Tyrosine Kinase Erbb-2 (ErbB2) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Tyrosine Kinase ErbB-2 (ErbB2), Recombinant Protein
Full Product Name	Recombinant Human Tyrosine Kinase ErbB-2
Product Gene Name	ErbB2 recombinant protein
Product Synonym Names	ErbB2 Human; ErbB-2 Human Recombinant; NEU; NGL; HER2; TKR1; HER-2; c-erb B2; HER-2/neu; Receptor tyrosine-protein kinase erbB-2; EC 2.7.10.1; p185erbB2; C-erbB-2; NEU proto-oncogene; Tyrosine kinase-type cell surface receptor HER2; MLN 19; CD340 antigen
Sequence	MTQ VCTGTDM KLRLPASPET HLDMLRHLYQ GCQVVQGNLE LTYLPTNASL SFLQDIQEVQ GYVLIAHNQV RQVPLQRLRI VRGTQLFEDN YALAVLDNGD PLNNTTPVTG ASPGGLRELQ LRSLTEILKG GVLIQRNPQL CYQDTILWKD IFHKNNQLAL TLIDTNRSRA CHPCSPMCKG SRCWGESSED CQSLTRTVCA GGCARCKGPL PTDCCHEQCA AGCTGPKHSD CLACLHFNHS GICELHCPAL VTYNTDTFES MPNPEGRYTF GASCVTACPY NYLSTDVGSC TLVCPLHNQE VTAEDGTQRC EKCSKPCARG THSLPPRPAA VPVPLRMQPG PAHPVLSFLR PSWDLVSAFY SLPLAPLSPT SVPISPVSVG RGPDPDAHVA VDLSRYEG
Host	E Coli
Form/Format	The ErbB-2 filtered (0.4um) solution (0.43mg/ml) in 0.05M Acetate buffer pH-4 and 5% trehalose.
Purity/Purification	Greater than 95% as determined by densitometric image analysis.
Preparation and Storage	Store at 4 degree C if entire vial will be used within 2-4 weeks. Store, frozen at -20 degree C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.
OMIM	137215
3D Structure	ModBase 3D Structure for P04626
Physical Appearance	Filtered colorless solution.
Solubility	It is recommended to add 0.1M Acetate buffer pH-4 to prepare a working stock solution of approximately 0.5mg/ml and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10ug/ml. In higher concentrations the solubility of this antigen is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture. It is recommended to add 5mM DTT and 0.1-0.15M NaCl before freezing in order to prevent potential aggregation.
Product Categories/Family for ErbB2 recombinant protein	Protein Kinases; Enzymes; Tyrosine Kinase
Related Product Information for ErbB2 recombinant protein	**Description:** ErbB-2 Human Recombinant is a 43.4 kDa protein containing 397 amino acid residues of the human Herstatin, and an extra Methionine at N-Terminal (underlined), produced in E Coli.The ErbB2 is purified by proprietary chromatographic techniques. **Introduction:** HER-2/neu (erbB-2) encodes an 185-kDa orphan receptor tyrosine kinase that is constitutively active as a dimer and displays potent oncogenic activity when overexpressed. Herstatin, as the product of alternative HER-2 transcript, retains intron 8.The herstatin mRNA is expressed in normal human fetal kidney and liver, but is at reduced levels relative to p185HER-2 mRNA in carcinoma cells that contain an amplified HER-2 gene. Herstatin appears to be an inhibitor of p185HER-2, because it disrupts dimers, reduces tyrosine phosphorylation of p185, and inhibits the anchorage-independent growth of transformed cells that overexpress HER-2.
Other Notes	Small volumes of ErbB2 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for ErbB2 purchase	Tyrosine Kinase ErbB 2, aka Her 2, has emerged as a prime driver of multiple cancer cell types. Although a monoclonal antibody therapy currently exists, trastuzumab (Herceptin) is only effective when Her-2 is overexpressed, increasing receptor tyrosine protein kinase growth promoting signaling via increased protein protein interaction. Research to disrupt human ErbB2 protein using polyclonal antibody technology may be advanced using an E coli cells tag expression system to generate sufficient recombinant human Her2 ErbB2 protein to design interaction antibody pair reagents. Our ErbB2 Her2 recombinant protein is ideal for use as an antigen in mouse or other species to develop specific host human ErbB2 monoclonal antibody and ErbB2 polyclonal antibody for your personalized ELISA kits. When our additional ErbB2 human products, i.e. proteins or antibodies, from our extensive catalogue are included in your experiments, your research will be accelerated. Available in one of 3 economical quantities - order today.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ErbB2. It may not necessarily be applicable to this product.

