

Caspase 3 Active Protein | CASP3 active protein

Active Caspase 3 (CASP3)

CATALOG #
AAA150098

APPLICATIONS
Activity Assay, Cell Culture

PRODUCT SYNONYMS

Caspase 3; Active Caspase 3 (CASP3); CPP32; CPP32B; SCA1; Apoptain; Yama; Apoptosis-Related Cysteine Peptidase; Cysteiny Aspartate Specific Proteinases 3; SREBP cleavage activity 1; CASP3 active protein

PRODUCT SPECIFICATIONS

Purity/Purification	>90%
Form/Format	Freeze-dried powder 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
Sequence Positions	Ser29~His277
Sequence Length	277
Applicable Applications for CASP3 active protein	Activity Assay, Cell Culture
Species	Human
Tag	N-terminal His Tag
Subcellular Location	Cytoplasm
Isoelectric Point	7.1
Reconstitution	Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Preparation and Storage	Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Avoid repeated freeze/thaw cycles. Stability: 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 degree 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.

IMAGES

Calculation

$$\text{Activity, pmol pNA/min/}\mu\text{g} = \frac{OD \times d}{\epsilon^{mM} \times t} / \text{amount of protein}$$

Where: $\epsilon^{mM} = 10.5$

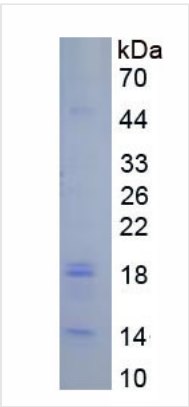
d - dilution factor

t - reaction time in minutes

Application Data

Caspase 3 is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes that undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. This protein cleaves and activates caspases 6 and 7; and the protein itself is processed and activated by caspases 8, 9, and 10. Caspase 3 can hydrolyze the peptide substrate acetyl-Asp-Glu-Val-Asp-p-nitroanilide (Ac-DEVD-pNA) resulting in the release of the p-nitroaniline (pNA) moiety. p-Nitroaniline has a high absorbance at 405nm. Thus the activity of recombinant human caspase 3 can be measured by calculate the concentration of the pNA released from the substrate. The reaction was performed in adding 50L 2×buffer (50mM HEPES, 100mM NaCl, 10mM DTT, 2mM EDTA, 10% glycerol) to 96 well plates, then add 50L various concentration of caspe 3 (diluted by 1×buffer, 25mM HEPES, 50mM NaCl, 5mM DTT, 1mM EDTA, 5% glycerol) to each well, finally, add 5L 4mmol Ac-DEVD-pNA to each well. Cover the 96 well plates and incubate at 37 for 2h. p-Nitroaniline (pNA) standard curve prepare by double dilute 200M pNA with 1×buffer and record the OD value at 405nm. Calculate the caspase 3 activity in pmol of pNA released per min per g recombinat human caspase 3.The specific activity of recombinant human caspase 3 is 2196pmol/min/g.

SDS-PAGE
Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for CASP3 active protein	Signal transduction; Enzyme & Kinase; Apoptosis; Tumor immunity; Infection immunity
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NCBI AND UNIPROT INFORMATION

NCBI GI #	14790119
NCBI GeneID	836
NCBI Accession #	NP_004337.2
NCBI GenBank Nucleotide #	NP_004337.2
UniProt Accession #	P42574
Molecular Weight	Predicted Molecular Mass: 32.2kDa Accurate Molecular Mass: 14kDa, 18kDa, 20kDa
NCBI Official Full Name	caspase-3 isoform a preproprotein
NCBI Official Synonym Full Names	caspase 3
NCBI Official Symbol	CASP3
NCBI Official Synonym Symbols	CPP32; SCA-1; CPP32B
NCBI Protein Information	caspase-3
UniProt Protein Name	Caspase-3
UniProt Gene Name	CASP3
UniProt Synonym Gene Names	CPP32; CASP-3; CPP-32; SCA-1
UniProt Entry Name	CASP3_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

