Phospholipase

Phospholipase is a member of a very complex group of enzymes that break down phospholipids into fatty acids and other compounds. Phospholipases are defined by the enzymatic reaction they catalyze. The classes are phospholipase A, which has members A1 and A2; phospholipase B, which can carry out the reactions of both A1 and A2; phospholipase C; and phospholipase D.

Phospholipase A$_2$ (PLA$_2$) catalyses the hydrolysis of the sn-2 position of glycerophospholipids to yield fatty acids and lysophospholipids. Phospholipase C (PLC) converts phosphatidylinositol 4,5-bisphosphate (PIP$_2$) to inositol 1,4,5-trisphosphate (IP$_3$) and diacylglycerol (DAG). DAG and IP$_3$ each control diverse cellular processes and are also substrates for synthesis of other important signaling molecules. PLC is thus central to many important interlocking regulatory networks. Phospholipase D (PLD) is an essential enzyme responsible for the production of the lipid second messenger phosphatidic acid (PA), which is involved in fundamental cellular processes, including membrane trafficking, actin cytoskeleton remodeling, cell proliferation and cell survival.
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<th><strong>Phospholipase Inhibitors &amp; Modulators</strong></th>
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| **1-Linoleoyl Glycerol**  (1-Linoleoyl-rac-glycerol; 1-Monolinolein)  
  **Cat. No.: HY-111346**  
  **Bioactivity:**  1-Linoleoyl glycerol (1-LG) is a fatty acid glycerol that has been isolated from S. chinensis roots.  
  **Purity:**  99.0%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 100 mg, 500 mg |
| **2-(E-2-decenoylamino)ethyl 2-(cyclohexylethyl) sulfide**  
  **Cat. No.: HY-100287**  
  **Bioactivity:**  2-(E-2-decenoylamino)ethyl 2-(cyclohexylethyl) sulfide is a compound that inhibits stress-induced ulcer and low toxicity, and can maintain the content of phospholipase A2 and prostaglandin E2 in ulcerated rats induced by water immersed restrained stress.  
  **Purity:**  >98%  
  **Clinical Data:**  No Development Reported  
  **Size:**  1 mg, 5 mg, 10 mg |
| **AA26-9**  
  **Cat. No.: HY-18522**  
  **Bioactivity:**  AA26-9 is a potent and broad spectrum serine hydrolase inhibitor.  
  **Purity:**  99.78%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg |
| **CAY10650**  
  **Cat. No.: HY-10801**  
  **Bioactivity:**  CAY10650 is a highly potent cytosolic phospholipase A2α (cPLA2α) inhibitor with an IC₅₀ value of 12 nM.  
  **Purity:**  98.0%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 1 mg, 5 mg, 10 mg, 50 mg |
| **D-Erythro-dihydrosphingosine**  
  **Cat. No.: HY-W019838**  
  **Bioactivity:**  D-Erythro-dihydrosphingosine directly inhibits cytosolic phospholipase A₂α (cPLA₂α) activity.  
  **Purity:**  >98%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg |
| **D609**  
  **Cat. No.: HY-70072**  
  **Bioactivity:**  D609 is a selective competitive inhibitor of phosphatidylcholine-specific phospholipase C (PC-PLC), with Kᵢ of 6.4 μM, used for antiviral and antitumor research.  
  **Purity:**  98.0%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg |
| **Darapladib**  
  **Cat. No.: HY-10521**  
  **Bioactivity:**  Darapladib is a potent inhibitor of lipoprotein-associated phospholipase A2 (Lp-PLA₂) with IC₅₀ of 0.25 nM.  
  **Purity:**  99.95%  
  **Clinical Data:**  Phase 3  
  **Size:**  10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg |
| **Ecopladib**  
  **Cat. No.: HY-U00037**  
  **Bioactivity:**  Ecopladib is a sub-micromolar inhibitor of cytosolic phospholipase A₂α (cPLA₂α), with IC₅₀ of 0.15 μM and 0.11 μM in the GLU micelle and rat whole blood assays, respectively.  
  **Purity:**  >98%  
  **Clinical Data:**  No Development Reported  
  **Size:**  1 mg, 5 mg, 10 mg, 20 mg |
| **FIPI**  
  **Cat. No.: HY-12807**  
  **Bioactivity:**  FIPI is a derivative of halopemide which potently inhibits both PLD1 and PLD2 with IC₅₀ of 25 nM and 20 nM, respectively.  
  **Purity:**  99.07%  
  **Clinical Data:**  No Development Reported  
  **Size:**  10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg |
| **Levobupivacaine hydrochloride**  
  **Cat. No.: HY-B0653A**  
  **Bioactivity:**  Levobupivacaine HCl is a local anaesthetic compound belonging to the amino amide group; long-acting local anesthetic.  
  **Purity:**  99.85%  
  **Clinical Data:**  Launched  
  **Size:**  10mM x 1mL in DMSO, 10 mg, 50 mg, 100 mg, 200 mg, 500 mg |
Lp-PLA2 -IN-1  
**Cat. No.:** HY-19757  
**Bioactivity:** inhibit Lp-PLA2 activity, processes for their preparation, to compositions containing them and to their use in the treatment of diseases associated with the activity of Lp-PLA2, for example atherosclerosis, Alzheimer’s disease.  
**Purity:** 99.38%  
**Clinical Data:** No Development Reported  
**Size:** 10mM x 1mL in DMSO, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

