Active Caspase 3 (CASP3)

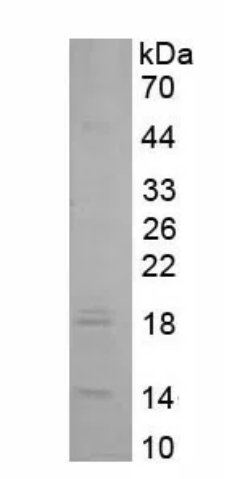
Catalog#:PEH12444

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 90% 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 #	p42574
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	32.2 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 ddH_2O to a concentration ≤0.1mg/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. Involved in the cleavage of huntingtin. Triggers cell adhesion in sympathetic neurons through RET cleavage. 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 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

Calculation

$$\text{Activity, pmol pNA/min/μg} = \frac{OD \times d}{\varepsilon^{mM} \times t} \text{ /amount of protein}$$

Where: $\varepsilon^{mM} = 10.5$

d - dilution factor

t - reaction time in minutes

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 caspases 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 405nm. Thus the activity of recombinant human caspase 3 can be measured by calculate 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 caspe 3 (diluted by 1×buffer, 25mM HEPES, 50mM NaCl, 5mM DTT, 1mM EDTA, 5% glycerol) to each well, finally, add 5μL 4mmol Ac-DEVD-pNA to each well. Cover the 96 well plates and incubate at 37°C for 2h. p-Nitroaniline (pNA) standard curve prepare by double dilute 200μM pNA with 1×buffer and record the OD value at 405nm. Calculate the caspase 3 activity in pmol of pNA released per min per μg recombinat human caspase 3. The specific activity of recombinant human caspase 3 is 2196pmol/min/μg.

注意事项（Note）

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