Acyltransferase

Diacylglycerol acyltransferase; Diglyceride acyltransferase; acyl-CoA:cholesterol acyltransferase; mono-acylglycerol acyltransferase

Acyltransferase (AT) catalyzes the transfer of an acyl moiety from acyl-coenzyme A (acyl-CoA) to an acceptor. Acyltransferases play important roles in the maintenance of homeostasis in the human body and have been linked to various diseases. The Acyltransferase family includes acyl-CoA:cholesterol AT (ACAT), diacylglycerol AT (DGAT), and monoacylglycerol AT (MGAT) for the metabolism of lipids.

ACAT (acyl-coenzyme A:cholesterol acyltransferase) is an intracellular enzyme that catalyzes the formation of cholesterol esters from cholesterol and fatty acyl-coenzyme A. In mammals, two isoenzymes, ACAT1 and ACAT2, encoded by two different genes, exist. ACATs play important roles in cellular cholesterol homeostasis in various tissues.

DGAT (acyl-CoA:diacylglycerol acyltransferase) is an integral membrane enzyme that catalyses the last step of triacylglycerol synthesis from diacylglycerol and acyl-CoA. DGAT activity resides mainly in two distinct membrane bound polypeptides, known as DGAT1 and DGAT2.

MGAT (acyl-CoA:monoacylglycerol acyltransferase) catalyzes the synthesis of diacylglycerol, the precursor of physiologically important lipids such as triacylglycerol and phospholipids. In the intestine, MGAT plays a major role in the absorption of dietary fat because resynthesis of triacylglycerol is required for the assembly of lipoproteins that transport absorbed fat to other tissues.

Acyltransferase Inhibitors & Activators

10,12-Tricosadiynoic acid

Cat. No.: HY-135425

10,12-Tricosadiynoic acid is a highly specific, selective, high affinity and orally active **acyl-CoA oxidase-1 (ACOX1)** inhibitor. 10,12-Tricosadiynoic acid can treat high fat diet- or obesity-induced metabolic diseases by improving mitochondrial lipid and ROS metabolism.

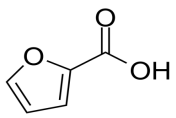
Purity: 96.71%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg

2-Furoic acid

(Furan-2-carboxylic acid)

Cat. No.: HY-W012946

2-Furoic acid (Furan-2-carboxylic acid) is an organic compound produced through furfural oxidation. 2-Furoic acid exhibits hypolipidemic effet, lowers both serum cholesterol and serum triglyceride levels in rats.



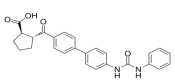
Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg

A 922500

(DGAT-1 Inhibitor 4a)

Cat. No.: HY-10038

A 922500 (DGAT-1 Inhibitor 4a) is a potent, selective, and orally bioavailable **diacylglycerol acyltransferase 1 (DGAT-1)** inhibitor with IC_{50}s of 9 and 22 nM against human and mouse DGAT-1, respectively.

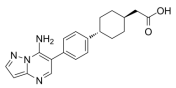


Purity: 98.50%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

ABT-046

Cat. No.: HY-15197

ABT-046 is a potent, selective, and orally efficacious acyl CoA:diacylglycerol acyltransferase 1 (**DGAT-1**) inhibitor (IC_{50}= 8 nM).

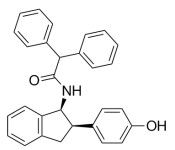


Purity: 99.25%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

ACAT-IN-1 cis isomer

Cat. No.: HY-101648

ACAT-IN-1 cis isomer is a potent **ACAT** inhibitor with an IC_{50} of 100 nM.



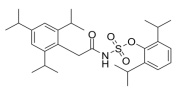
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Avasimibe

(CI-1011; PD-148515)

Cat. No.: HY-13215

Avasimibe is an oral inhibitor of **acyl-Coenzyme A:cholesterol acyltransferase (ACAT)** with IC_{50}s of 24 and 9.2 μM for ACAT1 and ACAT2, respectively.

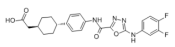


Purity: 99.74%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 200 mg

AZD3988

Cat. No.: HY-50861

AZD3988 is a **diacylglycerol acyl transferase-1 (DGAT-1)** inhibitor with IC_{50}s of 6, 5, 11 nM for human, rat, and mouse DGAT-1, respectively.

