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Product Information

Monoacylglycerol Lipase Blocking Peptide

Item No. 300014

Endocannabinoids, such as arachidonoyl ethanolamide (AEA) and 2-Arachidonoyl glycerol (2-AG), function as short-range modulators of cell and synaptic activity. Monoacylglycerol lipase (MAGL, MGL) hydrolyzes 2-AG to terminate its biological actions[1] and works consecutively with hormone-sensitive lipase (HSL) to mobilize fatty acids from the triglyceride stores of adipocytes.[2] MAGL has a molecular weight of ~33 kDa and exhibits a high degree of homology among human, mouse, and rat at the amino acid level.[1-4] MAGL is expressed in a variety of tissues such as kidney, spleen, heart, liver, testis, stomach, brain, lung, and adrenal gland, with most abundant expression in skeletal muscle and adipose tissue. This suggests a role of MAGL in monoglyceride hydrolysis in diverse tissues.

Laboratory Procedures

This vial contains 200 µg peptide in 200 µl TBS, pH 7.4, containing 0.1% BSA and 0.02% sodium azide. This human monoacylglycerol lipase blocking peptide amino acids 1-14 (MPEESSPRRTPQSI) can be used in conjunction with Cayman's Monoacylglycerol Lipase Polyclonal Antibody (Item No. 100035) to block protein-antibody complex formation during immunochemical analysis of monoacylglycerol lipase.

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 Monoacylglycerol Lipase Polyclonal Antibody (Item No. 100035) 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 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

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4. Dinh, T.P., Freund, T.F., and Piomelli, D. A role for monoglyceride lipase in 2-arachidonoyglycerol inactivation. *Chem. Phys. Lipids* **121**, 149-158 (2002).

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