LY 178002  
**Cat. No.:** HY-101579  
**Bioactivity:** LY 178002 is a potent inhibitor of cyclooxygenase, 5-1ipoxygenase, phospholipase A2 and cellular production of LTB4 by human polymorphonuclear leukocytes, with IC₅₀ of 0.6 μM for 5-1ipoxygenase.  
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg, 10 mg, 20 mg

MAFP (Methyl Arachidonyl Fluorophosphonate)  
**Cat. No.:** HY-103334  
**Bioactivity:** MAFP (Methyl Arachidonyl Fluorophosphonate) is an selective, active-site directed and irreversible inhibitor of cPLA2 and iPLA2. MAFP is also a potent irreversible inhibitor of anandamide amidase.  
**Purity:** 98.0%  
**Clinical Data:** No Development Reported  
**Size:** 27 mM * 500 uL in Methyl Acetate, 27 mM * 100 uL in Methyl Acetate,

ML348 (GNF-Pf-1127)  
**Cat. No.:** HY-100736  
**Bioactivity:** ML348 is a selective and reversible lysophospholipase 1 (LYPLA1) inhibitor (IC50 = 210 nM). Exhibits 14-fold selectivity for LYPLA1 over LYPLA2. Also selective over a panel of ~30 other serine hydrolases. Target: LYPLA1 [1] IC 50 210 nM [1]  
**Purity:** 99.59%  
**Clinical Data:** No Development Reported  
**Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Quinacrine dihydrochloride (Mepacrine dihydrochloride; SN-390)  
**Cat. No.:** HY-13735A  
**Bioactivity:** Quinacrine is a fluorescent probe for the conformational transitions of the cholinergic receptor protein. Quinacrine shows activity in the low μM range with a mean IC50 of 2.30 μM In the patient AML cells. IC50 value: 2.30 μM (for AML cells)  
**Target:** in vitro: Quinacrine is a fluorescent probe for the…  
**Purity:** 98.05%  
**Clinical Data:** Phase 2  
**Size:** 10mM x 1mL in DMSO, 100 mg, 500 mg

ML349  
**Cat. No.:** HY-100737  
**Bioactivity:** ML349 is a potent and specific (acyl protein thioesterase 2 (APT-2)) inhibitor with a Ki of 120 nM. ML349 is also a potent inhibitor of LYPLA2 with an IC₅₀ of 144 nM.  
**Purity:** 98.90%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg

Tanshinone I (Tanshinone A)  
**Cat. No.:** HY-N0134  
**Bioactivity:** Tanshinone I is an inhibitor of type IIA human recombinant sPLA2 (IC₅₀=11 μM) and rabbit recombinant cPLA2 (IC₅₀=82 μM).  
**Purity:** 98.0%  
**Clinical Data:** Phase 4  
**Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

U-73122  
**Cat. No.:** HY-13419  
**Bioactivity:** U-73122 is an inhibitor of phospholipase C (PLC), phospholipase A2, and 5-LO (5-lipoxygenase).  
**Purity:** 98.17%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 50 mg

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**Varespladib**  
(LY315920)  
Cat. No.: HY-13402

**Bioactivity:**  
LY315920 (Varespladib) is a potent and selective human non-pancreatic secretory phospholipase A2 (sPLA) inhibitor with IC50 of 7 nM. IC50 value: 7 nM Target: sPLA2 in vitro. LY315920 exhibits the significant inhibitory effect on sPLA2 activity in serum from various species including rat, rabbit,...

**Purity:**  
98.03%

**Clinical Data:**  
Phase 3

**Size:**  
10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg

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**Varespladib methyl**  
(A-002; LY333013; S-3013)  
Cat. No.: HY-17448

**Bioactivity:**  
Varespladib methyl is a selective inhibitor of group II secretory phospholipase A2 (PLA2).

**Purity:**  
>98%

**Clinical Data:**  
Phase 3

**Size:**  
1 mg