

## Product datasheet

# Recombinant human ErbB4 / HER4 protein ab85602

5 Images

### Description

---

<b>Product name</b>	Recombinant human ErbB4 / HER4 protein
<b>Biological activity</b>	The Specific activity of ab85602 was determined to be 669 nmol/min/mg.
<b>Purity</b>	> 90 % Densitometry. Affinity purified.
<b>Expression system</b>	Insect cells
<b>Protein length</b>	Protein fragment
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Amino acids</b>	682 to 993

### Specifications

---

Our **Abpromise guarantee** covers the use of **ab85602** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	Functional Studies Western blot SDS-PAGE
<b>Form</b>	Liquid
<b>Additional notes</b>	<b>ab204877</b> (Poly (4:1 Glu, Tyr) peptide) can be utilized as a substrate for assessing kinase activity

### Preparation and Storage

---

<b>Stability and Storage</b>	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.0038% EGTA, 0.00174% PMSF, 0.00385% DTT, 0.79% Tris HCl, 0.00292% EDTA, 25% Glycerol (glycerin, glycerine), 0.87% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.
------------------------------	--

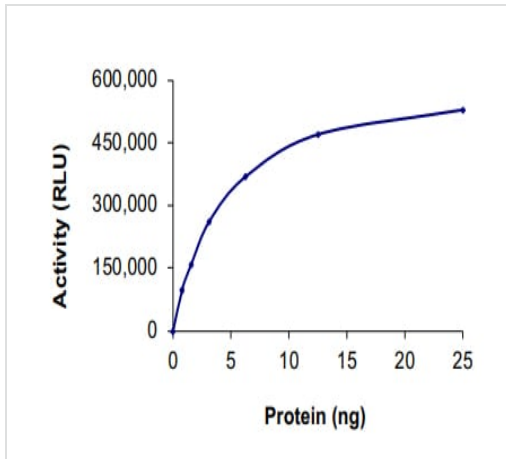
## General Info

---

<b>Function</b>	Specifically binds and is activated by neuregulins, NRG-2, NRG-3, heparin-binding EGF-like growth factor, betacellulin and NTAK. Interaction with these factors induces cell differentiation. Not activated by EGF, TGF- $\alpha$ , and amphiregulin. The C-terminal fragment (CTF) of isoform JMA-A CYT-2 (containing E4ICD2) can stimulate transcription in the presence of YAP1. ERBB4 intracellular domain is involved in the regulation of cell growth. Conflicting reports are likely due at least in part to the opposing effects of the isoform-specific and nuclear-translocated ERBB4 intracellular domains (E4ICD1 and E4ICD2). Overexpression studies in epithelium show growth inhibition using E4ICD1 and increased proliferation using E4ICD2. E4ICD2 has greater in vitro kinase activity than E4ICD1. The kinase activity is required for the nuclear translocation of E4ICD2.
<b>Tissue specificity</b>	Expressed at highest levels in brain, heart, kidney, in addition to skeletal muscle, parathyroid, cerebellum, pituitary, spleen, testis and breast. Lower levels in thymus, lung, salivary gland, and pancreas. Isoform JM-A CYT-1 and isoform JM-B CYT-1 are expressed in cerebellum, but only the isoform JM-B is expressed in the heart.
<b>Sequence similarities</b>	Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily. Contains 1 protein kinase domain.
<b>Post-translational modifications</b>	<p>Isoform JM-A CYT-1 and isoform JM-A CYT-2 but not isoform JM-B CYT-1 and isoform JM-B CYT-2 are processed by ADAM17. Proteolytic processing in response to ligand or 12-O-tetradecanoylphorbol-13-acetate stimulation results in the production of 120 kDa soluble receptor forms and intermediate membrane-anchored 80 kDa fragments (m80HER4), which are further processed by a presenilin-dependent gamma-secretase to release the respective cytoplasmic intracellular domain E4ICD (either E4ICD1/s80Cyt1 or E4ICD2/s80Cyt2). Membrane-anchored 80 kDa fragments of the processed isoform JM-A CYT-1 are more readily degraded by the proteasome than fragments of isoform JM-A CYT-2 suggesting a prevalence of E4ICD2 over E4ICD1.</p> <p>Ligand-binding increases phosphorylation on tyrosine residues. Isoform JM-A CYT-2 is constitutively phosphorylated on tyrosine residues in a ligand-independent manner. E4ICD2 but not E4ICD1 is phosphorylated on tyrosine residues.</p> <p>Ubiquitinated. The ERBB4 intracellular domain is ubiquitinated and targeted to proteosomal degradation during mitosis mediated by the APC/C complex. Isoform JM-A CYT-1 and isoform JM-B CYT-1 are ubiquitinated by WWP1. The ERBB4 intracellular domain (E4ICD1) is ubiquitinated, and this involves NEDD4.</p>
<b>Cellular localization</b>	Membrane and Nucleus. Following proteolytical processing E4ICD (E4ICD1 or E4ICD2 generated from the respective isoforms) is translocated to the nucleus. Significantly more E4ICD2 than E4ICD1 is found in the nucleus. E4ICD2 colocalizes with YAP1 in the nucleus.