NCBI GI #	54792098
NCBI GeneID	2064
NCBI Accession #	NP_001005862.1
UniProt Primary Accession #	P04626
UniProt Secondary Accession #	Q14256; Q6LDV1; Q9UMK4; B2RZG3; B4DHN3; X5D2V5
UniProt Related Accession #	P04626
GenBank Nucleotide #	NM_001005862.2
NCBI Official Full Name	receptor tyrosine-protein kinase erbB-2 isoform b
NCBI Official Synonym Full Names	erb-b2 receptor tyrosine kinase 2
NCBI Official Symbol	ERBB2
NCBI Official Synonym Symbols	NEU; NGL; HER2; TKR1; CD340; HER-2; MLN 19; HER-2/neu
UniProt Protein Name	Receptor tyrosine-protein kinase erbB-2
UniProt Synonym Protein Names	Metastatic lymph node gene 19 protein; MLN 19; Proto-oncogene Neu; Proto-oncogene c-ErbB-2; Tyrosine kinase-type cell surface receptor HER2; p185erbB2; CD_antigen: CD340
Protein Family	Receptor tyrosine-protein kinase
UniProt Gene Name	ERBB2
UniProt Synonym Gene Names	HER2; MLN19; NEU; NGL; MLN 19
UniProt Entry Name	ERBB2_HUMAN
NCBI Protein Information	receptor tyrosine-protein kinase erbB-2; c-erb B2/neu protein; herstatin; human epidermal growth factor receptor 2; metastatic lymph node gene 19 protein; neuro/glioblastoma derived oncogene homolog; neuroblastoma/glioblastoma derived oncogene homolog; p185erbB2; proto-oncogene Neu; proto-oncogene c-ErbB-2; tyrosine kinase-type cell surface receptor HER2; v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 2; v-erb-b2 avian erythroblastic leukemia viral oncoprotein 2; v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog
NCBI Summary for ErbB2	This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such as those involving mitogen-activated protein kinase and phosphatidylinositol-3 kinase. Allelic variations at amino acid positions 654 and 655 of isoform a (positions 624 and 625 of isoform b) have been reported, with the most common allele, Ile654/Ile655, shown here. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized. [provided by RefSeq, Jul 2008]

UniProt Comments for ErbB2	HER2: a proto-oncogenic receptor tyrosine kinase of the EGFR family. Essential component of a neuregulin-receptor complex, although neuregulins do not interact with it alone. Not activated by EGF, TGF- alpha and amphiregulin. Amplified in breast cancer. Overexpression induces constitutive activity, and the gene is amplified or overexpressed in up to 30% of breast cancers, correlating with poor survival. The antibody Herceptin is approved for treatment of metastatic breast cancer with HER2 amplification/overexpression. Somatic mutations seen in 4% of lung cancers and also in breast, gastric, ovarian cancer and glioblastoma. One SNP shows predisposition to breast and gastric cancer. Inhibitors: Herceptin, lapatinib, PKI-166, EKB-569, CI-1033. Protein type: Protein kinase, tyrosine (receptor); Oncoprotein; Membrane protein, integral; Kinase, protein; EC 2.7.10.1; Protein kinase, TK; TK group; EGFR family Chromosomal Location of Human Ortholog: 17q12 Cellular Component: perinuclear region of cytoplasm; basolateral plasma membrane; apical plasma membrane; cytoplasm; integral to membrane; plasma membrane; endosome membrane; cytoplasmic vesicle; nucleus; receptor complex Molecular Function: protein C-terminus binding; protein dimerization activity; identical protein binding; protein binding; transmembrane receptor activity; ErbB-3 class receptor binding; protein heterodimerization activity; growth factor binding; protein-tyrosine kinase activity; transmembrane receptor protein tyrosine kinase activity; receptor signaling protein tyrosine kinase activity; protein phosphatase binding; ATP binding Biological Process: myelination; axon guidance; phosphoinositide 3-kinase cascade; peptidyl-tyrosine phosphorylation; positive regulation of cell adhesion; positive regulation of translation; nerve growth factor receptor signaling pathway; wound healing; protein amino acid autophosphorylation; heart development; motor axon guidance; signal transduction; enzyme linked receptor protein signaling pathway; protein amino acid phosphorylation; positive regulation of transcription from RNA polymerase I promoter; positive regulation of MAP kinase activity; cell surface receptor linked signal transduction; oligodendrocyte differentiation; neuromuscular junction development; epidermal growth factor receptor signaling pathway; negative regulation of immature T cell proliferation in the thymus; regulation of microtubule-based process; fibroblast growth factor receptor signaling pathway; phosphoinositide-mediated signaling; transcription, DNA-dependent; positive regulation of cell growth; regulation of angiogenesis; peripheral nervous system development; cell proliferation; innate immune response; positive regulation of transcription from RNA polymerase III promoter; positive regulation of protein amino acid phosphorylation; transmembrane receptor protein tyrosine kinase signaling pathway; positive regulation of epithelial cell proliferation Disease: Gastric Cancer; Lung Cancer; Glioma Susceptibility 1
Research Articles on ErbB2	**1.** High levels of HER2 are associated with achievement of a pathologic complete response in the preoperative setting, while levels of phospho-HER2 were not predictive of response in breast cancer patients.
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