

Active Caspase 2 (CASP2)

Catalog No.: TP09341

50µg

Sequence Information

Species: Human

Gene ID:835

Swiss Prot:P42575

Synonyms:ICH1L; NEDD2; ICH-1L/1S;

CysteinyI Aspartate Specific Proteinases

2; Apoptosis-Related Cysteine Peptidase;

Neural Precursor Cell Expressed

Developmentally Down-Regulated 2

Residues:Gly170~Thr452

GPVCLQVKPCTPEFYQTHFQLAYRLQSRPRGLALVLSNVHFTGEKELEFRSGGD

VDHSTLVTLFKLLGYDVHVLCDQTAQEMQEKLQNFAQLPAHRVTDSCIVALLSH

GVEGAIYGVGDGKLLQLQEVFQLFDNANCPSLQNKPKMFFIQACRGDETDGRVDQ

QDGKNHAGSPGCEESDAGKEKLPKMRLPTRSDMICGYACLKGTAAMRNTKRGSW

YIEALAQVFSERACDMHVADMLVKVNALIKDREGYAPGTEFHRCKEMSEYCSTL

CRHLYLFPGHPPT

Product Information

Source: Prokaryotic expression.

Host: *E.coli*

Tags: N-terminal His-Tag

Subcellular Location: Secreted

Purity: >90%

Traits: Freeze-dried powder

Buffer formulation: 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0mg/mL.

Original Concentration: 200µg/mL

Applications: Positive Control; Immunogen; SDS-PAGE; WB.

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

Predicted isoelectric point: 6.9

Predicted Molecular Mass: 35.4kDa

Accurate Molecular Mass: 18kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in ddH₂O to a concentration of 0.1-0.5 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.

[ACTIVITY]

Caspase-2 (CASP2) is a 30- 32 kDa member of the peptidase C14A/IL-1beta-converting family of enzymes. It is widely expressed and is an integral component of the apoptotic cascade. Based on the length of its prodomain, caspase-2 has been considered to be an initiator caspase. Human procaspase-2 is a 48- 51 kDa, 452 amino acid (aa) protein. It is known to exist as a disulfide-linked homodimer via covalent linkage at Cys436. But this dimeric state may not be sufficient for (auto) activation. Actual activation may occur following oligomerization within the context of activating platforms such as DISC (death-inducing signaling complex) or the PIDosome. The activity assay of recombinant human CASP2 was measured by its ability to cleave the fluorogenic peptide substrate Ac-VDVAD-AFC. The reaction was performed in 25 mM HEPES, 0.1% (w/v) CHAPS, 10 mM dithiothreitol (DTT), pH 7.5 (Assay Buffer). The CASP2 was diluted to 3 ug/ml by assay buffer and incubated at room temperature for 15 min. The reaction was initiated by adding 50 ul 3 ug/ml CASP2 to 50 ul of 200 uM substrate and then read at excitation and emission wavelengths of 400 nm and 505 nm (top read), respectively, in kinetic mode for 5 minutes. The specific activity of recombinant human CASP2 is 2100 pmol/min/μg.

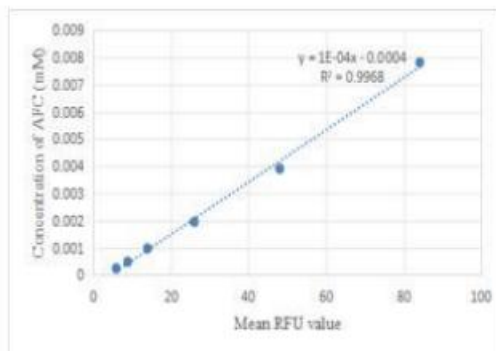


Figure 1. The standard curve of AFC

RFU	AFC (mM)
84.11058	0.0078125
48.01058	0.00390625
25.99058	0.001953125
13.96058	0.000976563
8.83958	0.000488281
5.87658	0.000244141

One unit of enzyme activity is defined as the 1 µg of enzyme required to convert 1 pmol of Ac-VDVAD-AFC to AFC in 1min at 37°C.

$$\text{Specific Activity (pmol/min/}\mu\text{g)} = \frac{\Delta\text{RFU} * F}{T * N}$$

ΔRFU=Adjusted for Substrate Blank

F=Conversion Factor(convert from standard curve of AFC)

T= Time

N=Amount of enzyme

[IDENTIFICATION]

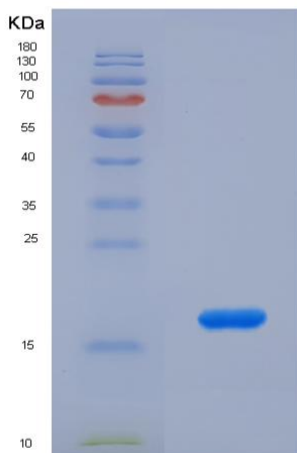


Figure 2. SDS-PAGE

[IMPORTANT NOTE]

The kit is designed for in vitro and research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.