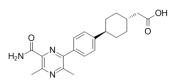


Purity: 98.62%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg

AZD7687

Cat. No.: HY-15497

AZD7687 is a potent, selective, reversible and orally active **diacylglycerol acyltransferase 1 (DGAT1)** inhibitor with an IC_{50} of 80 nM for **human DGAT1**. AZD7687 can be used for type 2 diabetes mellitus and obesity research.

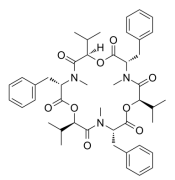


Purity: 99.04%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Beauvericin

Cat. No.: HY-N6739

Beauvericin is a Fusarium mycotoxin. Beauvericin inhibits acyl-CoA: cholesterol acyltransferase (**ACAT**) activity with an IC_{50} of 3 μM in an enzyme assay using rat liver microsomes.

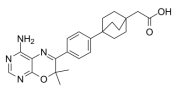


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

DGAT-1 inhibitor 2

Cat. No.: HY-50670

DGAT-1 inhibitor 2 is an effective inhibitor of DGAT-1;antiobesity agents. IC50 value: Target: DGAT-1 Acyl-CoA:diacylglycerol acyltransferase 1 (DGAT1) is one of two known DGAT enzymes that catalyze the final step in triglyceride synthesis.

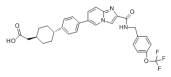


Purity: 95.94%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

DGAT1-IN-1

Cat. No.: HY-12425

DGAT1-IN-1 is a potent DGAT1 inhibitor with IC50 of < 10 nM(cell lysate from Hep3B cells overexpressing human DGAT1).

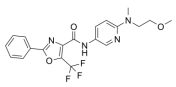


Purity: 95.14%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

DGAT1-IN-3

Cat. No.: HY-16434

DGAT1-IN-3 is a potent, selective and orally bioavailable inhibitor of **DGAT-1**, with IC_{50}s of 38 nM for human **DGAT-1** and 120 nM for rat **DGAT-1**. DGAT1-IN-3 could be used to research of obesity, dyslipidemia, and metabolic syndrome.

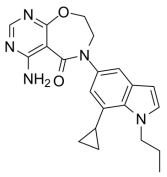


Purity: 99.86%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Diacylglycerol acyltransferase inhibitor-1

Cat. No.: HY-112851

Diacylglycerol acyltransferase inhibitor-1 is a diacylglycerol acyltransferase **(DGAT1)** inhibitor.

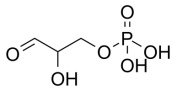


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

DL-Glyceraldehyde 3-phosphate

Cat. No.: HY-113054

DL-Glyceraldehyde 3-phosphate is an intermediate in several metabolic pathways, including glycolysis and gluconeogenesis. DL-Glyceraldehyde 3-phosphate is a potent inhibitor of the growth of **E. coli**. DL-Glyceraldehyde 3-phosphate is a competitive inhibitor of the **acyltransferase**.

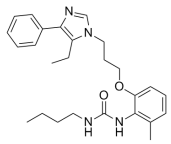


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

E-5324

Cat. No.: HY-19183

E-5324 is potent inhibitor of acyl-CoA:cholesterol acyltransferase (**ACAT**) with IC_{50}s of 44 to 190 nM.

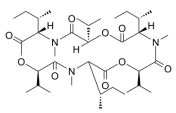


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Enniatin A

Cat. No.: HY-N6702

Enniatin A is a Fusarium mycotoxin. Enniatin A inhibits acyl-CoA: cholesterol acyltransferase (**ACAT**) activity with an IC_{50} of 22 μM in an enzyme assay using rat liver microsomes.

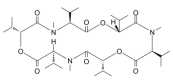


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

Enniatin B

Cat. No.: HY-N3806

Enniatin B is a Fusarium mycotoxin. Enniatin B inhibits acyl-CoA: cholesterol acyltransferase (**ACAT**) activity with an IC_{50} of 113 μM in an enzyme assay using rat liver microsomes. Enniatins B decreases the activation of **ERK** (p44/p42).

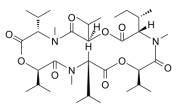


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

Enniatin B1

Cat. No.: HY-N3807

Enniatin B1 is a Fusarium mycotoxin. Enniatin B1 inhibits acyl-CoA: cholesterol acyltransferase (**ACAT**) activity with an IC_{50} of 73 μM in an enzyme assay using rat liver microsomes. Enniatin B1 crosss the blood-brain barrier.

