

Product Information



Optineurin (C-Term) Blocking Peptide

Catalog No. 300000

Apoptosis is controlled by a variety of signaling mechanisms and is relevant to several diseases and normal development. Optineurin (originally named FIP-2: *14.7K interacting protein-2*) is a 74 kDa protein implicated in signal transduction of the tumor necrosis factor (TNF) pathway as presented in a study of adenovirus proteins that prevent cytolysis after TNF α stimulation.¹ Optineurin can be phosphorylated; however, it is currently unknown what kinases achieve this or what other mammalian proteins interact with it downstream of TNF α or Fas signaling.^{1,2}

Working at or near cell membranes and in concert with Rab8 and Huntingtin, optineurin has been implicated in membrane traffic regulation and cellular morphogenesis.³ The exact role of optineurin protein in apoptosis is currently unknown and interestingly optineurin gene mutations have been correlated with certain types of glaucoma.⁴⁻⁶ Increased apoptosis of trabecular meshwork cells is an identified factor for pathogenesis of glaucoma.⁷

Laboratory Procedures

This vial contains 200 μ g peptide in 200 μ l TBS, pH 7.4, containing 0.1% BSA and 0.02% sodium azide. The Optineurin (C-Term) blocking peptide (amino acids 559-575) can be used in conjunction with Cayman's Optineurin (C-Term) Polyclonal Antibody (Catalog No. 100000) to block protein-antibody complex formation during immunochemical analysis of optineurin.

Reconstitute the lyophilized peptide with 200 μ l 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 Optineurin (C-Term) Polyclonal Antibody (Catalog No. 100000) and blocking peptide together in a 1:1 (v/v) ratio in a microfuge tube. For example, mix 20 μ l of antibody and 20 μ l 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

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2. Schwamborn, K., Weil, R., Courtois, G., *et al.* Phorbol esters and cytokines regulate the expression of the NEMO-related protein, a molecule involved in a NF- κ B-independent pathway. *J. Biol. Chem.* **275(30)**, 22780-22789 (2000).
3. Hatula, K. and Peränen, J. FIP-2, a coiled-coil protein, links Huntingtin to Rab8 and modulates cellular morphogenesis. *Curr. Biol.* **10**, 1603-1606 (2000).
4. Rezaie, T., Child, A., Hitchings, R., *et al.* Adult-onset primary open-angle glaucoma caused by mutations in optineurin. *Science* **295**, 1077-1079 (2002).
5. Kamphuis, W. and Schneeman, A. Optineurin gene expression level in human trabecular meshwork does not change in response to pressure elevation. *Ophthalmic Res.* **35**, 93-96 (2003).
6. Vittitow, J.L. and Borrás, T. Expression of optineurin, a glaucoma-linked gene, is influenced by elevated intraocular pressure. *Biochem. Biophys. Res. Commun.* **298**, 67-74 (2002).
7. Wang, N., Chintala, S.K., Fini, M.E., *et al.* Activation of a tissue-specific stress response in the aqueous outflow pathway of the eye defines the glaucoma disease phenotype. *Nature Med.* **7**, 304-309 (2001)

Related Product

Optineurin (C-Term) Polyclonal Antibody - Cat. No. 100000

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.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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