abcam

Product datasheet

Recombinant human Cleaved Caspase-3 protein (Active) ab52101

4 References

Description

Product name	Recombinant human Cleaved Caspase-3 protein (Active)
Biological activity	Specific activity: ≥ 15,000 units/mg Unit definition: One unit of the recombinant caspase-3 is the enzyme activity that cleaves 1 nmol of the caspase substrate DEVD-pNA (pNA: pnitroanaline) per hour at 37oC in a reaction solution containing 50 mM Hepes, pH 7.2, 50 mM NaCl, 0.1% Chaps, 10 mM EDTA, 5% Glycerol, and 10 mM DTT.
Purity	> 95 % SDS-PAGE.
Expression system	Escherichia coli
Accession	P42574
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MENTENSVDS KSIKNLEPKI IHGSESMDSG ISLDNSYKMD YPEMGLCIII NNKNFHKSTG MTSRSGTDVD AANLRETFRN LKYEVRNKND LTREEIVELM RDVSKEDHSK RSSFVCVLLS HGEEGIIFGT NGPVDLKKIT NFFRGDRCRS LTGKPKLFII QACRGTELDC GIETDSGVDD DMACHKIPVE ADFLYAYSTA PGYYSWRNSK DGSWFIQSLC AMLKQYADKL EFMHILTRVN RKVATEFESF SFDATFHAKK QIPCIVSMLT KELYFYH
Amino acids	1 to 277
Additional sequence information	(Gene ID 836)

Specifications

Our **Abpromise guarantee** covers the use of **ab52101** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies

Form	Lyophilized
Additional notes	This product is manufactured by BioVision, an Abcam company and was previously called 1083 Caspase-3, human recombinant. 1083-100 is the same size as the 100 unit size of ab52101. The recombinant active human Caspase 3 spontaneously undergoes autoprocessing to yield subunits characteristic of the native enzyme. Cleaved Caspase 3 is useful in studying enzyme regulation, determining target substrates, screening caspase inhibitors, or as a positive control in caspase activity assays. The active Caspase 3 preferentially cleaves Caspase 3 substrates e.g. DEVD-AFC or DEVD-pNA. MW: large (17 kD) and small (11 kD) subunits.

Preparation and Storage

Stability and Storage	Shipped at 4°C. Upon delivery aliquot. Store at -80°C. Avoid freeze / thaw cycle. Constituents: PBS, 5% Glycerol (glycerin, glycerine), 1.71% HEPES, 1.71% Sodium chloride, 0.1% CHAPS, 0.16% EDTA, 0.12% DTT This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	Centrifuge the vial prior to opening. Reconstitute to 1 unit per µl in water.

General Info

Function	Involved in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis it proteolytically cleaves poly(ADP-ribose) polymerase (PARP) at a '216-Asp--Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9. Involved in the cleavage of huntingtin. Triggers cell adhesion in sympathetic neurons through RET cleavage.
Tissue specificity	Highly expressed in lung, spleen, heart, liver and kidney. Moderate levels in brain and skeletal muscle, and low in testis. Also found in many cell lines, highest expression in cells of the immune system.
Sequence similarities	Belongs to the peptidase C14A family.
Post-translational modifications	Cleavage by granzyme B, caspase-6, caspase-8 and caspase-10 generates the two active subunits. Additional processing of the propeptides is likely due to the autocatalytic activity of the activated protease. Active heterodimers between the small subunit of caspase-7 protease and the large subunit of caspase-3 also occur and vice versa. S-nitrosylated on its catalytic site cysteine in unstimulated human cell lines and denitrosylated upon activation of the Fas apoptotic pathway, associated with an increase in intracellular caspase activity. Fas therefore activates caspase-3 not only by inducing the cleavage of the caspase zymogen to its active subunits, but also by stimulating the denitrosylation of its active site thiol.
Cellular localization	Cytoplasm.

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