Active Caspase 3 (CASP3)

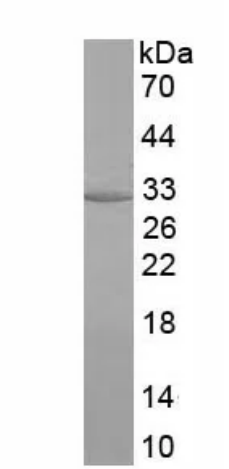
Catalog#:PER12446

概述（Summary）

别称（Alternative Names）	CPP32; CPP32B; SCA1; Apoptain; Yama; Apoptosis-Related Cysteine Peptidase; Cysteinyl Aspartate Specific Proteinases 3; SREBP cleavage activity 1
纯度（Purity）	Greater than 80% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Ser29-His277】
Accession #	P55213
表达宿主（Host）	E.coli
种属（Species）	Rattus norvegicus (Rat)
预测分子量（Predicted MW）	31.7 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Involved in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis it proteolytically cleaves poly(ADP-ribose) polymerase (PARP) at a '216-Asp-|-Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9. Triggers cell adhesion in sympathetic neurons through RET cleavage. Cleaves IL-1 beta between an Asp and an Ala, releasing the mature cytokine which is involved in a variety of inflammatory processes.

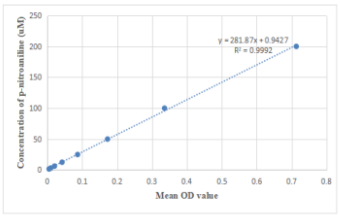
Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress. Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface.

电泳图（SDS-PAGE image）



Greater than 80% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）



OD405nm	p-nitroaniline (uM)
0.7135	200
0.3359	100
0.1726	50
0.0869	25
0.0422	12.5
0.0207	6.25
0.01	3.125
0.005	1.5625

Figure 1. The standard curve of p-nitroaniline

One unit of enzyme activity is defined as the 1 μg of enzyme required to convert 1 pmol of Ac-DEVD-pNA to p-nitroaniline in 1min at 37°C.

Specific Activity (pmol/min/μg)= $\frac{\Delta OD * F}{T * N}$

△OD=Adjusted for Substrate Blank
F=Conversion Factor(convert from standard curve of p-nitroaniline)
T= Time
N=Amount of enzyme

Caspase 3 is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes that undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. This protein cleaves and activates caspase 6 and 7; and the protein itself is processed and activated by caspases 8, 9, and 10. Caspase 3 can hydrolyze the peptide substrate acetyl-Asp-Glu-Val-Asp-p-nitroanilide (Ac-DEVD-pNA) resulting in the release of the p-nitroaniline (pNA) moiety. p-Nitroaniline has a high absorbance at 405 nm. Thus the activity of recombinant rat caspase 3 can be measuered by calculating the concentration of the pNA released from the substrate. The reaction was performed in adding 50μl 2×buffer (50mM HEPES,100mM NaCl,10mM DTT, 2mM EDTA, 10% glycerol) to 96 well plates, then add 50μl various concentration of caspase 3 (diluted by 1×buffer, 25mM HEPES, 50mM NaCl, 5mM DTT, 1mM EDTA, 5% glycerol) to each well, finally, add 5 μl 4mM Ac-DEVD-pNA to each well. Cover the 96 well plates and incubate at 37 ℃ for 1h. p-Nitroaniline (pNA)

Standard curve prepare by double dilute 200μM pNA with 1×buffer and record the OD value at 405 nm. The specific activity of recombinant rat caspase3 is >3300 pmol/min/μg.

注意事项（Note）

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