

**APB866Hu01 100µg**

**Active Neuregulin 1 (NRG1)**

**Organism Species: Homo sapiens (Human)**

***Instruction manual***

FOR IN VITRO USE AND RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Glu20~His242

**Tags:** N-terminal His-tag

**Purity:** >98%

**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% sarcosyl, 5% trehalose, and Proclin300.

**Applications:** Cell culture; Activity Assays; In vivo assays.

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

**Predicted isoelectric point:** 9.0

**Predicted Molecular Mass:** 26.0kDa

**Accurate Molecular Mass:** 28kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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.

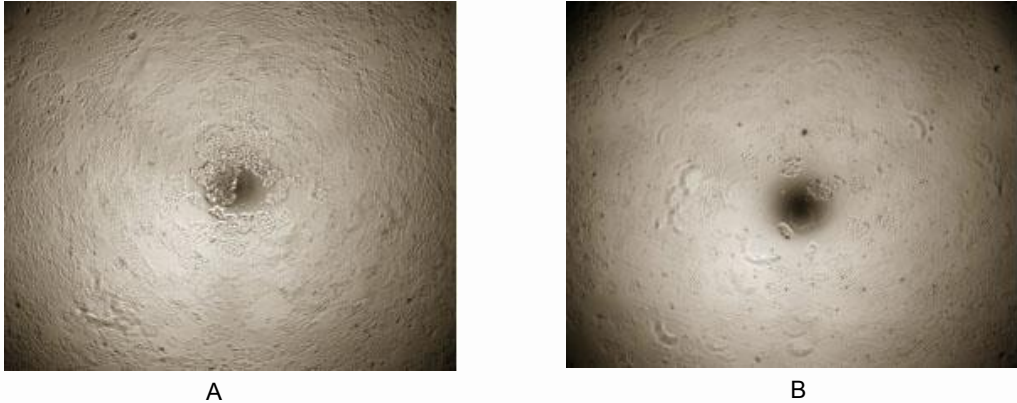
**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration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

## **[ SEQUENCE ]**

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E MKSQESAAGS KLVLRCE TSS EYSSLRFKWF
KNGNELNRKN KPQNIKIQKK PGKSELRINK ASLADSGEYM CKVISKLGND
SASANITIVE SNEIITGMPA STEGAYVSSA TSTSTTGTSH LVKCAEKEKT
FCVNGGECFM VKDLSNPSRY LCKCPNEFTG DRCQNYVMAS FYKHLGIEFM
EAEELYQKRV LTITGICIAL LVVGIMCVVA YCKTKKQRKK LH
```

## **[ ACTIVITY ]**

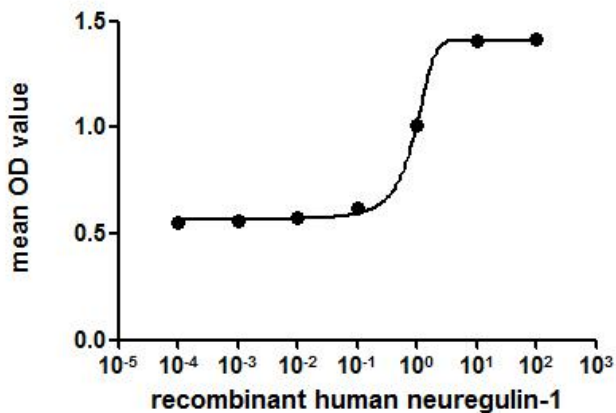
NRG1 (Neuregulin-1) is a membrane glycoprotein that belongs to the neuregulin family and act on the EGFR family of receptors. It mediates cell-cell signaling and plays a critical role in the growth and development of multiple organ systems. It is reported that by binding to HER3 receptor, NRG1 mediates downstream signaling pathways, leading to multiple effects including growth, proliferation, decreased apoptosis, cellular migration and angiogenesis. Thus, proliferation assay of NRG1 was conducted using MCF-7 cells. Briefly, MCF-7 cells were seeded into triplicate wells of 96-well plates at a density of 2,000cells/well and allowed to attach overnight, then the medium was replaced with serum-free standard DMEM prior to the addition of various concentrations of NRG1. After incubated for 72h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). 10µL of CCK-8 solution was added to each well of the plate, the absorbance at 450nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37°C.



**Figure 1. Cell proliferation of MCF-7 cells after stimulated with NRG1.**

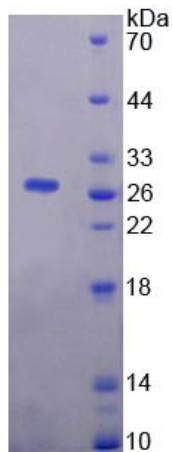
- (A) MCF-7 cells cultured in DMEM, stimulated with 10ng/mL NRG1 for 72h;**
- (B) Unstimulated MCF-7 cells cultured in DMEM for 72h.**

The dose-effect curve of NRG1 was shown in Figure 2. It was obvious that NRG1 significantly promoted cell proliferation of MCF-7 cells. The ED50 for this effect is typically 5.240 to 9.112 ng/mL.



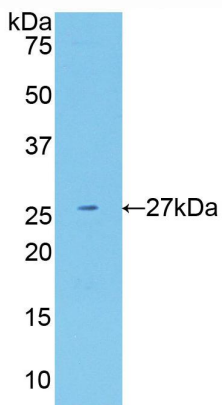
**Figure 2. The dose-effect curve of NRG1 on MCF-7 cells.**

**[ IDENTIFICATION ]**



**Figure 3. SDS-PAGE**

**Sample: Active recombinant NRG1, Human**



**Figure 4. Western Blot**

**Sample: Recombinant NRG1, Human;**

**Antibody: Rabbit Anti-Human NRG1 Ab (PAB866Hu01)**