

## Recombinant Human Procaspase-3

<b>CATALOG #:</b>	1083P-5
<b>LOT #:</b>	_____
<b>AMOUNT:</b>	5 µg
<b>PURITY:</b>	>90% by SDS-PAGE
<b>FORM:</b>	Lyophilized powder
<b>RECONSTITUTION:</b>	Reconstitute to 0.1 µg/µl in PBS containing 15% glycerol.

### STORAGE:

Store at -70°C. After initial reconstitution, aliquot product into individual tubes and immediately refreeze at -70°C. AVOID FREEZE/THAW CYCLES!

### BACKGROUND DESCRIPTION:

Caspase-3 (also known as CPP32, Yama and apopain) is a member of the caspase family of cysteine proteases. Caspase-3 exists in cells as an inactive 32 kDa proenzyme. Proteolytic processing of this inactive proenzyme generates the 17 kD and 12 kD subunits which, when assembled as a tetramer (a pair of heterodimers), form the active caspase. Cascades of caspase activation have been shown to be key signal-transducing events in apoptosis. Procaspase-3, like other procaspases with short N-terminal prodomains, is considered to be a downstream or "effector" enzyme. Pro-caspase-3 can be cleaved and activated by caspase-8 and -10 which are themselves activated through interaction with death ligand receptor/adaptor protein complexes (e.g., Fas/FADD). Procaspase-3 is also processed by caspase-9, the apical caspase that is activated by binding to the Apaf-1/cytochrome c/ATP "apoptosome". Thus, activation of procaspase-3 stands at a point of convergence for the two major types of apoptosis signaling pathways—those linked to cell surface death receptors and those linked to mitochondrial release of cytochrome c.

The recombinant Procaspase-3 (1083P-5) is produced by expression of a human cDNA in *E. coli*. The purified protein is highly activatable by treatment with active recombinant caspase-8 (1088-25, -100). We routinely test the activation using 10-30 ng of the procaspase-3 treated with 0.1-0.5 units of the active recombinant caspase-8 in 100 µl of Reaction Buffer (1068-20) for 30 minutes. Activation of procaspase-3 can be monitored using the Caspase-3 Fluorometric and Colorimetric Assay Kits (K105 and K106).

**For Research Purpose ONLY! Not to be used in humans.**

### RELATED PRODUCTS:

#### Apoptosis Detection Kits & Reagents

- Annexin V Kits & Bulk Reagents
- Caspase Assay Kits & Reagents
- Mitochondrial Apoptosis Kits & Reagents
- Nuclear Apoptosis Kits & Reagents
- Apoptosis Inducers and Set
- Apoptotic Cell Isolation Kit

#### Cell Fractionation System

- Mitochondria/Cytosol Fractionation Kit
- Nuclear/Cytosol Fractionation Kit
- Membrane Protein Extraction Kit
- Cytosol/Particulate Rapid Separation Kit
- Mammalian Cell Extraction Kit
- FractionPREP Fractionation System

#### Cell Proliferation & Senescence

- Quick Cell Proliferation Assay Kit
- Senescence Detection Kit
- High Throughput Apoptosis/Cell Viability Assay Kits
- LDH-Cytotoxicity Assay Kit
- Bioluminescence Cytotoxicity Assay Kit
- Live/Dead Cell Staining Kit

#### Cell Damage & Repair

- HDAC Fluorometric & Colorimetric Assays & Drug Discovery Kits
- HAT Colorimetric Assay Kit & Reagents
- DNA Damage Quantification Kit
- Glutathione & Nitric Oxide Fluorometric & Colorimetric Assay Kits

#### Signal Transduction

- cAMP & cGMP Assay Kits
- Akt & JNK Activity Assay Kits
- Beta-Secretase Activity Assay Kit

#### Adipocyte & Lipid Transfer

- Recombinant Adiponectin, Survivin, & Leptin
- CETP Activity Assay & Drug Discovery Kits
- PLTP Activity Assay Kit
- Total Cholesterol Quantification Kit

#### Molecular Biology & Reporter Assays

- siRNA Vectors
- Cloning Insert Quick Screening Kit
- Mitochondrial & Genomic DNA Isolation Kits
- 5 Minutes DNA Ligation Kit
- 20 Minutes Gel Staining/Destaining Kit
- β-Galactosidase Staining Kit & Luciferase Reporter Assay Kit

#### Growth Factors and Cytokines

#### Quality Antibodies for Apoptosis and Signal Transduction