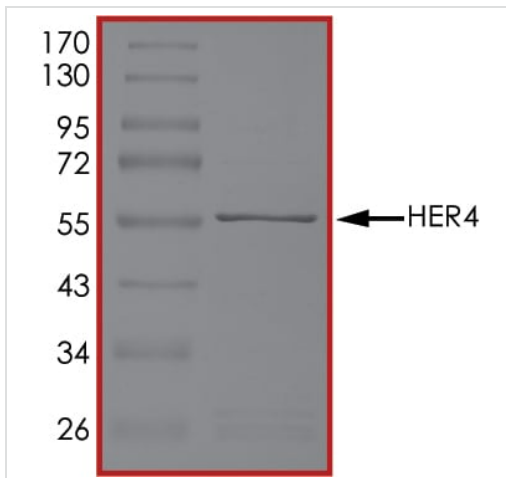
## Images

---



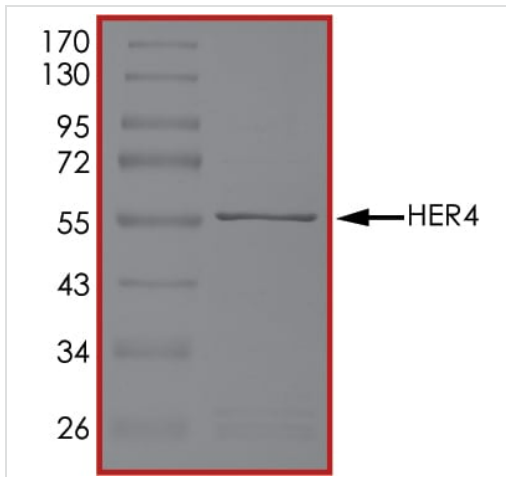
The specific activity of ErbB 4 (ab85602) was determined to be 328 nmol/min/mg as per activity assay protocol and was equivalent to 750 nmol/min/mg as per radiometric assay

Functional Studies - Recombinant human ErbB4 / HER4 protein (ab85602)



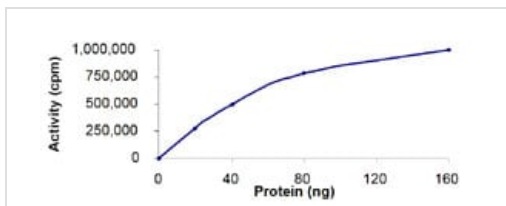
SDS PAGE analysis of ab85602

SDS-PAGE - Recombinant human ErbB4 / HER4 protein (ab85602)



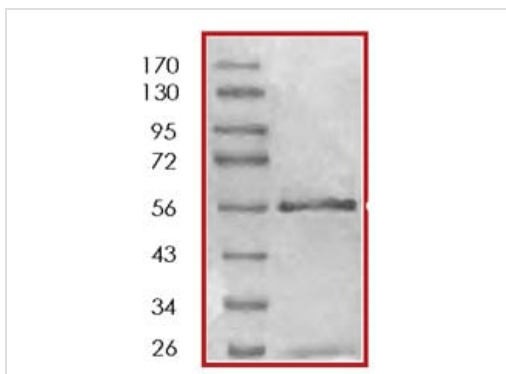
SDS PAGE analysis of ab85602

SDS-PAGE - Recombinant human ErbB4 / HER4 protein (ab85602)



The Specific activity of ab85602 was determined to be 669 nmol/min/mg.

Functional Studies - Recombinant human ErbB4 / HER4 protein (ab85602)



SDS-PAGE showing ab85602 at approximately 57kDa.

SDS-PAGE - Recombinant human ErbB4 / HER4 protein (ab85602)

## **Our Abpromise to you: Quality guaranteed and expert technical support**

---

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
  
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

## **Terms and conditions**

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors