

Instruction Manual

Catalog Number	PK-RP577-1183P-5
Quantity	5 µg
Unit Definition	>90% by SDS-PAGE
Purity	>90% by SDS-PAGE
Formulation	Lyophilized powder
Reconstitution	Reconstitute to 0.1 µg/µl in PBS containing 15% glycerol.
Storage	Store at -70°C. After initial reconstitution, aliquot product into individual vials and immediately refreeze at -70°C. AVOID FREEZE/THAW CYCLES!
Applications	<p>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 is produced by expression of a human cDNA in <i>E. coli</i>. The purified protein is highly activatable by treatment with active recombinant caspase-8. 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 for 30 minutes. Activation of procaspase-3 can be monitored using the Caspase-3 Fluorometric and Colorimetric Assay Kits.</p>

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