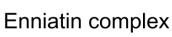


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg

Enniatin complex

Cat. No.: HY-N6706

Enniatin complex is a mixture of cyclohexadepsipeptides isolated largely from Fusarium species of fungi, and has ionophoric, antibiotic, and in vitro hypolipidaemic properties.



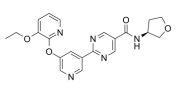
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Ervogastat

(PF-06865571)

Cat. No.: HY-111620

Ervogastat (PF-06865571) is a potent and well-tolerated **diacylglycerol acyltransferase 2 inhibitor (DGAT2i)**. Ervogastat alone reduces steatosis and hepatic triglyceride levels in non-alcoholic steatohepatitis (NASH).

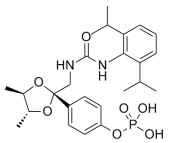


Purity: 98.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

FCE 28654

Cat. No.: HY-U00369

FCE 28654 is an inhibitor of acylCoA: cholesterol acyltransferase (**ACAT**), weakly inhibiting **ACAT** in microsomes from rabbit aorta and intestine, and monkey liver, with **IC_{50}**s of 2.55, 1.08 and 5.69 μM, respcetively.

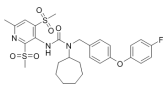


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

FR-190809

Cat. No.: HY-122078

FR-190809 is a potent, nonadrenotoxic, orally efficacious acyl-CoA:cholesterol O-acyltransferase (**ACAT**) inhibitor, with an **IC_{50}** of 45 nM.

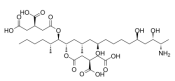


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Fumonisin B1

Cat. No.: HY-N6719

Fumonisin B1 is a mycotoxin produced from Fusarium moniliforme. Fumonisin B1 is a potent inhibitor of **sphingosine N-acyltransferase (ceramide synthase)** and disrupts de novo sphingolipid biosynthesis. Fumonisin B1 is the most abundant and toxic fumonisin.

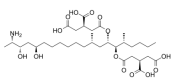


Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 1 mg

Fumonisin B2

Cat. No.: HY-N6723

Fumonisin B2, a mycotoxin produced by Fusarium moniliforme in various grains, is a potent inhibitor of **sphingosine N-acyltransferase (ceramide synthase)** and disrupts de novo sphingolipid biosynthesis.

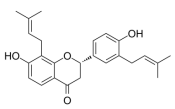


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg

Glabrol

Cat. No.: HY-N4193

Glabrol (Compound 1), One isoprenyl flavonoid was isolated from ethanol extract of licorice roots, is a potent and non-competitive **Acyl-coenzyme A: cholesterol acyltransferase (ACAT)** inhibitor with an **IC_{50}** value of 24.6 μM for rat liver microsomal ACAT activity.

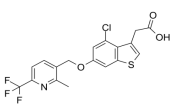


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

GOAT-IN-1

Cat. No.: HY-103479

GOAT-IN-1 is an inhibitor of **ghrelin O-acyltransferase (GOAT)**, which could be useful for the prophylaxis or treatment of obesity, diabetes, hyperlipidemia, metabolic, non-alcoholic fatty liver, steatohepatitis, sarcopenia, appetite control, alcohol/narcotic dependence,...

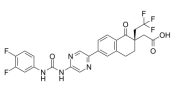


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

GSK2973980A

Cat. No.: HY-111417

GSK2973980A is a potent and selective **Acyl-CoA:diacylglycerol acyltransferase 1 (DGAT1)** inhibitor with an **IC_{50}** of 3 nM.

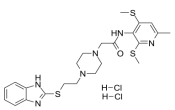


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

K-604 dihydrochloride

Cat. No.: HY-100400A

K-604 dihydrochloride is a potent and selective acyl-CoA:cholesterol acyltransferase 1 (**ACAT-1**) inhibitor with an **IC_{50}** of 0.45±0.06 μM.

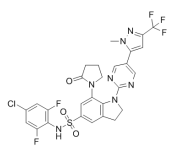


Purity: 98.51%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg

MGAT2-IN-1

Cat. No.: HY-101857

MGAT2-IN-1 is an orally active inhibitor of monoacylglycerol acyltransferase (MGAT2) with **IC_{50}** of 7.8 and 2.4 nM for human and mouse MGAT2, respectively.

