Product Information

AdPLA$_2$ Blocking Peptide

Item No. 10338

The phospholipase A$_2$ superfamily consists of multiple enzymes that catalyze the hydrolysis of fatty acids from the *sn*-2 position in phospholipids. AdPLA$_2$ is the first member of Group XVI phospholipases (PLAs). This pH- and calcium-dependent PL is highly expressed in adipose tissue and is associated with adipocyte differentiation and lipolysis. It has been implicated as a major player in the development of obesity.[1,2] Human AdPLA$_2$ is a 162 amino acid protein with a calculated molecular weight of 18 kDa. It contains a transmembrane region and shares 70-75% sequence similarity with the murine and rat proteins, respectively. Cayman's antibody was raised against the C-terminal region of the human protein.

Laboratory Procedures

This vial contains 200 µg peptide in 200 µl TBS, pH 7.4, containing 0.1% BSA and 0.02% sodium azide. The AdPLA$_2$ blocking peptide (human AdPLA$_2$ amino acids 147-162) can be used in conjunction with Cayman's AdPLA$_2$ Polyclonal Antibody (Item No. 10337) to block protein-antibody complex formation during immunochemical analysis of AdPLA$_2$.

Store this peptide solution at -20°C. It will be stable for at least two years. We recommend an antibody and peptide incubation of 30 minutes at 25°C prior to application to the slide or membrane to preadsorb the IgG from the target protein. To block antibody/protein complex formation, the following procedure is recommended:

1. Mix the AdPLA$_2$ Polyclonal Antibody (Item No. 10337) 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

1. Jaworski, K., Ahmadian, M., Duncan, R.E., *et al.* AdPLA ablation increases lipolysis and prevents obesity induced by high-fat feeding or leptin deficiency. *Nature Med.* **15(2)**, 159-168 (2009).
2. Duncan, R.E., Sarkadi-Nagy, E., Jaworski, K., *et al.* Identification and functional characterization of adipose-specific phospholipase A$_2$ (AdPLA). *J. Biol. Chem.* **283(37)**, 25428-25436 (2008).

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