

APC174Mu01 200µg

Active Neuregulin 4 (NRG4)

Organism Species: *Mus musculus* (Mouse)

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: Met1~Ser62

Tags: N-terminal His-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: 300µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 5.5

Predicted Molecular Mass: 10.5kDa

Accurate Molecular Mass: 11kDa as determined by SDS-PAGE reducing conditions.

[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]

MPTDHEQPCG PRHRSFCLNG GICYVIPTIP SPFCRCIENY TGARCEEVFL
PSSSIPSESN LS

[ACTIVITY]

Neuregulin 4 (NRG4) is a member of the neuregulin family of growth and differentiation factors, structurally related to epidermal growth factor (EGF). It is primarily expressed in brown adipose tissue and plays critical roles in regulating energy metabolism, thermogenesis, and adipocyte function. NRG4 acts as a ligand for ErbB receptor tyrosine kinases, especially ErbB4, activating downstream signaling pathways involved in cell survival, proliferation, and metabolic homeostasis. Emerging evidence links NRG4 dysfunction to obesity, diabetes, and metabolic disorders, highlighting its potential as a biomarker and therapeutic target for metabolic diseases. Unlike NRG1, NRG4 does not bind directly; both activate ErbB receptors but via distinct binding preferences and tissue distributions. To detect the activity of recombinant NRG4, a functional ELISA assay was performed to evaluate the interaction between recombinant human NRG4 and recombinant human NRG1. Briefly, NRG4 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to NRG1-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-NRG4 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 450/630nm immediately. The binding activity of recombinant mouse NRG4 and

recombinant human NRG1 was shown in Figure 1, the EC₅₀ for this effect is 0.149 µg/mL.

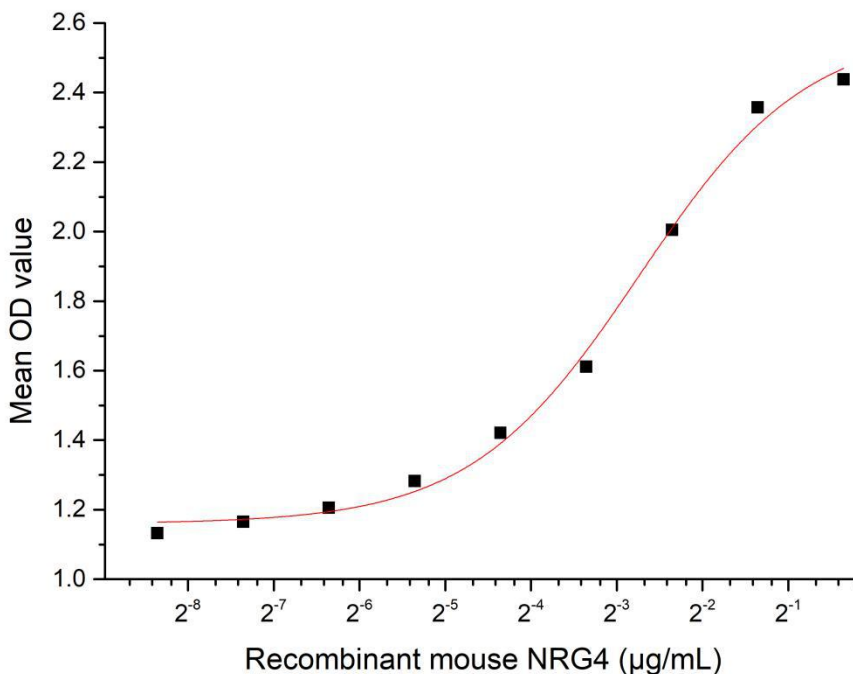


Figure 1. The binding activity of recombinant mouse NRG4 and human NRG1

[IDENTIFICATION]

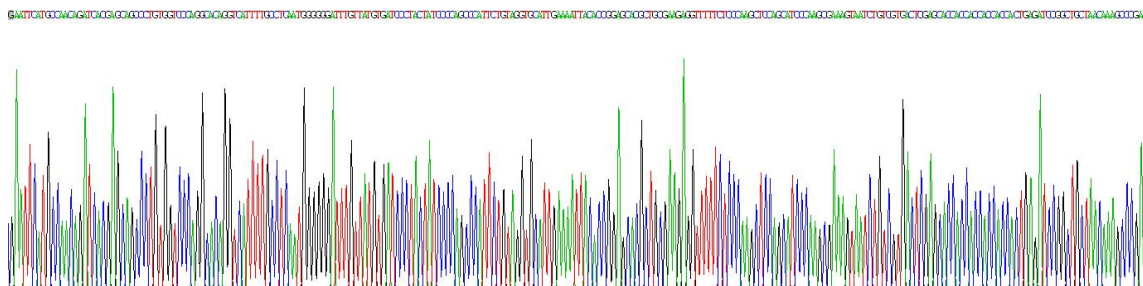


Figure 2. Gene Sequencing (extract)

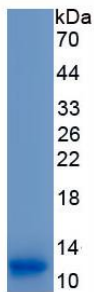


Figure 3. SDS-PAGE

Sample: Active recombinant NRG4, Mouse

[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.