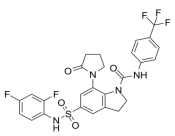


Purity: 99.49%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

MGAT2-IN-2

Cat. No.: HY-U00430

MGAT2-IN-2 is a potent and selective acyl CoA:monoacylglycerol acyltransferase 2 (**MGAT2**) inhibitor with an **IC_{50}** of 3.4 nM.

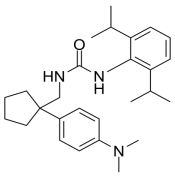


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Nevanimibe

(PD-132301; ATR-101) Cat. No.: HY-100399

Nevanimibe (PD-132301) is an orally active and selective acyl-coenzyme A:cholesterol O-acyltransferase 1 (**ACAT1**) inhibitor with an EC_{50} of 9 nM. Nevanimibe inhibits ACAT2 with an EC_{50} of 368 nM. Nevanimibe induces cell **apoptosis** and has the potential for adrenocortical cancer.

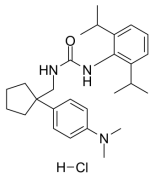


Purity: >98%
Clinical Data: Phase 2
Size: 1 mg, 5 mg

Nevanimibe hydrochloride

(PD-132301 hydrochloride; ATR101 hydrochloride) Cat. No.: HY-100399A

Nevanimibe hydrochloride (PD-132301 hydrochloride) is an orally active and selective acyl-coenzyme A:cholesterol O-acyltransferase 1 (**ACAT1**) inhibitor with an EC_{50} of 9 nM. Nevanimibe hydrochloride inhibits ACAT2 with an EC_{50} of 368 nM.

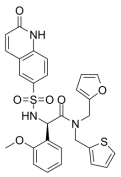


Purity: 99.77%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

OSMI-1

Cat. No.: HY-119738

OSMI-1 is a cell-permeable **O-GlcNAc transferase (OGT)** inhibitor with an IC_{50} value of 2.7 μM. OSMI-1 inhibits protein O-linked N-acetylglucosamine (O-GlcNAcylation) in several mammalian cell lines without qualitatively altering cell surface N- or O-linked glycans.

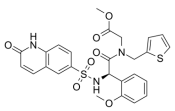


Purity: 98.22%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg

OSMI-2

Cat. No.: HY-135784

OSMI-2 (Compound 1b) is a cell-permeable **O-linked N-acetylglucosamine transferase (OGT)** inhibitor. Cells contain a large nuclear pool of partially spliced **OGT** transcript, and OSMI-2 increases detained intron splicing in cells.

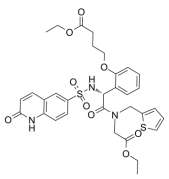


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

OSMI-3

Cat. No.: HY-135785

OSMI-3 (Compound 2b) is a potent, long-lasting, and cell-permeable **O-linked N-acetylglucosamine transferase (OGT)** inhibitor. Cells contain a large nuclear pool of partially spliced **OGT** transcript, and OSMI-3 increases detained intron splicing in cells.

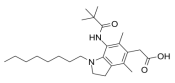


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Pactimibe

(CS-505 free base) Cat. No.: HY-100401

Pactimibe (CS-505 free base) is a dual **ACAT1/2** inhibitor with IC_{50}s of 4.9 μM and 3.0 μM, respectively. Pactimibe (CS-505 free base) inhibits **ACAT** with IC_{50}s of 2.0 μM, 2.7 μM, 4.7 μM in the liver, macrophages and THP-1 cells, respectively.

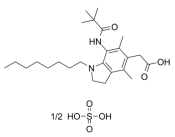


Purity: 98.07%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Pactimibe sulfate

(CS-505) Cat. No.: HY-100401A

Pactimibe sulfate (CS-505) is a dual **ACAT1/2** inhibitor with IC_{50}s of 4.9 μM and 3.0 μM, respectively. Pactimibe sulfate (CS-505) inhibits **ACAT** with IC_{50}s of 2.0 μM, 2.7 μM, 4.7 μM in the liver, macrophages and THP-1 cells, respectively.

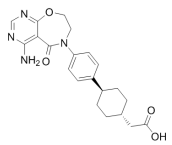


Purity: 98.22%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

PF-04620110

Cat. No.: HY-13009

PF-04620110 is a potent, selective and orally bioavailable **diglyceride acyltransferase-1 (DGAT-1)** inhibitor with an IC_{50} of 19 nM.

