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.

1-Linoleoyl Glycerol

(1-Linoleoyl-rac-glycerol; 1-Monolinolein) Cat. No.: HY-111346

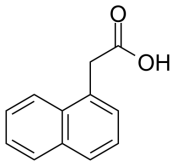
1-Linoleoyl Glycerol is a fatty acid glycerol that has been isolated from S. chinensis roots.

Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg, 500 mg

1-Naphthaleneacetic acid

(1-Naphthylacetic acid) Cat. No.: HY-18570

1-Naphthaleneacetic acid (1-Naphthylacetic acid), a synthetic auxin, can promote plant growth. 1-Naphthaleneacetic acid also is an inhibitor of **PLA_2**, with an **IC_{50}** of 13.16 μM.

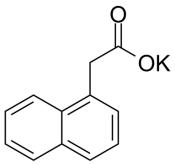


Purity: 99.82%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 500 mg, 5 g

1-Naphthaleneacetic acid potassium salt

(Potassium 1-Naphthaleneacetate) Cat. No.: HY-18570A

1-Naphthaleneacetic acid potassium salt (Potassium 1-Naphthaleneacetate), a synthetic auxin, can promote plant growth. 1-Naphthaleneacetic acid potassium salt also is an inhibitor of **PLA_2**, with an **IC_{50}** of 13.16 μM.

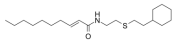


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

2-(E-2-decenoylamino)ethyl 2-(cyclohexylethyl) sulfide

Cat. No.: HY-100287

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.

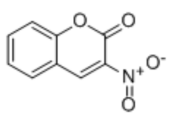


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

3-Nitrocoumarin

Cat. No.: HY-111919

3-Nitrocoumarin (3-NC) is a potent and selective **Phospholipase C-γ (PLC-γ)** inhibitor.

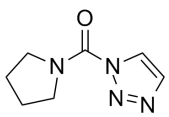


Purity: 100.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

AA26-9

Cat. No.: HY-18522

AA26-9 is a potent and broad spectrum **serine hydrolase** inhibitor. AA26-9 targets included serine peptidases, lipases, amidases, esterases, and thioesterases. AA26-9 shows inhibitory activity against approximately 1/3 of the 40+ serine hydrolases detected in immortalized T cell lines .

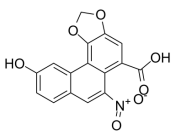


Purity: 98.03%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Aristolochic acid C

Cat. No.: HY-N1450

Aristolochic acid C is a derivative of Aristolochic acid. Aristolochic acid is a phospholipase A_2 (**PLA2**) inhibitor, which disrupts cortical microtubule arrays and root growth in Arabidopsis.

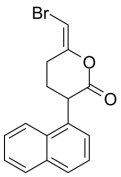


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Bromoenol lactone

((6E)-Bromoenol lactone) Cat. No.: HY-107411

Bromoenol lactone ((6E)-Bromoenol lactone) is a suicide-based irreversible, selective, potent inhibitor of **calcium-independent phospholipase A_2 ($iPLA_2\beta$)** with an **IC_{50}** value of approximately 7 μM, which inhibits antigen-stimulated mast cell exocytosis without blocking Ca^{2+} influx.

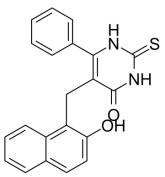


Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mg, 25 mg, 50 mg, 100 mg

Cambinol

Cat. No.: HY-100732

Cambinol is a **SIRT1** and **SIRT2** inhibitor with **IC_{50}** values of 56 μM and 59 μM, respectively. Cambinol is a potent brain penetrant **neutral sphingomyelinase (N-SMase)** inhibitor (exosome inhibitor).

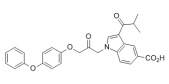


Purity: 99.70%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

CAY10650

Cat. No.: HY-10801

CAY10650 is a highly potent cytosolic phospholipase A2α **(cPLA2α)** inhibitor with an **IC_{50}** value of 12 nM. CAY10650 suppresses lipid droplets formation and PGE2 secretion.

