

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived			
	Human Erb B2 (Thr23 - Thr652) Accession # NP_004439	IEGRMD	Human IgG <sub>1</sub> (Pro100 - Lys330)	6 His-tag
	N-terminus		C-terminus	

**N-terminal Sequence** Thr23

**Analysis**

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 96.8 kDa (monomer)

**SPECIFICATIONS**

**SDS-PAGE** 125-130 kDa, reducing conditions  
220-250 kDa, non-reducing conditions

**Activity** Measured by its ability to block anti-ErbB2 mediated inhibition of SK-BR-3 human breast cancer cell proliferation. Brodowicz, T. *et al.* (1997) *Int. J. Cancer* **73**:875.  
The ED<sub>50</sub> for this effect is typically 20-80 ng/mL in the presence of 0.6 µg/mL goat anti-hErbB2 (Catalog # AF1129).

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >90%, by SDS-PAGE with silver staining.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

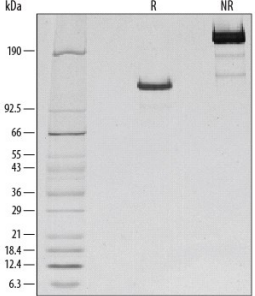
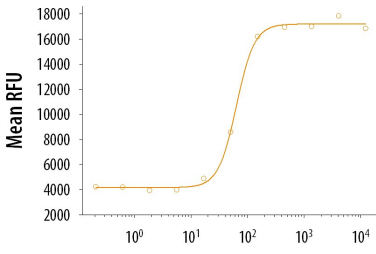
**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**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, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**

<p><b>SDS-PAGE</b></p>  <p>1 µg/lane of Recombinant Human ErbB2 Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing major bands at 125-130 kDa and 220-250 kDa, respectively.</p>	<p><b>Bioactivity</b></p>  <p>Recombinant Human ErbB2/Her2 Fc Chimera (Catalog # 1129-ER) blocks anti-ErbB2 mediated inhibition of the SK-BR-3 human breast cancer cell line. The ED<sub>50</sub> is typically 20-80 ng/mL in the presence of 0.6 µg/mL Goat Anti-Human ErbB2/Her2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1129)</p>
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**BACKGROUND**

ErbB2, also called Neu and Her2 (human epidermal growth factor receptor 2), is a type I membrane glycoprotein that is a member of the ErbB family of tyrosine kinase receptors. ErbB family members serve as receptors for the epidermal growth factor (EGF) family of growth factors. ErbB2 is widely expressed in epithelial cells and has also been found to be over-expressed in a large number of breast carcinomas. Among ErbB family members, ErbB2 is unique in that it has no identified ligands. Rather, ErbB2 heterodimerizes with the other members of the ErbB family (ErbB1 (EGFR), ErbB3, ErbB4) to form higher affinity signaling complexes. Because ErbB3 contains a defective kinase domain, the kinase domain of ErbB2 is responsible for initiating the tyrosine phosphorylation signal through the heterodimeric receptor. It has been found that a discrete three amino acid signal in the ErbB3 cytoplasmic domain is critical for transactivation of ErbB2. Interestingly, this same three amino acid signal has also been found in ErbB1 and ErbB4. Phosphoinositide 3-kinase has been shown to play a role in ErbB2 signal transduction. The cytoplasmic domain of ErbB2 has been shown to associate with beta-catenin and plakoglobin. Human ErbB2 consists of 1255 amino acids (aa) with a 21 aa signal sequence, a 631 aa extracellular domain, a 23 aa transmembrane region, and a 580 aa cytoplasmic domain. ErbB2 can be shed from the cell surface by proteolytic cleavage by an unidentified protease. ErbB2 appears to play roles in development, cancer, communication at the neuromuscular junction and regulation of cell growth and differentiation (1 - 10).

**References:**

1. Coussens, L. *et al.* (1985) *Science* **230**:1132.
2. Yamamoto, T. *et al.* (1986) *Nature* **319**:230.
3. Kanai, Y. *et al.* (1995) *Biochem. Biophys. Res. Commun.* **208**:1067.
4. Codony-Servat, J. *et al.* (1999) *Cancer Res.* **59**:1196.
5. Carraway, K.L. 3<sup>rd</sup> *et al.* (1994) *J. Biol. Chem.* **269**:14303.
6. Emkey, R. and C.R. Kahn (1997) *J. Biol. Chem.* **272**:31172.
7. Schaefer, G. *et al.* (1999) *J. Biol. Chem.* **274**:859.
8. Schlessinger, J. (2000) *Cell* **103**:211.
9. Hellyer, N.J. *et al.* (2001) *J. Biol. Chem.* **276**:42153.
10. Daly, R.J. (1999) *Growth Factors* **16**:255.