APA277Mu02 50μg
Active Connexin 43 (CX43)
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: Ser244~Ile382
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5%Trehalose .
Original Concentration: 500μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 8.0
Predicted Molecular Mass: 18.7kDa
Accurate Molecular Mass: 19kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in ddH_2O 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]

SDPYHAT
TGPLSPSKDC GSPKYAYFNG CSSPTAPLSP MSPPGYKLVT GDRNNSSCRN
YNKQASEQNW ANYSAEQNRM GQAGSTISNS HAQPFDFPDD SQNAKKVAAG
HELQPLAIVD QRPSSRASSR ASSRPRPDDL EI

[ACTIVITY]

Connexin 43 (CX43), encoded by the GJA1 gene, is the most ubiquitously expressed member of the connexin family, a class of transmembrane proteins critical for gap junction intercellular communication (GJIC). Primarily localized at the plasma membrane, CX43 assembles into hexameric hemichannels; docking of hemichannels between adjacent cells forms gap junction channels, which permit the passage of small molecules (e.g., ions, metabolites, second messengers) and facilitate synchronized cellular activities. Beyond GJIC, CX43 hemichannels also function independently to mediate paracrine signaling by releasing signaling molecules (e.g., ATP) into the extracellular space. CX43 is widely distributed in cardiac tissue, smooth muscle, epithelial cells, and the central nervous system, and its dysregulation is linked to various pathological conditions, including cardiac arrhythmias, cancer metastasis, and neurodegenerative disorders. Moreover, CX43 physically interacts with Caveolin-1 (CAV1) at the plasma membrane, which modulates CX43 trafficking, channel gating, and degradation to fine-tune intercellular communication efficiency. Briefly,rat CAV1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to CX43-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CAV1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells

were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. Measured by its binding ability in a functional ELISA. When Recombinant mouse CX43 is Immobilized at 2 μg/mL(100 uLwell), the concentration of rat CAV1 that produces 50% optimal bindingresponse is found to be approximately 0.0015 μg/mL.

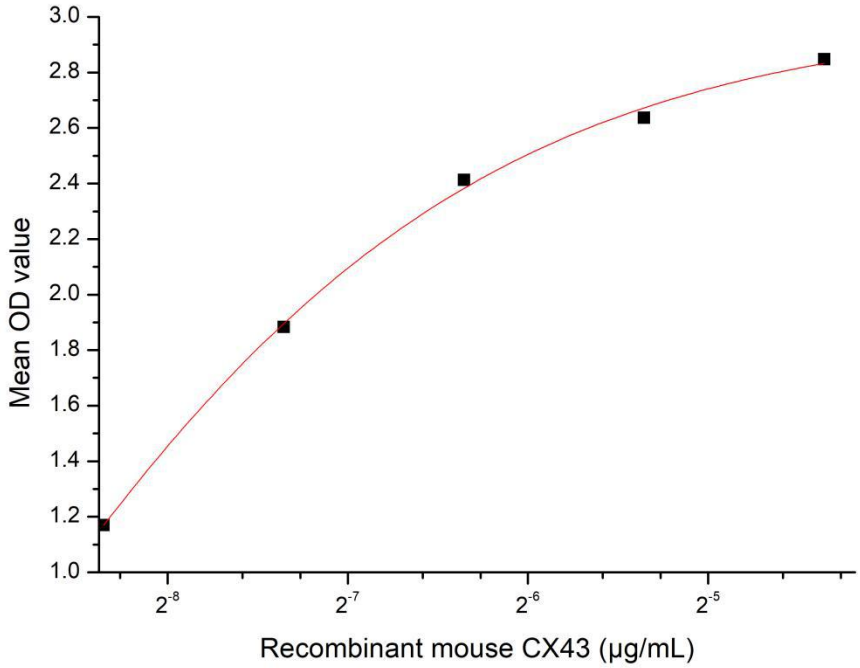

Figure 1. The binding activity of recombinant mouse CX43 and rat CAV1

[IDENTIFICATION]

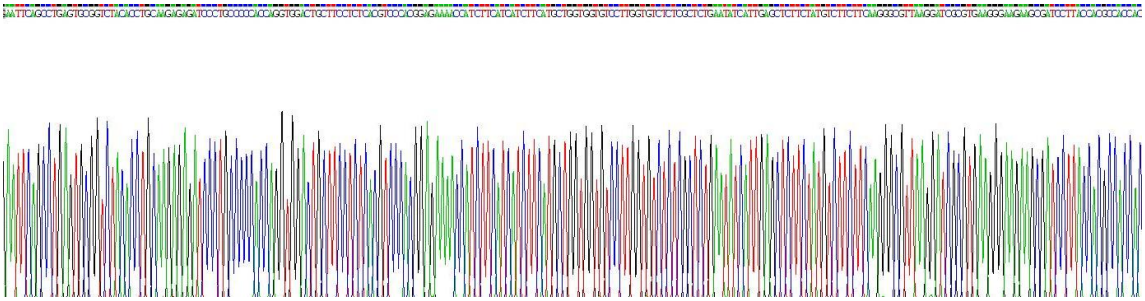

Figure 2. Gene Sequencing (extract)

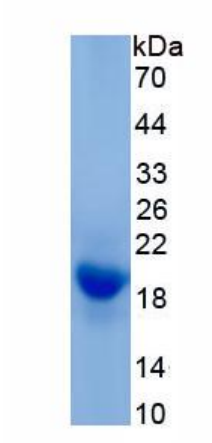

Figure 3. SDS-PAGE

Sample: Active recombinant CX43, 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.