

DESCRIPTION

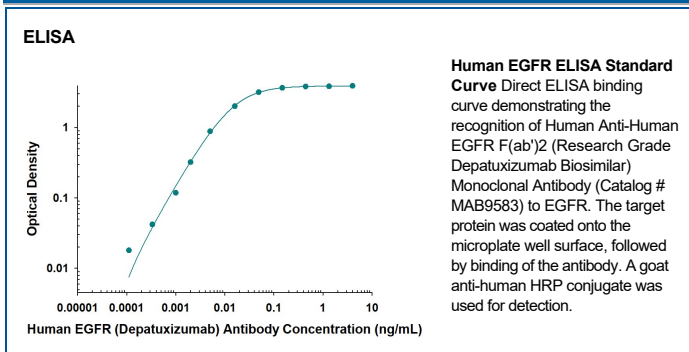
Species Reactivity	Human
Source	Recombinant Monoclonal Human IgG ₁ Clone # Hu210
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human EGFR F(ab') ₂
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

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.

ELISA	This antibody functions as an ELISA detection antibody for the specific antigen in direct ELISA. Colorimetric detection is performed after addition of a suitable substrate.
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DATA



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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Epidermal Growth Factor Receptor (EGFR), also named erythroblastic leukemia viral oncogene homolog 1 (ErbB1), is a member of the type I receptor tyrosine kinase superfamily. The epidermal growth factor receptor (EGFR) subfamily of receptor tyrosine kinases comprises four members: EGFR (also known as HER1, ErbB1 or ErbB), ErbB2 (Neu, HER2), ErbB3 (HER3), and ErbB4 (HER4). All family members are type I transmembrane glycoproteins that have an extracellular domain with two ligand binding cysteine rich domains, separated by a spacer region, and a cytoplasmic domain with a membrane proximal tyrosine kinase domain and a C-terminal tail with multiple tyrosine autophosphorylation sites. The human EGFR gene encodes a 1210 amino acid (aa) residue precursor with a 24 aa putative signal peptide, a 621 aa extracellular domain, a 23 aa transmembrane domain, and a 542 aa cytoplasmic domain. EGFR has been shown to bind a subset of the EGF family ligands, including EGF, amphiregulin, TGFα, betacellulin, epiregulin, heparin-binding EGF and neuregulin-2α, in the absence of a coreceptor. Ligand binding induces EGFR homodimerization as well as heterodimerization with ErbB2, resulting in kinase activation, tyrosine phosphorylation and cell signaling. EGFR can also be recruited to form heterodimers with ligand-activated ErbB3 or ErbB4. EGFR signaling has been shown to regulate multiple biological functions including cell proliferation, differentiation, motility and apoptosis. In addition, EGFR signaling has also been shown to play a role in carcinogenesis (1-3).

References:

1. Daly, R.J. (1999) Growth Factors, **16**:255.
2. Schlessinger, J. (2000) Cell. **103**:211.
3. Maihle, N.J. *et al.* (2002) Cancer Treat. Res. **107**:247.