

**APA006Hu01 10µg**

**Active Amphiregulin (AREG)**

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

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Ser20~Asp100

**Tags:** Two N-terminal Tags, His-tag and GST-tag

**Purity:** >90%

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

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

**Original Concentration:** 250µg/mL

**Applications:** Cell culture; Activity Assays.

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

**Predicted isoelectric point:** 5.1

**Predicted Molecular Mass:** 38.6kDa

**Accurate Molecular Mass:** 44&30&26kDa 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.

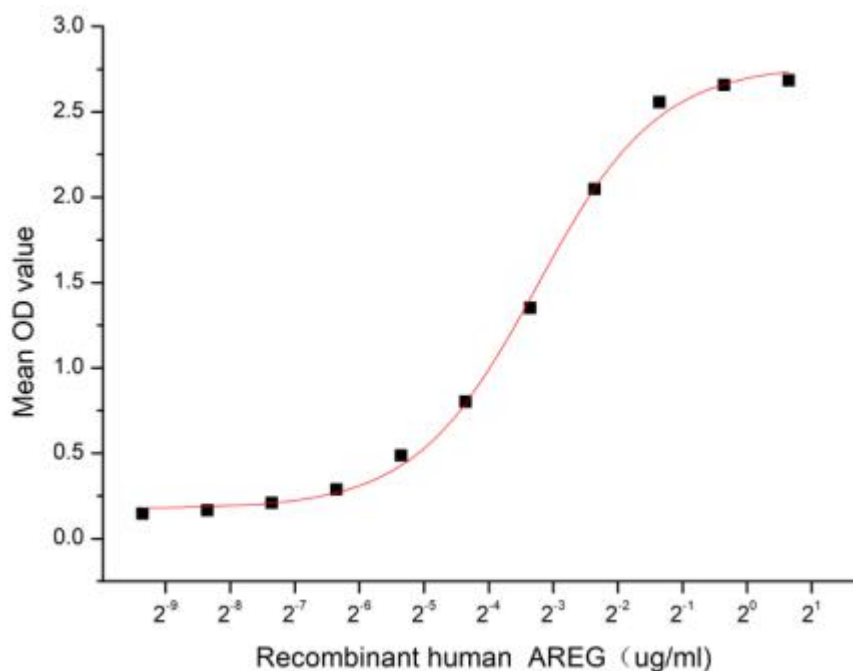
## **[ SEQUENCE ]**

S GHYAAGLDLN DTYSGKREPF SGDHSADGFE  
VTSRSEMSSG SEISPVSEMP SSSEPSSGAD YDYSEEYDNE PQIPGYIVDD

## **[ ACTIVITY ]**

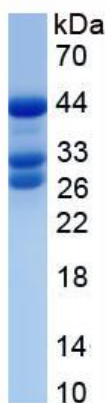
Amphiregulin (AREG) is a well-characterized member of the epidermal growth factor (EGF) family and is one of the ligands of the EGF receptor (EGFR). AREG plays a key role in mammalian development and in the control of branching morphogenesis in various organs. Furthermore, AREG participates in a wide range of physiological and pathological processes activating the major intracellular signalling cascades governing cell survival, proliferation and motility. Besides, EGF has been identified as an interactor of AREG, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human AREG and recombinant rat EGF. Briefly, AREG was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to EGF-coated microtiter wells and incubated for 1h at 37°C.

Wells were washed with PBST and incubated for 1h with anti-AREG 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  $\mu$ L stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human AREG and recombinant rat EGF was shown in Figure 1, the EC<sub>50</sub> for this effect is 0.1  $\mu$ g/mL.



**Figure 1. The binding activity of recombinant human AREG and recombinant rat EGF**

## [ IDENTIFICATION ]



**Figure 2. SDS-PAGE**

**Sample: Active recombinant AREG, 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.