

Product datasheet

Recombinant rat Cleaved Caspase-3 protein ab52072

1 References

Overview

Product name	Recombinant rat Cleaved Caspase-3 protein
Protein length	Protein fragment

Description

Nature	Recombinant
Source	Escherichia coli
Amino Acid Sequence	
Accession	P42574
Species	Rat

Specifications

Our [Abpromise guarantee](#) covers the use of **ab52072** in the following tested applications.

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

Biological activity SPECIFIC ACTIVITY: 300,000 units/mg. One unit of the recombinant caspase-3 is the enzyme activity that cleaves 1 nmol of the caspase substrate DEVD-pNA (pNA: p-nitroaniline) per hour at 37degC.

Form Lyophilised

Additional notes The lyophilized caspase-3 is stable for 1 year at -70degC. Following reconstitution in PBS, the enzyme should be aliquoted and immediately stored at -70degC. Avoid multiple freeze/thaw cycles as activity might decrease.

Cleaved caspase-3 is useful in studying enzyme regulation, determining target substrates, screening caspase inhibitors, or as a positive control in caspase activity assays. Recommend using 1 unit/assay for analyzing caspase activity.

Preparation and Storage

Stability and Storage Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

pH: 7.20

Constituents: 1.19% HEPES, 0.292% EDTA, 5% Glycerol, 0.29% Sodium chloride, 0.154% DTT,

0.1% CHAPS

This product is an active protein and may elicit a biological response in vivo, handle with caution.

Reconstitution

Reconstitute to 1 unit per μ l in PBS containing 15% glycerol.

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.

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors