

APB866Hu01 100µg

Active Neuregulin 1 (NRG1)

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: Prokaryotic expression.

Host: *E. coli*

Residues: Glu41~Ser206

Tags: N-terminal His-tag

Purity: >95%

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

Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5% Trehalose.

Original Concentration: 100µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 8.7

Predicted Molecular Mass: 19.2kDa

Accurate Molecular Mass: 28kDa 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 ddH₂O to a concentration of 0.1-0.5 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]

EMKSQESAAGSKLVLCETSSEYSSLRFKWFKNGNELNRKNKPQNIKIQKKPGKSELRINKASLA
DSGEYMCKVISKLGNDASANITIVESNEIITGMPASTEGAYVSSSPIRISVSTEGANTSSSTSTST
TGTSHLVKCAEKEKTCVNGGECFMVKDLSNPS

[ACTIVITY]

NRG1 (neuregulin-1) is a membrane glycoprotein that belongs to the neuregulin family and act on the EGFR family of receptors. It mediates cell-cell signaling and plays a critical role in the growth and development of multiple organ systems. It is reported that by binding to HER3 receptor, NRG1 mediates downstream signaling pathways, leading to multiple effects including growth, proliferation, decreased apoptosis, cellular migration and angiogenesis. Besides NRG1 is direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors and it concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. A functional binding ELISA assay was conducted to detect the interaction of recombinant human NRG1 and recombinant human ERBB2. Briefly, NRG1 was diluted serially in PBS with 0.01% BSA (pH 7.4).

Duplicate samples of 100 μ l were then transferred to ERBB2-coated microtiter wells and incubated for 1h at 37°C.

Wells were washed with PBST and incubated for 1h with anti-NRG1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C , wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 μ L stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human NRG1 and recombinant human ERBB2 was shown in Figure 1, the EC50 for this effect is 0.09 ug/mL.

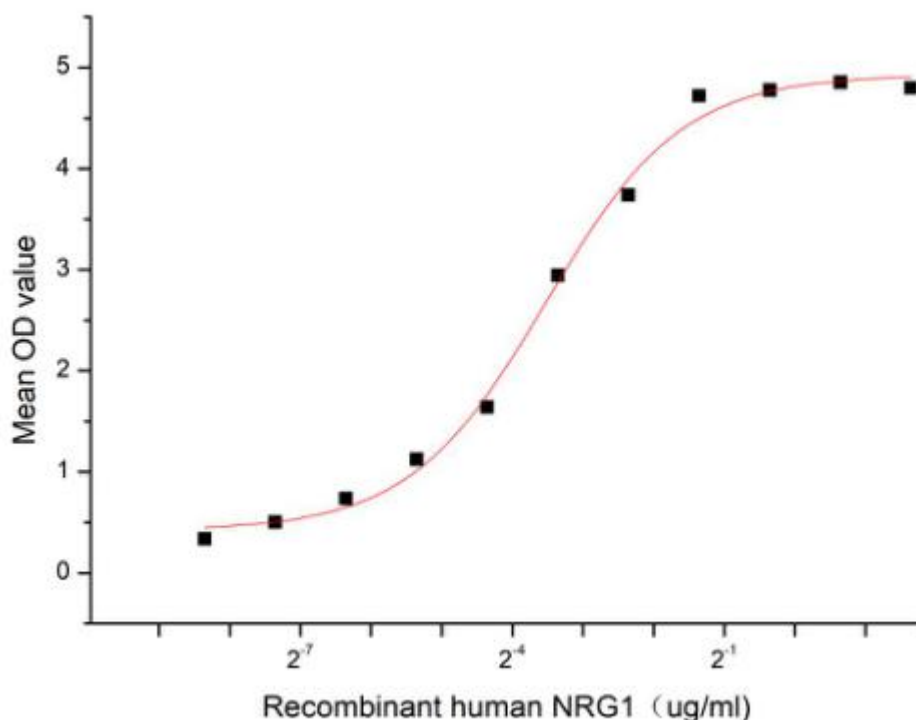


Figure 1. The binding activity of recombinant human NRG1 and recombinant human ERBB2

[IDENTIFICATION]

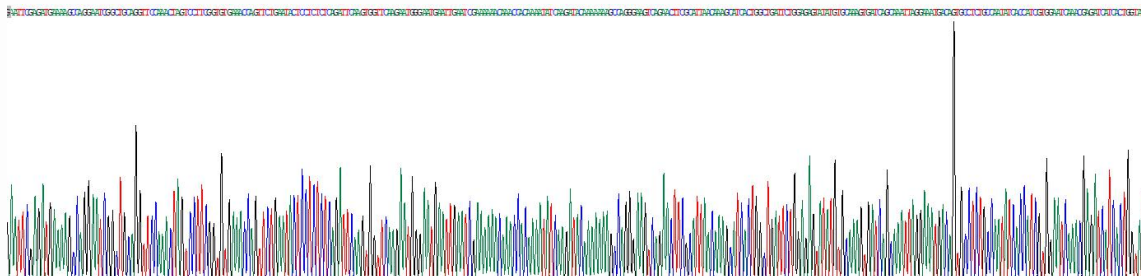


Figure 2. Gene Sequencing (extract)

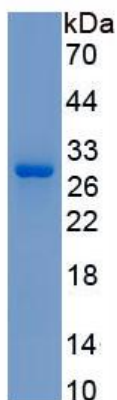


Figure 3. SDS-PAGE

Sample: Active recombinant NRG1, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.