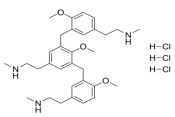


Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg

Compound 48/80 trihydrochloride

(C48/80 trihydrochloride) Cat. No.: HY-130592

Compound 48/80 trihydrochloride (C48/80 trihydrochloride) is a mixture of condensation products of N-methyl-p-methoxyphenethylamine with formaldehyde. Compound 48/80 trihydrochloride is also a **histamine** releaser and a **mast cell** degranulator.

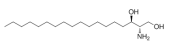


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

D-Erythro-dihydrosphingosine

Cat. No.: HY-W019838

D-Erythro-dihydrosphingosin directly inhibits cytosolic phospholipase $A_2\alpha$ (**cPLA$_2\alpha$**) activity.

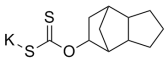


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg

D609

Cat. No.: HY-70072

D609 is a selective competitive inhibitor of **phosphatidyl choline-specific phospholipase C (PC-PLC)**, with K_i of 6.4 μM.

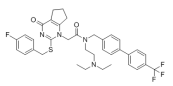


Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Darapladib

(SB-480848) Cat. No.: HY-10521

Darapladib is a potent inhibitor of lipoprotein-associated phospholipase A2 (**Lp-PLA$_2$**) with **IC$_{50}$** of 0.25 nM.

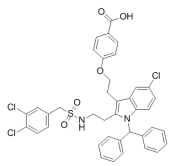


Purity: 99.95%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Ecopladib

(PLA 725) Cat. No.: HY-U00037

Ecopladib is a sub-micromolar inhibitor of cytosolic **phospholipase A2α (cPLA2α)**, with **IC$_{50}$**s of 0.15 μM and 0.11 μM in the GLU micelle and rat whole blood assays, respectively.

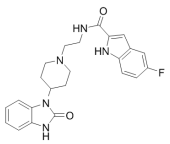


Purity: 95.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg

FIPI

(5-Fluoro-2-indolyl deschlorohalopemide) Cat. No.: HY-12807

FIPI is a derivative of halopemide which potently inhibits both **PLD1** and **PLD2** with **IC$_{50}$**s of 25 nM and 20 nM, respectively.

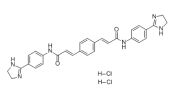


Purity: 99.49%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

GW4869

Cat. No.: HY-19363

GW4869 is a noncompetitive **neutral sphingomyelinase (N-SMase)** inhibitor with an **IC$_{50}$** of 1 μM. GW4869 is an inhibitor of **exosome** biogenesis/release.

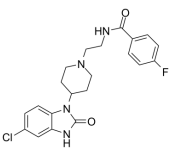


Purity: 95.26%
Clinical Data: No Development Reported
Size: 2 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Halopemide

Cat. No.: HY-119093

Halopemide is a potent **phospholipase D (PLD)** inhibitor, with **IC$_{50}$**s of 220 and 310 nM for human PLD1 and PLD2, respectively. Halopemid is a **dopamine receptors** antagonist, and acts a psychotropic agent.

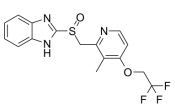


Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

Lansoprazole

(AG-1749) Cat. No.: HY-13662

Lansoprazole (AG 1749) is an orally active proton pump inhibitor which prevents the stomach from producing acid. Lansoprazole (AG 1749) is a potent brain penetrant **neutral sphingomyelinase (N-SMase)** inhibitor (exosome inhibitor).

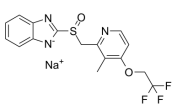


Purity: >98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 500 mg, 1 g, 5 g

Lansoprazole sodium

(AG-1749 sodium) Cat. No.: HY-13662A

Lansoprazole sodium (AG 1749 sodium) is an orally active proton pump inhibitor which prevents the stomach from producing acid. Lansoprazole sodium (AG 1749 sodium) is a potent brain penetrant **neutral sphingomyelinase (N-SMase)** inhibitor (exosome inhibitor).

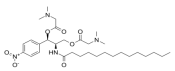


Purity: >98%
Clinical Data: Launched
Size: 500 mg

LCL521

Cat. No.: HY-103593

LCL521 is an **acid ceramidase** (**ACDase**) inhibitor. LCL521 also inhibits the lysosomal **acid sphingomyelinase** (**ASMase**).

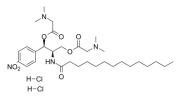


Purity: >95.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

LCL521 dihydrochloride

Cat. No.: HY-103593A

LCL521 dihydrochloride is an **acid ceramidase** (**ACDase**) inhibitor. LCL521 also inhibits the lysosomal **acid sphingomyelinase** (**ASMase**).

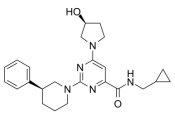


Purity: 98.23%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

LEI-401

Cat. No.: HY-131181

LEI-401 is a first-in-class, selective, and CNS-active **NAPE-PLD** (N-acylphosphatidylethanolamine phospholipase D) inhibitor, with an IC_{50} of 27 nM. LEI-401 modulates emotional behavior in mice.

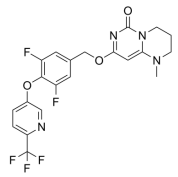


Purity: 99.93%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Lp-PLA2-IN-1

Cat. No.: HY-19757

Lp-PLA2-IN-1 is a potent **Lipoprotein-associated phospholipase A2 (Lp-PLA2)** inhibitor. Lp-PLA2-IN-1 has the potential for atherosclerosis, Alzheimer's disease research.

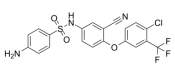


Purity: 99.46%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

Lp-PLA2-IN-3

Cat. No.: HY-133149

Lp-PLA2-IN-3 is a potent and orally bioavailable **lipoprotein-associated phospholipase A2 (Lp-PLA2)** inhibitor, with an IC_{50} of 14 nM for recombinant human Lp-PLA2 (rhLpPLA2).

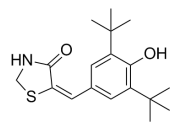


Purity: 99.47%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

LY 178002

Cat. No.: HY-101579

LY 178002 is a potent inhibitor of **5-lipoxygenase (5-LPO)**, **phospholipase A2**, with IC_{50} of 0.6 μM for 5-lipoxygenase, inhibits cellular production of LTB4 by human polymorphonuclear leukocytes, and shows relatively weak inhibition on **cyclooxygenase**.

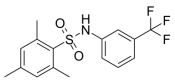


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

m-3M3FBS

Cat. No.: HY-19619

m-3M3FBS is a potent **phospholipase C (PLC)** activator. m-3M3FBS stimulates superoxide generation in human neutrophils, upregulates intracellular calcium concentration, and stimulates inositol phosphate generation in various cell lines.



Purity: >98%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

MAFP

(Methyl Arachidonyl Fluorophosphonate)

Cat. No.: HY-103334

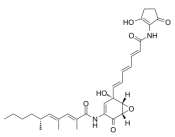
MAFP (Methyl Arachidonyl Fluorophosphonate) is an selective, active-site directed and irreversible inhibitor of **cPLA2** and **iPLA2**. MAFP is also a potent irreversible inhibitor of **anandamide amidase**.

Purity: >98.0%
Clinical Data: No Development Reported
Size: 5 mg (27 mM * 500 μL in Methyl acetate)

Manumycin A

Cat. No.: HY-N6796

Manumycin A is an antibiotic. Manumycin A acts as a selective, competitive inhibitor of protein **farnesyltransferase (FTase)** with respect to farnesylpyrophosphate (K_i =1.2 μM), and as a noncompetitive inhibitor with respect to the **Ras** protein.



Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

Melittin

Cat. No.: HY-P0233

Melittin is a PLA_2 activator, stimulates the activity of the low molecular weight PLA_2, while it does not the increase activity of the high molecular weight PLA_2.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

Melittin TFA

Cat. No.: HY-P0233A

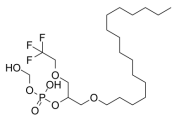
Melittin TFA is a **PLA_2** activator, stimulates the activity of the low molecular weight PLA_2, while it does not the increase activity of the high molecular weight PLA_2.

Purity: 99.56%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

MJ33-OH

Cat. No.: HY-129944

MJ33-OH is a metabolite of MJ33. MJ33 is an active-site-directed, specific, competitive, and reversible **phospholipase A2 (PLA2)** inhibitor. MJ33 blocks the calcium-independent phospholipase A2 (iPLA2) activity of Prdx6.

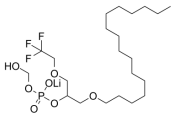


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

MJ33-OH lithium

Cat. No.: HY-129944A

MJ33-OH lithium is a metabolite of MJ33. MJ33 is an active-site-directed, specific, competitive, and reversible **phospholipase A2 (PLA2)** inhibitor. MJ33 blocks the calcium-independent phospholipase A2 (iPLA2) activity of Prdx6.



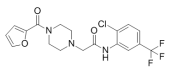
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

ML348

(GNF-Pf-1127)

Cat. No.: HY-100736

ML348 is a selective and reversible **lysophospholipase 1 (LYPLA1)** inhibitor with an **IC_{50}** of 210 nM, and barely inhibits LYPLA2.

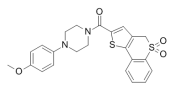


Purity: 99.88%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

ML349

Cat. No.: HY-100737

ML349 is a potent and specific **acyl protein thioesterase 2** (**APT-2**) inhibitor with a **K_i** of 120 nM. ML349 is also an inhibitor of **LYPLA2** with an **IC_{50}** of 144 nM.



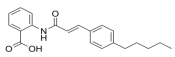
Purity: 99.11%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg

N-(p-amylcinnamoyl) Anthranilic Acid

(ACA)

Cat. No.: HY-118628

N-(p-amylcinnamoyl) Anthranilic Acid (ACA) is a broad spectrum **Phospholipase A_2 (PLA_2)** inhibitor and **TRP channel** blocker.



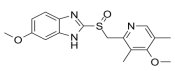
Purity: 98.81%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 25 mg, 50 mg, 100 mg

Omeprazole

(H 16868)

Cat. No.: HY-B0113

Omeprazole (H 16868), a **proton pump** inhibitor (PPI), is available for treatment of acid-related gastrointestinal disorders. Omeprazole shows competitive inhibition of **CYP2C19** activity with a **K_i** of 2 to 6 μM.



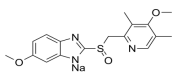
Purity: >98.0%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg

Omeprazole sodium

(H 16868 sodium)

Cat. No.: HY-B0113A

Omeprazole sodium (H 16868 sodium), a **proton pump** inhibitor (PPI), is available for treatment of acid-related gastrointestinal disorders. Omeprazole sodium shows competitive inhibition of **CYP2C19** activity with a **K_i** of 2 to 6 μM.

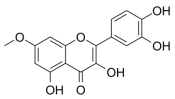


Purity: 98.03%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg

Rhamnetin

Cat. No.: HY-N7036

Rhamnetin is a quercetin derivative found in Coriandrum sativum, inhibits secretory **phospholipase A2**, with antioxidant and anti-inflammatory activity.



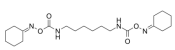
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RHC 80267

(U-57908)

Cat. No.: HY-107416

RHC 80267 (U-57908) is a potent and selective inhibitor of **diacylglycerol lipase (DAGL)** (with **IC_{50}** of 4 μM in canine platelets). RHC-80267 inhibits **cholinesterase** activity with an **IC_{50}** of 4 μM, thereby enhancing the relaxation evoked by **acetylcholine**.



