

APA939Mu01 50µg

Active Gamma-synuclein (SNCG)

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~Asn115

Tags: N-terminal His-tag

Purity: >95%

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: 5.8

Predicted Molecular Mass: 16.1kDa

Accurate Molecular Mass: 24&20&18kDa 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]

MDVFKKGFSI AKEGVVGAVE KTKQGVTEAA EKTKEGVMYV GTKTKENVVQ
SVTSVAEKTQ EQANAVSEAV VSSVNTVANK TVEEAENIVV TTGVVRKEDL
EPPAQDQEAK EQEEN

[ACTIVITY]

Gamma-synuclein (SNCG) is a member of the synuclein family, primarily expressed in the nervous system and certain cancer tissues. Unlike its well-studied counterpart alpha-synuclein involved in Parkinson's disease, SNCG plays distinct roles in tumor progression and metastasis. It promotes cancer cell proliferation, invasion, and chemoresistance in breast, ovarian, and liver cancers by modulating cytoskeletal dynamics and signaling pathways such as ERK, AKT. SNCG overexpression correlates with poor prognosis in multiple malignancies. Additionally, it interacts with tubulin and other synaptic proteins, though its physiological functions in normal neurons remain less understood. Besides, Myocilin (MYOC) has been identified as an interactor of SNCG, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse SNCG and recombinant human MYOC. Briefly,

SNCG was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to MYOC-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-SNCG 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 SNCG and recombinant human MYOC was shown in Figure 1, the EC₅₀ for this effect is 0.45 μ g/mL.

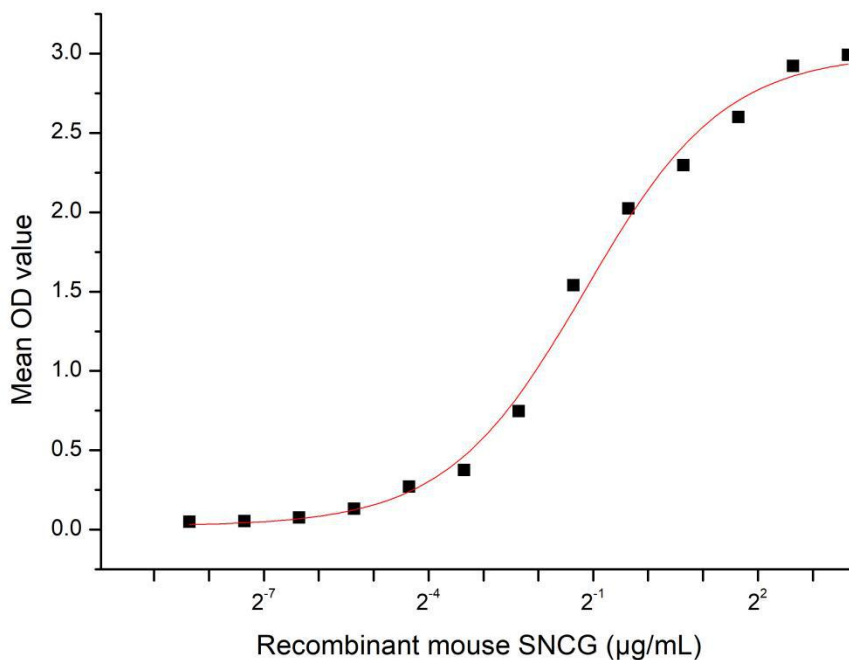


Figure 1. The binding activity of recombinant mouse SNCG and recombinant human MYOC

[IDENTIFICATION]

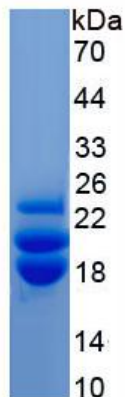


Figure 2. SDS-PAGE

Sample: Active recombinant SNCG, 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.