

## Active Recombinant Human Caspase-1

**CATALOG NO:** 1081-25 25 units  
1081-100 100 units

### UNIT DEFINITION:

One unit of the recombinant caspase-1 is the enzyme activity that cleaves 1 nmol of the caspase substrate YVAD-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 with additives

**RECONSTITUTION:** Reconstitute to 1 unit per µl in water.

**SPECIFIC ACTIVITY:** > 5000 units/mg

### STORAGE CONDITIONS:

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

### DESCRIPTION:

Caspase-1 (also known as ICE) is a prototypical member of the caspase-family of cysteine proteases. Caspase-1 exists in cells as an inactive 45 kDa proenzyme. The pro-enzyme is matured by proteolysis to yield large (20 kD) and small (10 kD) subunits. The active caspase-1 is a heterotetramer consisting of two large and two small subunits. To date the regulatory mechanism of caspase-1 activation and the role of caspase-1 in apoptosis are poorly understood. In THP-1 cells, a large proportion of the caspase-1 is present in the inactive proenzyme form.

The recombinant active human caspase-1 was expressed in *E. coli*. The active caspase-1 preferentially cleaves caspase-1 substrates (e.g., YVAD-AFC or YVAD-pNA) and is routinely tested at BioVision for its ability to enzymatically cleave these two substrates Ac-YVAD-pNA (Cat. #1104-200) or Ac-YVAD-AFC (1103-200). The rh-Caspase has an N-term His-tag and corresponds to amino acids 120-404 of Caspase-1, gene accession# NP\_150634.1.

### APPLICATIONS AND USAGE:

Active caspase-1 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.

For a complete caspase-1 assay protocol, please refer to BioVision's Caspase-1 Fluorometric or Colorimetric Assay Kits (Cat.No: K110 and K111).

**FOR RESEARCH USE ONLY! Not to be used on 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 Molecule