

APA757Hu62 100µg
Active Epidermal Growth Factor Receptor (EGFR)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.

Host: 293F cell

Residues: Leu25~Ser645

Tags: N-terminal His-tag

Purity: >90%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 6.5

Predicted Molecular Mass: 70.2kDa

Accurate Molecular Mass: 120kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

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LEEKKV CQGTSNKLTQ LGTFEDHFLS
LQRMFNCEV VLG NLEITYV QRNYDLSFLK TIQEVAGYVL IALNTVERIP
LENLQIIRGN MYYENSYALA VLSNYDANKT GLKELPMRNL QEILHGAVRF
SNNPALCNVE SIQWRDIVSS DFLSNMSMDF QNHLGSCQKC DPSCPNGSCW
GAGEENCQKL TKIICAQQCS GRCRGKSPSD CCHNQCAAGC TGPRESCLV
CRKFRDEATC KDCPPLMLY NPTTYQMDVN PEGKYSFGAT CVKKCPRNV
VTDHGSCVRA CGADSYEMEE DGVRKCKKCE GPCRKVCNGI GIGEFKDSL
INATNIKHFK NCTSISGDLH ILPVAFRGDS FHTPPLDPQ ELDILKTVE
ITGFLLIQAW PENRTDLHAF ENLEIIRGRT KQHGGFSLAV VSLNITSLGL
RSLKEISDGD VIISGNKNLC YANTINWKKL FGTSGQKTKI ISNRGENSCK
ATGQVCHALC SPEGCWGPEP RDCVSCRNVS RGRECVDKCN LLEGEPREFV
ENSECIQCHP ECLPQAMNIT CTGRGPDNCI QCAHYIDGPH CVKTCPAGVM
GENNTLVWKY ADAGHVCHLC HPNCTYGCTG PGLEGCP TNG PKIPS
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[ACTIVITY]

The epidermal growth factor receptor (EGFR) is a growth factor receptor that induces cell differentiation and proliferation upon activation through the binding of one of its ligands. The receptor is located at the cell surface, where the binding of a ligand activates a tyrosine kinase in the intracellular region of the receptor. This tyrosine kinase phosphorylates a number of intracellular substrates that activates

pathways leading to cell growth, DNA synthesis and the expression of oncogenes such as fos and jun. Epidermal growth factor (EGF) family peptides are ligands for the EGF receptor (EGFR), thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human EGFR and recombinant human EGF. Briefly, biotin-linked EGFR were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to EGF-coated microtiter wells and incubated for 1h at 37 $^{\circ}$ C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 $^{\circ}$ C. Finally, add 50 μ l stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human EGFR and recombinant human EGF was shown in Figure 1, the EC₅₀ for this effect is 11.46 μ g/mL.

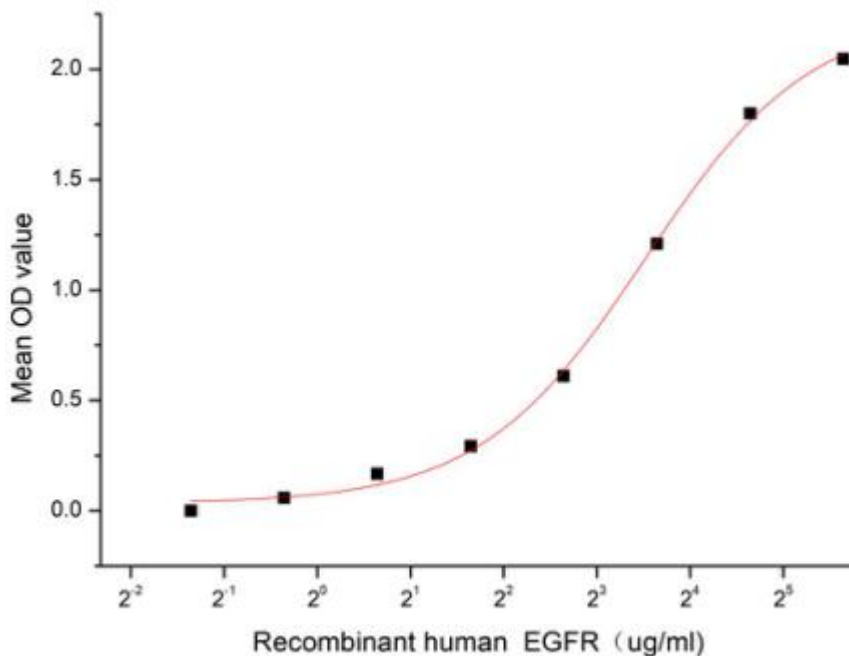


Figure 1. The binding activity of recombinant human EGFR and recombinant human EGF