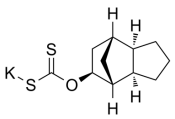
Purity: 99.51%
Clinical Data: No Development Reported
Size: 10 mg, 25 mg, 50 mg, 100 mg

SPK-601

(LMV-601)

Cat. No.: HY-70083

SPK-601 (LMV-601) is an inhibitor of the **phosphatidylcholine-specific phospholipase C (PC-PLC)**. SPK-601 also can be used as an antimicrobial agent.

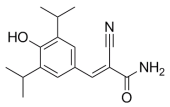


Purity: 98.19%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

ST271

Cat. No.: HY-103097

ST271 is a potent inhibitor of protein tyrosine kinase (**PTK**), inhibits **phospholipase D** activation stimulated by fMet-Leu-Phe and PAF, with IC_{50}s of 6.7 and 9 μM, respectively.



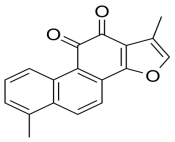
Purity: 98.90%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Tanshinone I

(Tanshinone A)

Cat. No.: HY-N0134

Tanshinone I is an inhibitor of type IIA human recombinant **sPLA$_2$** (IC_{50}=11 μM) and rabbit recombinant **cPLA$_2$** (IC_{50}=82 μM).



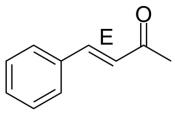
Purity: >98.0%
Clinical Data: Launched
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

trans-Benzylideneacetone

(trans-Benzalacetone)

Cat. No.: HY-W012595A

trans-Benzylideneacetone (trans-Benzalacetone), a metabolite of gram-negative entomopathogenic bacterium Xenorhabdus nematophila, is an enzyme inhibitor against **phospholipase A2 (PLA2)**. trans-Benzylideneacetone is an immunosuppressant.

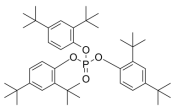


Purity: >98%
Clinical Data: No Development Reported
Size: 500 mg

Tris(2,4-di-tert-butylphenyl)phosphate

Cat. No.: HY-136177

Tris(2,4-di-tert-butylphenyl)phosphate is an active compound from the leaves of Vitex negundo L. shows anti-inflammatory activity with evidence of inhibition for **secretory Phospholipase A$_2$ (sPLA$_2$)** through molecular docking.

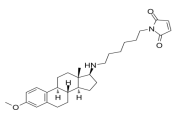


Purity: >98.0%
Clinical Data: No Development Reported
Size: 100 mg

U-73122

Cat. No.: HY-13419

U-73122 is a **phospholipase C (PLC)** and **5-LO (5-lipoxygenase)** inhibitor with an $IC_{50}$of 1-2.1 μM for PLC.

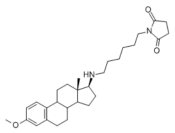


Purity: 98.17%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

U-73343

Cat. No.: HY-108630

U-73343, an inhibitor of **PLC (putative phospholipase C)**-dependent processes, is an analog of U-73122 and can be used as a negative control.



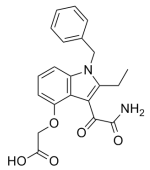
Purity: 99.31%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg

Varespladib

(LY315920)

Cat. No.: HY-13402

Varespladib (LY315920) is a potent and selective **group IIA, secretory phospholipase A$_2$ (sPLA$_2$)** inhibitor with an IC_{50} of 9 nM.



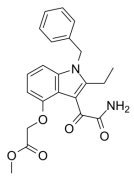
Purity: 98.68%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Varespladib methyl

(A-002; LY333013)

Cat. No.: HY-17448

Varespladib methyl (A-002; LY333013) is a selective inhibitor of group II secretory phospholipase A2 (**PLA2**).



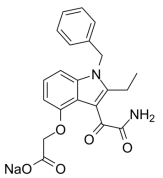
Purity: 99.45%
Clinical Data: Phase 3
Size: 1 mg

Varespladib sodium

(LY315920 sodium)

Cat. No.: HY-13402A

Varespladib sodium (LY315920 sodium) is a potent and selective **group IIA, secretory phospholipase A$_2$ (sPLA$_2$)** inhibitor with an IC_{50} of 9 nM.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg