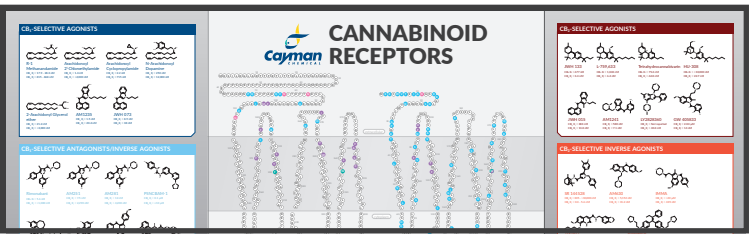
Cannabinoid Signaling

The cannabinoid receptors CB_1 and CB_2 can be activated by endogenous, synthetic, and plant cannabinoids. Cayman Chemical offers a broad collection of assay kits, antibodies, and ligands to study these receptors and related enzymes.

Request a copy of the Cannabinoid Receptor wall poster at www.caymanchem.com/literature

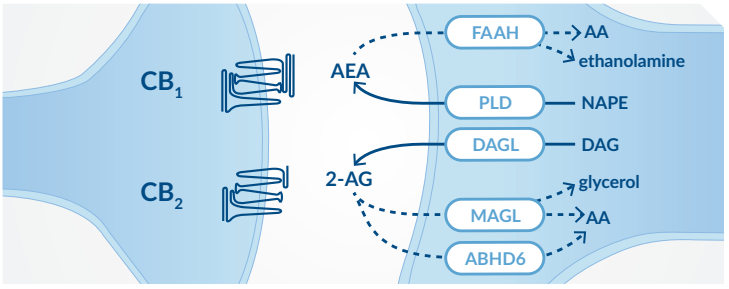


Cannabinoid Receptor Antibodies

Item No.	Product Name	Summary
10006590	CB_1 Receptor (C-Term) Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, mouse, rat • **Applications:** IHC, WB
101500	CB_1 Receptor Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, mouse, rat • **Applications:** IHC, WB
101550	CB_2 Receptor Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, mouse • **Applications:** IHC, WB
10010712	CB_2 Receptor Polyclonal FITC Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human • **Applications:** FC, IF

Endocannabinoids

Cayman offers a diverse collection of tools to study endogenous ligands for the cannabinoid receptors, arachidonoyl ethanolamide (AEA; Item No. 90050) and 2-arachidonoyl glycerol (2-AG; Item No. 62160), as well as enzymes that synthesize and degrade these endocannabinoids.



Endocannabinoid synthesis and hydrolysis

NAPE-PLD Antibodies

Item No.	Product Name	Summary
10305	NAPE-PLD (Internal) Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, mouse, rat • **Application:** WB
10306	NAPE-PLD (N-Term) Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, bovine, mouse, rat • **Application:** WB

MAGL Protein, Antibodies, and Assay Kit

Item No.	Product Name	Summary
10007812	Monoacylglycerol Lipase (human, recombinant)	**Source:** Active human recombinant C-terminal His-tagged protein expressed in *E. coli* **MW:** 39 kDa
10212	Monoacylglycerol Lipase (FL) Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, rat • **Applications:** ICC, IHC, WB
100035	Monoacylglycerol Lipase Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, bovine, mouse, rat • **Applications:** IHC, WB
705192	Monoacylglycerol Lipase Inhibitor Screening Assay Kit	A convenient colorimetric method for screening human MAGL inhibitors

MAGL Substrate and Inhibitors

Item No.	Product Name	Summary
10007904	Arachidonoyl-1-thio-Glycerol	A chromogenic substrate for measurement of MAGL activity
13158	JZL 184	A selective MAGL inhibitor (IC_{50}s = 8 nM and 4 µM for MAGL and FAAH in mouse brain membranes, respectively)
11777	KML29	A selective inhibitor of mouse, rat, and human MAGL (IC_{50}s = 15, 43, and 5.9 nM, respectively)
27348	MAGL Inhibitor Compound 23	A selective inhibitor of MAGL (IC_{50} = 80 nM) that inhibits the growth of some cancer cells *in vitro* and increases 2-AG in mouse brain and plasma
17583	MJN110	An N-hydroxysuccinimidyl carbamate that inhibits MAGL (IC_{50} = 9.1 nM)
13621	Pristimerin	A naturally occurring terpenoid that inhibits MAGL (IC_{50} = 93 nM)

View additional MAGL inhibitors at www.caymanchem.com

DAGL Inhibitors

Item No.	Product Name	Summary
18933	KT109	A selective inhibitor of DAGLβ (IC_{50} = 42 nM)
16419	LEI-106	An *in vitro* inhibitor of *sn*-1 DAGLα (IC_{50} = 18 nM)
14009	O-7460	A selective inhibitor of DAGLα (IC_{50} = 690 nM)
10005426	Orlistat	An inhibitor of human recombinant DAGLα (IC_{50} = 60 nM)
16432	RHC-80267	A selective inhibitor of DAGL (IC_{50} = 4 µM in canine platelets)

ABHD6 Inhibitors

Item No.	Product Name	Summary
15404	KT182	A potent inhibitor of ABHD6 (IC_{50}s = 1.7, 15.1, and 0.24 nM using Neuro2a membrane proteomes, recombinant ABHD6 in HEK293T cells, and Neuro2a cells *in situ*, respectively)
14818	KT195	A selective inhibitor of ABHD6 (IC_{50} = 10 nM)
16849	WWL123	A brain-penetrant inhibitor of ABHD6 (IC_{50} = 0.43 µM)

View additional ABHD6 inhibitors at www.caymanchem.com

FAAH Protein, Antibody, and Assay Kit

Item No.	Product Name	Summary
10010183	Fatty Acid Amide Hydrolase (human, recombinant)	**Source:** Human recombinant C-terminal His-tagged protein expressed in Sf21 cells • **MW:** 64.3 kDa
101600	Fatty Acid Amide Hydrolase Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, mouse, rat • **Applications:** IHC, WB
10005196	Fatty Acid Amide Hydrolase Inhibitor Screening Assay Kit	A convenient fluorescence-based method for screening FAAH inhibitors

FAAH Inhibitors

Item No.	Product Name	Summary
10005102	CAY10435	A selective inhibitor of rat FAAH (K_i = 0.57 nM)
19987	JNJ-42165279	A potent, irreversible FAAH inhibitor (IC_{50}s = 70 and 313 nM for human and rat forms, respectively) with activity *in vivo*, blocking FAAH activity in brain and periphery of rats and raising concentrations of endocannabinoids
10008661	JP104	An irreversible FAAH inhibitor (IC_{50} = 7.3 nM for the human recombinant enzyme when tested using radiolabeled oleamide)
13279	PF-3845	A selective, irreversible inhibitor of FAAH (K_i = 0.23 µM)
19306	PF-04457845	An orally active, irreversible FAAH inhibitor (IC_{50} = 7.2 nM)
10046	URB597	A selective FAAH inhibitor (IC_{50}s = 4.6 and 0.5 nM in brain membranes and intact neurons, respectively)

View additional FAAH inhibitors at www.caymanchem.com

Cannabinoid Transport

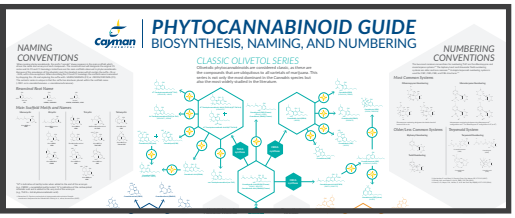
Item No.	Product Name	Summary
90060	AM404	A blocker of AEA reuptake with an IC_{50} of 1 µM in rat neurons and 5 µM in rat astrocytes
90052	Arvanil	Agonist activity potentiator of endogenous cannabinoids by inhibiting the reuptake of AEA
10005072	CAY10455	A fluorescent substrate for AEA transport
10007072	1-Palmitoyl-2-linoleoyl PE	A substrate used in studies involving the biosynthesis of AEA

View additional cannabinoid transport modulators at www.caymanchem.com

Phytocannabinoids

Cayman offers analytical standards for the many prominent phytocannabinoids unique to the *Cannabis* plant as well as their metabolites, newly identified homologs, and impurities. Cayman also offers multi-component standard mixtures to help expedite analysis.

Request a copy of the Phytocannabinoid Guide: Biosynthesis, Naming, and Numbering wall poster at www.caymanchem.com/literature



Solid Materials

Item No.	Product Name
9002438	(±)-Cannabicyclol
90080	Cannabidiol
9001574	Cannabidivarin
9001575	Cannabidivarinic Acid
15293	Cannabigerol
9001572	Cannabigerolic Acid
9002437	Cannabigerovarin
25469	Cannabigerovarinic Acid
25495	Cannabinol
29031	CBDB

View additional phytocannabinoids at www.caymanchem.com

Certified Solutions

Item No.	Product Name
ISO60163	(±)-Cannabichromene (CRM)*
18090	Cannabidiolic Acid (CRM)
23251	Phytocannabinoid Mixture 3 (CRM)
25077	Phytocannabinoid Mixture 6 (CRM)
21305	Phytocannabinoid Mixture 10 (CRM)
21306	Phytocannabinoid Mixture 11 (CRM) (1 ml, 250 µg/ml)
18091	Tetrahydrocannabivarin (CRM)
ISO60158	Δ^8-THC (CRM)*
ISO60157	Δ^9-THC (CRM)*
ISO60175	THCA-A (CRM)

**Isotopically labeled versions of these standards are available for mass spec analysis*

Discover Our Latest Phytocannabinoid News

Why Does Alkyl Chain Length Matter?
www.caymanchem.com/alkylchain

Cannabis: Our Key to the Endocannabinoid System
www.caymanchem.com/cannabiskey

Synthetic Cannabinoids

Cayman offers the world's largest collection of potent cannabinoid receptor agonists, antagonists, and inverse agonists, many of which are highly selective for either the central or peripheral receptor.

CB_1-Selective Ligands

Item No.	Product Name	Summary
71670	AM251	CB_1 receptor antagonist (K_is = 7.5 and 2,290 nM for CB_1 and CB_2, respectively)
91054	Arachidonoyl 2'-Chloroethylamide	CB_1 receptor agonist (K_is = 1.4 and >2,000 nM for CB_1 and CB_2, respectively)
90070	R-1 Methanandamide	CB_1 receptor agonist (K_is = 17.9-28.3 and 815-868 nM for CB_1 and CB_2, respectively)
10004184	NESS 0327	CB_1 receptor antagonist (K_is = 0.35 pM and 21 nM for CB_1 and CB_2, respectively)
9000484	Rimonabant	CB_1 receptor antagonist (K_is = 5.6 and >1,000 nM for CB_1 and CB_2, respectively)

CB_2-Selective Ligands

Item No.	Product Name	Summary
10006974	AM630	CB_2 receptor inverse agonist (K_is = 5,152 and 31.2 nM for CB_1 and CB_2, respectively)
10010118	AM1241	CB_2 receptor agonist (K_is = 580 and 7.1 nM for CB_1 and CB_2, respectively)
10005428	JWH 133	CB_2 receptor agonist (K_is = 677 and 3.4 nM for CB_1 and CB_2, respectively)
10009280	L-759,633	CB_2 receptor agonist (K_is = 1,043 and 6.4 nM for CB_1 and CB_2, respectively)
9000491	SR 144528	CB_2 receptor inverse agonist (K_is = 305 and 0.3 nM for CB_1 and CB_2, respectively)

Mixed CB_1/CB_2-Selective Ligands

Item No.	Product Name	Summary
90084	(−)-CP 55,940	CB receptor agonist (K_is = 0.5-5 and 0.69-2.8 nM for CB_1 and CB_2, respectively)
90083	HU-210 (exempt preparation)	CB receptor agonist (K_is = 0.73 and 0.524 nM for CB_1 and CB_2, respectively)
10009023	(+)-WIN 55,212-2 (mesylate)	CB receptor agonist (K_is = 62.3 and 3.3 nM for CB_1 and CB_2, respectively)

Over 700 synthetic cannabinoids including parent compounds, isomers, labeled standards, and metabolites are available at www.caymanchem.com

Cannabinoid-Related Receptor: GPR55

The GPR55 receptor is a lysophosphatidylinositol (non-CB_1/CB_2) receptor that displays high binding affinity to many cannabinoid ligands. Cayman carries select ligands specific to this receptor as well as an antibody to study its role in cannabinoid-related signal transduction.

Item No.	Product Name	Summary
10224	GPR55 Polyclonal Antibody	**Host:** Rabbit • **Species Reactivity:** (+) Human, bovine • **Applications:** ELISA, WB
10004259	Abnormal Cannabidiol	A selective GPR55 agonist (EC_{50}s = 2.5, >30, and >30 µM for GPR55, CB_1, and CB_2, respectively)
62165	2-Arachidonyl Glycerol ether	A potent and selective CB_1 and GPR55 agonist (EC_{50}s = 10, 37, and >30,000 nM for CB_1, GPR55, and CB_2, respectively)
15247	CID16020046	A selective GPR55 inverse agonist (IC_{50} = 15 µM)
17641	ML-184	A potent and synthetic agonist of GPR55 (EC_{50} = 0.26 µM)
15184	ML-193	A potent and selective GPR55 antagonist (IC_{50} = 221 nM)
10006803	O-1602	A potent and selective GPR55 agonist (EC_{50}s = 13, >30,000, and >30,000 nM for GPR55, CB_1, and CB_2, respectively)

Find more research tools at our Cannabinoid Resource Center at
www.caymanchem.com/cannabinoids