

Product Information



Apaf-1 Blocking Peptide

Catalog No. 360780

Apoptosis is related to many diseases and is induced by a family of cell death receptors and their ligands. Cell death signals are transduced by death domain containing adapter molecules and members of the caspase family of proteases. The mammalian homologues of the key cell death gene CED-4 in *C. elegans* has been identified recently from human and mouse and designated Apaf-1 (for apoptosis protease-activating factor 1).^{1,2} Apaf-1 binds to cytochrome c (Apaf-2) and caspase-9 (Apaf-3), which leads to caspase-9 activation. Activated caspase-9 in turn cleaves and activates caspase-3, one of the key proteases responsible for the proteolytic cleavage of many key proteins in apoptosis.³ Apaf-1 can also associate with caspase-4 and caspase-8.⁴ Apaf-1 is ubiquitously expressed in human tissues.¹

Laboratory Procedures

This vial contains 200 µg of lyophilized peptide corresponding to amino acids 12 to 28 of human Apaf-1 (HREALEKDIKTSYIMDHC).¹ This peptide was used as an antigen for production of Cayman's Apaf-1 Polyclonal Antibody (Catalog No. 160780) and can be used in conjunction with this antibody to block protein-antibody complex formation during immunohistochemical analysis for Apaf-1.

Reconstitute the lyophilized peptide with 200 µl of PBS or distilled water. Store this peptide solution at -20°C. It will be stable for at least two years. To block antibody/protein complex formation, the following procedure is recommended:

1. Mix the Apaf-1 Polyclonal Antibody (Catalog No. 160780) and blocking peptide together in a 1:1 (v/v) ratio in a microfuge tube. For example, mix 20 µl of antibody and 20 µl of peptide.*
2. Incubate for 1 hour at room temperature with occasional mixing prior to further dilution and application of the mixture to the immunoblot.
3. Dilute the mixture to the final working antibody concentration and apply to the slide or membrane as usual.

*This is a recommended mixture. The minimum amount of peptide needed for complete blocking has not been precisely determined and may vary depending on the sample being analyzed. The amount of peptide required may need to be increased if sufficient blocking does not occur.

References

1. Zou, H., Henzel, W.J., Liu, X., *et al.* Apaf-1, a human protein homologous to *C. elegans* CED-4, participates in cytochrome c-dependent activation of caspase-3. *Cell* **90**, 405-413 (1997).
2. Cecconi, F., Alvarez-Bolado, G., Meyer, B.I., *et al.* Apaf1 (CED-4 homologue) regulates programmed cell death in mammalian development. *Cell* **94**, 727-737 (1998).
3. Li, P., Nijhawan, D., Budihardjo, I., *et al.* Cytochrome c and dATP-dependent formation of Apaf-1/caspase-9 complex initiates an apoptotic protease cascade. *Cell* **91**, 479-489 (1997).
4. Hu, Y., Benedict, M.A., Wu, D., *et al.* Bcl-XL interacts with Apaf-1 and inhibits Apaf-1-dependent caspase-9 activation. *Proc. Natl. Acad. Sci. USA* **95**, 4386-4391 (1998).

Related Product

Apaf-1 Polyclonal Antibody - Cat. No. 160780

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WARNING: THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING IS EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH.

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