

## HER2 (Human), Active

### Recombinant protein expressed in Sf9 cells

Cat# CY-SPE27

Lot No. K296-2  
5 µg 0.1 µg/µl

#### Background:

HER2 gene encodes a cell-surface glycoprotein tyrosine kinase receptor with extensive homology to the epidermal growth factor receptor. HER2 is an oncogene and overexpression of unaltered HER2 coding sequences in NIH 3T3 cells results in cellular transformation and tumorigenesis (1). HER2 is amplified in about 30% of primary human breast malignancies and overexpression of HER2 is associated with the most aggressive tumors that show uncontrolled proliferation, resistance to apoptosis and increased motility (2).

#### Product Description:

Recombinant human HER2 (676-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM\_004448.

#### Gene Aliases:

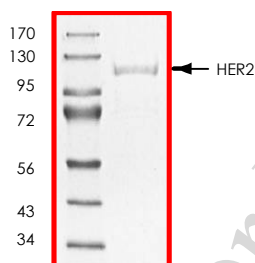
ERBB2, NEU, NGL, TKR1, c-erb B2

#### Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

#### Purity & Molecular Weight:

The purity was determined to be >90% by densitometry. Approx. MW 116kDa.



#### Storage:

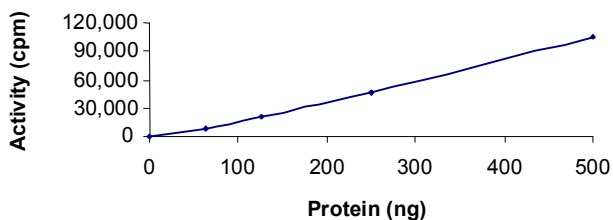
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

#### Stability:

1 year at -70 °C from date of shipment.

**Specific Activity:**

The specific activity was determined to be 10 nmol/min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25  $\mu$ L reaction consisting of 5  $\mu$ L of 5 X Kinase Assay Buffer, 10  $\mu$ L of 1 mg/ml the Substrate Solution, 5  $\mu$ L of diluted kinase and 5  $\mu$ L of 250  $\mu$ M ATP solution containing [ $\gamma$   $^{32}$ P] ATP (0.167  $\mu$ Ci/ $\mu$ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20  $\mu$ L of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

**Substrate Solution:**

Poly (Glu:Tyr, 4:1) synthetic peptide substrate diluted in distilled H<sub>2</sub>O to a final concentration of 1mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS, 12.5mM  $\beta$ -glycerol-phosphate, 20mM MgCl<sub>2</sub>, 25mM MnCl<sub>2</sub>, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

**References:**

1. Hudziak, R M. et al: Increased expression of the putative growth factor receptor p185HER2 causes transformation and tumorigenesis of NIH 3T3 cells. Proc Natl Acad Sci U S A. 1987 Oct;84(20):7159-63.
2. Badache, A. et al: The ErbB2 Signaling Network as a Target for Breast Cancer Therapy. J Mammary Gland Biol Neoplasia. 2006 Jan;11(1):13-25.

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