APC130Ra02 100μg
Active Noggin (NOG)
Organism Species: Rattus norvegicus (Rat)
Instruction manual

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

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Met28~Cys144
Tags: Two N-terminal Tags, His-tag and MBP-tag
Purity: >98%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.
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: 6.6
Predicted Molecular Mass: 63.6kDa
Accurate Molecular Mass: 64kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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 37ºC 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]

MPS EIKGLEFSEG LAQGKKQRLS
KKLRRKLQMW LWSQTFCPVL YAWNDLGSRF WARYVKVGSC FSKRSCSVPE
GMVCKPSKSV HLTVLRWRCQ RRGGQRCGWI PIQYPIISEC KCSC

[ACTIVITY]

NOG (Noggin) is a signaling molecule that plays an important role in promoting somite patterning in the developing embryo, essential for cartilage morphogenesis and joint formation. It is considered as an inhibitor in bone morphogenetic proteins (BMP) signaling, by binding with BMP4, thus a binding ELISA assay was conducted to detect the association of recombinant rat NOG with BMP4. Briefly, NOG were diluted serially in PBS with 0.01%BSA (pH 7.4). Duplicate samples of 100uL were then transferred to BMP4-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-NOG pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of NOG with BMP4 was shown in Figure 1 and this effect was in a dose dependent manner.

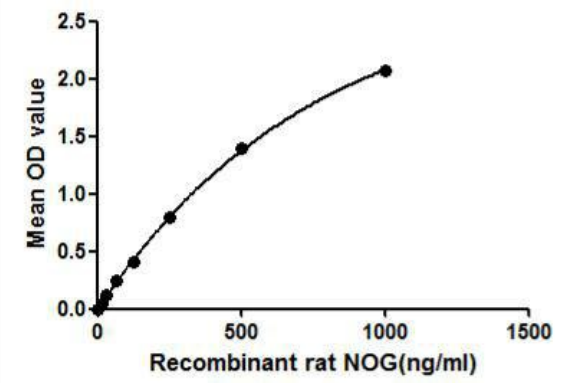

Figure 1. The binding activity of NOG with BMP4.

[IDENTIFICATION]

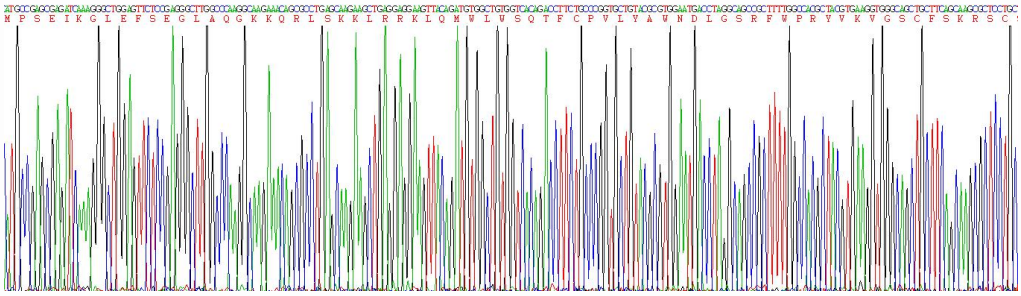

Figure 2. Gene Sequencing (extract)

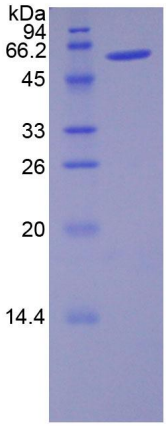

Figure 3. SDS-PAGE

Sample: Active recombinant NOG, Rat

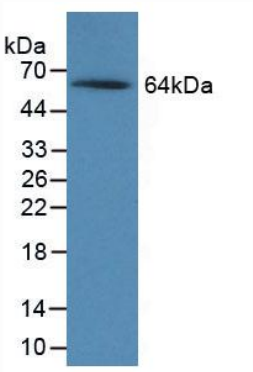

Figure 4. Western Blot

Sample: Recombinant NOG, Rat;

Antibody: Rabbit Anti-Rat NOG Ab (PAC130Ra02)