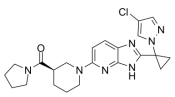


Purity: 99.30%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

PF-06424439

Cat. No.: HY-108341

PF-06424439 is an oral, potent and selective imidazopyridine **diacylglycerol acyltransferase 2 (DGAT2)** inhibitor with an IC_{50} of 14 nM.

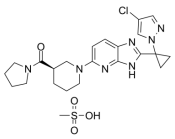


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

PF-06424439 methanesulfonate

Cat. No.: HY-108341A

PF-06424439 methanesulfonate is an oral, potent and selective imidazopyridine **diacylglycerol acyltransferase 2 (DGAT2)** inhibitor with an IC_{50} of 14 nM.

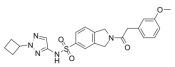


Purity: 99.94%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

PF-06471553

Cat. No.: HY-108339

PF-06471553 is a potent, selective and orally available **monoacylglycerol acyltransferase 3 (MGAT3)** inhibitor, with an IC_{50} of 92 nM.



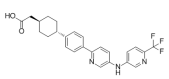
Purity: 98.29%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Pradigastat

(LCQ-908)

Cat. No.: HY-16278

Pradigastat (LCQ-908) is a potent, selective and orally active **diacylglycerol acyltransferase 1 (DGAT1)** inhibitor. Pradigastat has anti-obesity and anti-diabetic effects.

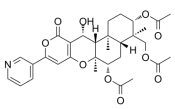


Purity: 98.39%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Pyripyropene A

Cat. No.: HY-117832

Pyripyropene A is a potent and selective **sterol O-acyltransferase 2 (SOAT2)/acyl-coenzyme A:cholesterol acyltransferase 2 (ACAT2)** inhibitor, with an IC_{50} of 0.07 μM. Pyripyropene A attenuates hypercholesterolemia and atherosclerosis in vivo.



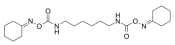
Purity: ≥97.0%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

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**.

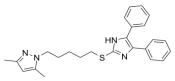


Purity: 99.51%
Clinical Data: No Development Reported
Size: 10 mg, 25 mg, 50 mg, 100 mg

RP 70676

Cat. No.: HY-101576

RP 70676 is a potent inhibitor of **ACAT**, with IC_{50} of 25 and 44 nM for rat and rabbit ACAT.

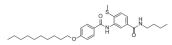


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RP-64477

Cat. No.: HY-16437

RP-64477 is a potent inhibitor of the cholesterol esterifying enzyme Acyl-coenzyme A:cholesterol O-acyltransferase (**ACAT**).

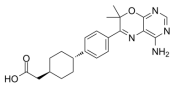


Purity: 99.68%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

T863

Cat. No.: HY-32219

T863 is an orally active, selective and potent **DGAT1 (Acyl-CoA:diacylglycerol acyltransferase 1)** inhibitor that interacts with the acyl-CoA binding site of DGAT1, and inhibits triacylglycerol synthesis in cells.

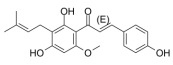


Purity: 98.32%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Xanthohumol

Cat. No.: HY-N1067

Xanthohumol is one of the principal flavonoids isolated from hops, the inhibitor of diacylglycerol acetyltransferase (**DGAT**), **COX-1** and COX-2, and shows anti-cancer and anti-angiogenic activities.

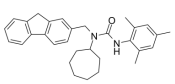


Purity: 99.84%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

YM-750

Cat. No.: HY-107396

YM-750 is a potent acyl-CoA:cholesterol acyltransferase **(ACAT)** inhibitor (IC_{50}=0.18 μM). ACAT catalyzes the formation of cholesteryl esters from cholesterol and long-chain fatty-acyl-coenzyme A.

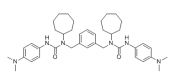


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 5 mg

YM17E

Cat. No.: HY-101627

YM17E is an inhibitor of acyl CoA:cholesterol acyltransferase (**ACAT**), with IC_{50} of 44 nM in rabbit liver microsomes in vitro.

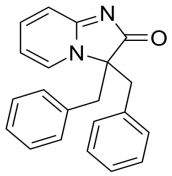


Purity: 97.11%
Clinical Data: No Development Reported
Size: 1 mg

ZSET-845

Cat. No.: HY-U00114

ZSET-845 is a cognitive enhancer which enhances **choline acetyltransferase** activity in the hippocampus in the rat.



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