



## Product Datasheet

<b>Product Name</b>	Caspase-3 Human Recombinant, Active
<b>Cata No</b>	CB501378
<b>Source</b>	<i>Escherichia Coli.</i>
<b>Synonyms</b>	Caspase 3, CASP-3, Apopain, CPP32, Yama protein, CPP-32, SREBP cleavage activity 1, SCA-1, SPP32B, EC 3.4.22.56.

### Description

CASP3 is part of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspase-3 enzyme results in the execution-phase of cell apoptosis/programmed cell death. Caspase 3 has been called the "henchman that goes around and executes the cell." Caspase3 exists as an inactive proenzyme which undergoes proteolytic processing at conserved aspartic residues to produce 2 subunits, large and small, that dimerize to form the active enzyme. CASP3 cleaves and activates caspases 6, 7 and 9, and be processed by caspases 8, 9 and 10. Caspase-3 is involved in the cleavage of amyloid-beta 4A precursor protein, which is associated with neuronal death in Alzheimer's & Huntington disease. High levels of Caspase-3 are found in lymphocytes, indicating that it is an important mediator of apoptosis in the immune system. CSN-mediated deneeddylation is regulated by active CASP3. CASP-3 cleavage of RAD51 results in a functional decrease in RAD51 strand exchange activity and inhibition of caspase 3 activity increases RAD51 protein levels. Mice overexpressing human caspase 3 have increased susceptibility to degenerative insults. Single nucleotide polymorphisms in Caspase-3 gene is associated with lung cancer. Caspase3 is activated by elaidic acid and palmitic acid.

CASP3 activity is enhanced by safrole oxidase in lung cancer cells.

Expression of CASP3 in peripheral blood mononuclear cells is significantly increased in SLE patients.

CASP3 Human Recombinant produced in E.Coli is a double, non-glycosylated, polypeptide chain cotaning 258 amino acids and having a molecular mass of 29.7 kDa.

The Caspase-3 is fused to His-Tag at C-terminus and purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile Filtered clear solution.

### Biological Activity

At a concentration of 0.5 mg/ml one unit will cleave 1.0 umoles of substrate AC-DEVD-P Nitroanilide per minute at pH 7.4 at 25 degrees.

### Purity

Greater than 90.0% as determined by both:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### Formulation

The Caspase3 solution contains 50mM Hepes, pH-7.4 + 100mM NaCl, 0.1% Chaps, 10mM DTT & 10% glycerol.

### Stability

CASP3 should be stored desiccated below (-18°C) -

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(-80°C).

**Please prevent freeze-thaw cycles.**

## Sequence

SGISLDNSYK MDYPEMGLCI IINNKNFHKS  
TGMTSRSGTD VDAANLRETF RNLKYEVRNK  
NDLTREEIVE LMRDVSKEDH SKRSSFVCVL  
LSHGEEGIIIF GTNGPVDLKK ITNFFRGDRC

**Product Data Sheet**  
RSLTGKPKLF IIQACRQFLGGEDSSY  
DDDMACHKIP VEADFLYAYS TAPGYYSWRN  
SKDGSWFIQS LCAMLKQYAD KLEFMHILTR  
VNRKVATEFE SFSFDATFHA KKQIPCIVSM  
LTKELYFYHH HHHHHHHH

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