

Active Recombinant Human Caspase-3

CATALOG #: JM-1083-25 25 units
JM-1083-100 100 units

LOT #: _____

UNIT DEFINATION:

One unit of the recombinant caspase-3 is the enzyme activity that cleaves 1 nmol of the caspase substrate DEVD-pNA (pNA: p-nitroanaline) per hour at 37°C 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.

FORM: Lyophilized powder

RECONSTITUTION: Reconstitute to 1 unit per µl in PBS containing 15% glycerol.

SPECIFIC ACTIVITY: 300,000-400,000 units/mg

STORAGE CONDITIONS:

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

DESCRIPTION:

Caspase-3 (also know as CPP32, Yama and apopain) is a major member of the caspase-family of cysteine proteases. Caspase-3 exists in cells as an inactive 32 kDa proenzyme. During apoptosis procaspase-3 is processed at aspartate residues by self-proteolysis and/or cleavage by upstream caspases, such as caspase-6 (Mch2), caspase-8 (Flice) and grzyme B. The processed form of caspase-3 consists of large (17 kD) and small (11 kD) subunits which associate to form the active enzyme. The active caspase-3 has been shown involving in the proteolysis of several important molecules, such as poly (ADP-ribose) polymerase (PARP), the sterol regulatory element binding proteins (SREBPs), focal adhesion kinase (FAK), and others. The recombinant active human caspase-3 expressed in *E. coli* spontaneously undergoes autoprocessing to yield subunits characteristic of the native enzyme. The active caspase-3 preferentially cleaves caspase-3 substrates (e.g., DEVD-AFC or DEVD-pNA) and is routinely tested for its ability to enzymatically cleave these two substrates Ac-DEVD-pNA (Cat. #JM-1008-200) or Ac-DEVD-AFC (JM-1007-200).

APPLICATIONS AND USAGE:

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

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- 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

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