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Product Information

NAPE-PLD Blocking Peptide (aa 159-172)

Item No. 10303

N-acylethanolamines (NAEs) are involved in diverse biological processes such as inflammatory regulation, apoptosis, and tissue degeneration.[1] In animals, NAEs are mainly biosynthesized *via* a membrane phospholipid-dependent pathway, which is the enzymatic hydrolysis of N-acyl-phosphatidylethanolamine (NAPE). The enzyme catalyzing this reaction is a phospholipase D (PLD) subtype selective for NAPE named N-acylphosphatidylethanolamine-hydrolysing PLD (NAPE-PLD). It has been cloned from mouse, rat, and human and is 393-396 amino acids in length, with an estimated molecular weight of 46 kDa. Both NAPE-PLD mRNA and protein activity have been detected in a wide range of tissues with the highest levels in brain, kidney, and testis.[2] In rat, NAPE-PLD activity in the brain is low in neonates and is 15-fold higher in adults, whereas the activity remains constant in the heart during development.[3]

Laboratory Procedures

This vial contains 200 µg peptide lyophilized from 200 µl of water. Please add 200 µl of water prior to use. The NAPE-PLD blocking peptide (human NAPE-PLD amino acids 159-172) can be used in conjunction with Cayman's NAPE-PLD Polyclonal Antibody (aa 159-172) (Catalog No. 10305) to block protein-antibody complex formation during immunochemical analysis of NAPE-PLD.

Store this peptide solution at -20°C. It will be stable for at least one year. To block antibody/protein complex formation, the following procedure is recommended:

1. Mix the NAPE-PLD Polyclonal Antibody (aa 159-172) Polyclonal Antibody (Catalog No. 10305) and blocking peptide together in a 1:5 (v/v) ratio in a microfuge tube. For example, mix 10 µl of antibody and 50 µl of peptide.*
2. Incubate for one 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. Hansen, H.S., Moesgaard, B., Petersen, G., *et al.* Putative neuroprotective actions of N-acyl-ethanolamines. *Pharmacology & Therapeutics* **95**, 119-126 (2002).
2. Okamoto, Y., Morishita, J., Tsuboi, K., *et al.* Molecular characterization of a phospholipase D generating anandamide and its congeners. *J. Biol. Chem.* **279(7)**, 5298-5305 (2004).
3. Moesgaard, B., Petersen, G., Jaroszewski, J.W., *et al.* Age dependent accumulation of N-acyl-ethanolamine phospholipids in ischemic rat brain: A 31P NMR and enzyme activity study. *J. Lipid Res.* **41**, 985-990 (2000).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10303

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