellulin, epiregulin, HB-EGF, and epigen (1, 2). Ligand binding induces EGF R homodimerization as well as heterodimerization with ErbB2, resulting in kinase activation, heterodimerization tyrosine phosphorylation and cell signaling (7 - 11). EGF R can also be recruited to form heterodimers with the ligand-activated ErbB3 or ErbB4. EGF R signaling regulates multiple biological functions including cell proliferation, differentiation, motility, and apoptosis (12, 13). EGF R is over-expressed in a wide variety of tumors and is the target of several anti-cancer drugs (14).

References:

1. Singh, A.B. and R.C. Harris (2005) Cell. Signal. **17**:1183.
2. Shilo, B.Z. (2005) Development **132**:4017.
3. Avivi, A. *et al.* (1991) Oncogene **6**:673.
4. Reiter, J.L. and N.J. Maihle (1996) Nucleic Acids Res. **24**:4050.
5. Reiter J.L. *et al.* (2001) Genomics **71**:1.
6. Xu, Y.H. *et al.* (1984) Nature **309**:806.
7. Graus-Porta, D. *et al.* (1997) EMBO J. **16**:1647.
8. Yarden, Y. *et al.* (1987) Biochemistry **26**:1434.
9. Burgess, A.W. *et al.* (2003) Mol. Cell **12**:541.
10. Lemmon, M.A. *et al.* (1997) EMBO J. **16**:281.
11. Cohen, S. *et al.* (1982) J. Biol. Chem. **257**:1523.
12. Sibilia, M. and E.F. Wagner (1995) Science **269**:234.
13. Miettinen, P.J. *et al.* (1995) Nature **376**:337.
14. Roskoski Jr., R. (2004) Biochem. Biophys. Res. Commun. **319**:1.