

APJ818Hu01 100µg

Active Non POU Domain Containing Octamer Binding Protein (NONO)

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: Lys18~Asp228

Tags: N-terminal His 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: 200µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 9.3

Predicted Molecular Mass: 53.9kDa

Accurate Molecular Mass: 54&33kDa 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]

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KHHQH HHQQQ HHQQQQQQPP PPIPIANGQQ ASSQNEGLTI DLKNFRKPGE KTFTQRSRLF VGNLPPDITE EEMRKLFEKY  
GKAGEVFIHK DKGFGFIRLE TRTLAEIAKV ELDNMPLRGK QLRVRFACHS ASLTVRNLPQ YVSNELLEEA FSVFGQVERA  
VVIVDDRGRP SGKGIVEFSG KPAARKALDR CSEGSFLLTT FPRPVTVEPM D
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[ACTIVITY]

Non POU Domain Containing Octamer Binding Protein (NONO) is a ubiquitously expressed nuclear protein belonging to the DBHS (Drosophila behavior/human splicing) family. It plays critical roles in multiple cellular processes, including transcriptional regulation, RNA splicing, DNA repair, and maintaining genomic stability. NONO forms heterodimers with other DBHS members (e.g., SFPQ, PSPC1) to bind nucleic acids, participating in gene expression control of key pathways like cell cycle progression and stress responses. Abnormal NONO expression or mutations are linked to various diseases, such as cancer (e.g., prostate, breast cancer), neurological disorders, and developmental abnormalities. Its versatile functions make it a vital player in balancing cellular homeostasis and a potential therapeutic target for disease intervention. To detect the activity of

recombinant NONO, a functional ELISA assay was performed to evaluate the interaction between recombinant human NONO and recombinant human FUS. Briefly, biotin-linked NONO were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to FUS-coated microtiter wells and incubated for 1h at 37 $^{\circ}$ C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 $^{\circ}$ C. Finally, add 50 μ l stop solution to the wells and read at 450nm immediately. The binding activity of NONO and FUS was shown in Figure 1, the EC₅₀ for this effect is 0.21783 μ g/mL.

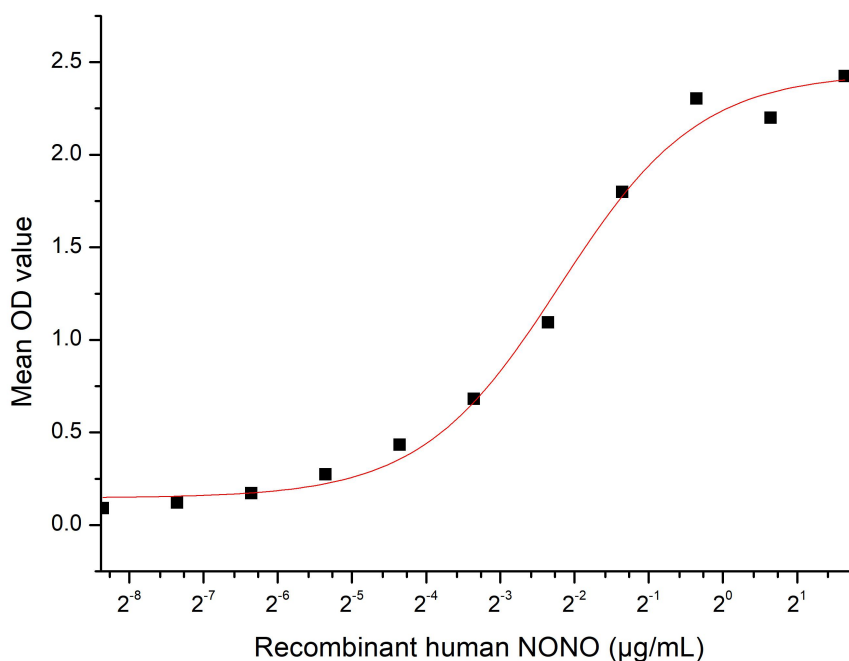


Figure 1. The binding activity of NONO and FUS

[IDENTIFICATION]

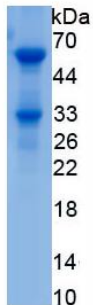


Figure 2. SDS-PAGE

Sample: Active recombinant NONO, 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.