

Echelon Biosciences Inc.

DBPC (PLA2 Substrate)

Catalog number: L-3000

Molecular Formula: C₅₇H₈₄BF₂N₈O₁₀P

MW: 1121.11

CAS: 885331-21-5

Alternate Name: 1-*O*-(6-Dabcyl-aminohexanoyl)-2-*O*-(12-(5-BODIPY®-pentanoyl)aminododecanoyl)-*sn*-glyceryl phosphatidylcholine

Solubility: 5 mg/mL Chloroform, 1 mg/mL EtOH

Storage and Handling: Store dry at -20 °C. Stock solutions should be stored frozen (-20 °C or below). Protect from light.

Background: Phospholipase A2 (PLA2) is the enzyme which cleaves phospholipids to produce lysophospholipids and free fatty acids. The PLA2 family of enzymes is known to be at least 10 distinct members. sPLA2-V and sPLA2-X are selectively expressed in human airway epithelium and sPLA2-X in various immune cells. The basal expression of a third enzyme, sPLA2-IIA is low but becomes highly expressed during inflammation and sepsis. This enzyme has become associated with allergic rhinitis, rheumatoid arthritis, septic shock and ARDS. PLA2-IIA represents a target for the treatment of inflammatory disease. The PLA2 substrate DBPC, is a sensitive probe for a continuous fluorogenic detection applicable to both *in vitro* and cell-based *in situ* screening assays

- References:** 1) L. Feng, K. Manabe, J.C. Shope, S. Widmer, D.B. DeWald, G.D. Prestwich "A Real-Time Phospholipase A₂ Assay for Biochemical and Cellular Activity Measurements" *Chemistry & Biology*, **2002**, *9*, 795-803.
2) T. Rose, G.D. Prestwich "Fluorogenic Phospholipids as Head Group-Selective Reporters of Phospholipase A Activity" *ACS Chemical Biol.* **2006**, *1*, 83-91.
3) Zhao, X., D. Wang, et al. (2006). "Caspase-3-dependent activation of calcium-independent phospholipase A2 enhances cell migration in non-apoptotic ovarian cancer cells." *J Biol Chem* 281(39): 29357-68.
4) Manna, D., W. Cho, et al. (2007). Real-Time Cell Assays of Phospholipase A2s Using Fluorogenic Phospholipids. *Methods in Enzymology*, Academic Press. Volume 434: 15.
5) Cai, Q., Z. Zhao, et al. (2012). "Elevated and secreted phospholipase A2 activities as new potential therapeutic targets in human epithelial ovarian cancer." *The FASEB Journal* 26(8): 3306-3320.
6) J. Qu X. Zhao, et al. (2018) "Plasma phospholipase A2 activity may serve as a novel diagnostic biomarker for the diagnosis of breast cancer" *Oncology Lett.* doi.org/10.3892/ol.2018.7915

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

Technical Data Sheet, Rev 4, 1-23-19 – For research use only. Not intended for diagnostic or therapeutic use.



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