ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Her-2/neu (erbB-2) protein

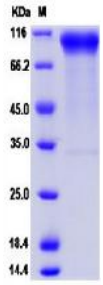
½ **Cat #HER36-R-50**	Recombinant (HEK) human Her2/Erbb2/Neu (1-652)-Flag tag (DDDDK) fusion protein	**Size: 50 ug**
½ **Cat #HER36-R-10**	Recombinant (HEK) human Her2/Erbb2/Neu (1-652)-Flag tag (DDDDK) fusion protein	**Size: 10 ug**

HER2/neu (also known as ErbB-2, ERBB2) is a protein (protein accession # P04626; 1255 aa, ~185 kda, chromosome 17q21.1) highly expressed in breast cancers. It is a cell membrane surface-bound receptor tyrosine kinase and is normally involved in the signal transduction pathways leading to cell growth and differentiation. The oncogene neu is so-named because it was derived from a neuroglioblastoma cell line in rat. ErbB2 was named for its similarity to ErbB (avian erythroblastosis oncogene B). Excessive ErbB signaling is associated with the development of a wide variety of types of solid tumor. Insufficient ErbB signaling in humans is associated with the development of neurodegenerative diseases, such as multiple sclerosis and Alzheimer's disease.

ERBB2 over expression confers resistance to taxol-induced apoptosis by inhibiting p34(CDC2) activation. One mechanism is via ERBB2-mediated up regulation of p21(CIP1), or CDKN1A, which inhibits CDC2. Over expression also occurs in other cancer such as ovarian cancer and stomach cancer. ErbB2 cannot bind growth factors due to the lacking of ligand binding domain of its own and autoinhibited constitutively. Clinically, HER2/neu is important as the target of the monoclonal antibody trastuzumab (marketed as Herceptin). Trastuzumab is only effective in breast cancer where the HER2/neu receptor is over expressed. One of the mechanisms of how traztuzumab works after it binds to HER2 is by increasing p27, a protein that halts cell proliferation. Another monoclonal antibody, pertuzumab, which inhibits dimerization of HER2 and HER3 receptors, is in advanced clinical trials.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for lyophilized items.

Sources of antigen and antibodies



Human Erbb2.neu protein (1-652 aa, protein accession # XP_004439.2)) was expressed in HEK cells and purified (>95%). The protein contain the 5 amino acid tag (DDDDK) at the C-terminus. Recombinant Erbb2 protein (#HER36-R-10) is ~115 kDa under reducing conditions due to glycosylation. It is supplied in PBS, ph 7.4, and 5-8% Trehalose in liquid or lyophilized in the same buffer. Reconstitute powder in PBS and store at -20oC in suitable size aliquots. It is desirable to add 0.1% BSA or HAS (human serum albumin) as protein carrier if it doesn't interfere with the assay for stability purpose.

Endotoxin: <1 EU/ug of protein by LAL method.

Bioactivity: Determined by its binding ability in a functional ELISA. Erbb2 at 2.5 µg/ml (100 µl/well) can bind Herceptin with a linear ranger of 6.4 - 160 ng/ml

Storage

Short-term: Liquid, unopened, undiluted vials for less than a week at 4oC and powder up to several months at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for lyophilized items.

Recommended Usage

Western blot: The recombinant ErbB2 is a disulfide-linked homodimer. The reduced monomer consists of 636 amino acids and predicts a molecular mass of ~115 kDa. As a result of glycosylation under reducing conditions.

ELISA for coating at 1-5 ug/ml.

General References: (1) Yamamoto T (1986) Nature 319, 230-234; Semba K (1985) PNAS 82, 6497-6501; Akiyama T (1986) Science 232, 1644-1646; Bargmann CI (1986) Nature 319, 226- 230; Coussens L (1985) Science 230, 1132-1139; Doherty JK (1999) PNAS 96, 10689-10874

This product is for In vitro research use only.

Related Items

Catalog#	prod Description
HER21-C	Recombinant human Her-2/neu(erbB-2)-Fc protein control for WB
HER21-M	Mouse Monoclonal anti-human Her-2/neu(erbB-2) protein IgG,
HER21-R-10	Recombinant (HEK) human Her2/Erbb2/Neu (1-652)-hIgG-Fc fusion protein
HER22-R-5	Recombinant (sf9) human Her2/Erbb2/Neu (676-1255)-GST fusion protein
HER23-R-10	Recombinant (HEK) human Her2/Erbb2/Neu (23-652)-his tag fusion protein
HER24-R-10	Recombinant (HEK) mouse Her2/Erbb2/Neu (23-653)-his tag fusion protein
HER2-563-P	HER2 peptide, cyclic, (563-598, cys-cys disulphide bond); vaccine candidate
HER2-585-P	HER2 peptide, cyclic, (585-598, cys-cys disulphide bond); vaccine candidate
HER2-597-P	HER2 peptide, cyclic, (597-626, cys-cys disulphide bond) vaccine candidate
HER25-R-100	Recombinant (E. Coli) Her-2/neu(erbB-2) Herstatin protein, purified
HER25-R-20	Recombinant (E. Coli) Her-2/neu(erbB-2) Herstatinprotein, purified
HER2-613-P	HER2 peptide, cyclic, (613-626, cys-cys disulphide bond); vaccine candidate
HER2-654-P	HER2 peptide, (654 – 662), GP2 vaccine candidate
HER26-R-10	Recombinant (HEK) mouse Her2/Erbb2/Neu (1-653)-hIgG1-Fc fusion protein
HER2-776-P	HER2 peptide, (776 – 790 fused with LRMK, C-Term), GP2 vaccine candidate
HER27-R-10	Recombinant (HEK) rat Her2/Erbb2/Neu (4-656)-his tag fusion protein
HER28-R-10	Recombinant (HEK) rat Her2/Erbb2/Neu (4-656)-hIgG1-Fc fusion protein
HER29-R-10	Recombinant (HEK) monkey/rhesus Her2/Erbb2/Neu (1-652)-his tag fusion protein
HER33-M	Mouse mono anti-monkey Her2/Erbb2/Neu (1-652) protein IgG
HER34-A	Anti-monkey/rhesus Her2/Erbb2/Neu (1-652) protein IgG
HER35-M	Humanized anti-human Her2/Erbb2/Neu protein IgG (Herceptin Biosimilar)
HER36-R-50	**150623C**
HER36-R-10	**150604A**

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