CCR

CC chemokine receptor

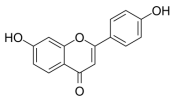
CCR (Chemokine receptors) are cytokine receptors found on the surface of certain cells that interact with a type of cytokine called achemokine. There have been 19 distinct chemokine receptors described in mammals. Each has a 7-transmembrane (7TM) structure and couples to G-protein for signal transduction within a cell, making them members of a large protein family of G protein-coupled receptors. Following interaction with their specific chemokine ligands, chemokine receptors trigger a flux in intracellular calcium (Ca^{2+}) ions (calcium signaling). This causes cell responses, including the onset of a process known as chemotaxis that traffics the cell to a desired location within the organism. Chemokine receptors are divided into different families, CXC chemokine receptors, CC chemokine receptors, CX3C chemokine receptors and XC chemokine receptors that correspond to the 4 distinct subfamilies of chemokines they bind. Specific chemokine receptors provide the portals for HIV to get into cells, and others contribute to inflammatory diseases and cancer.

CCR Antagonists, Inhibitors & Agonists

7,4'-Dihydroxyflavone

Cat. No.: HY-N2609

7,4'-Dihydroxyflavone (7,4'-DHF) is a flavonoid isolated from Glycyrrhiza uralensis, the **eotaxin/CCL11** inhibitor, has the ability to consistently suppress eotaxin production and prevent dexamethasone (Dex)paradoxical adverse effects on eotaxin...



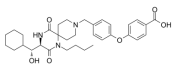
Purity: 99.05%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Aplaviroc

(AK 602; GSK 873140; GW 873140)

Cat. No.: HY-17450

Aplaviroc (AK 602), a SDP derivative, is a **CCR5** antagonist, with **IC_{50}s** of 0.1-0.4 nM for HIV-1_{Ba-L}, HIV-1_{JRFL} and HIV-1_{MOKW}.

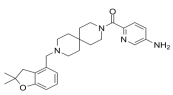


Purity: >98%
Clinical Data: Phase 3
Size: 1 mg, 5 mg

AZ084

Cat. No.: HY-119217

AZ084 is a potent, selective, allosteric and oral active **CCR8** antagonist, with a K_i of 0.9 nM. Has potential to treat asthma.

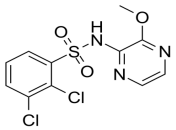


Purity: 99.36%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

AZD2098

Cat. No.: HY-U00064

AZD2098 is a potent and selective **CC-chemokine receptor 4 (CCR4)** inhibitor with **pIC_{50}**s of 7.8, 8.0, 8.0 and 7.6 for human, rat, mouse and dog respectively, used for asthma research.

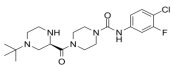


Purity: 99.86%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

AZD2423

Cat. No.: HY-135891

AZD2423 is a potent, selective, orally bioavailable, and non-competitive **CCR2** chemokine receptor negative allosteric modulator. AZD2423 has an IC_{50} of 1.2 nM for CCR2 Ca^{2+} flux .



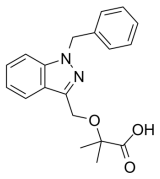
Purity: 98.03%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Bindarit

(AF2838)

Cat. No.: HY-B0498

Bindarit (AF2838) is a selective inhibitor of the monocyte chemotactic proteins **MCP-1/CCL2**, **MCP-3/CCL7**, and **MCP-2/CCL8**, and no effect on other CC and CXC chemokines such as MIP-1α/CCL3, MIP-1β/CCL4, MIP-3/CCL23. Bindarit also has anti-inflammatory activity.

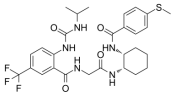


Purity: 99.83%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

BMS CCR2 22

Cat. No.: HY-101908

BMS CCR2 22 is a potent, specific and high affinity **CC-type chemokine receptor 2 (CCR2)** antagonist with excellent binding affinity (binding **IC_{50}** of 5.1 nM) and potent functional antagonism (calcium flux **IC_{50}** of 18 nM and chemotaxis **IC_{50}** of 1 nM).

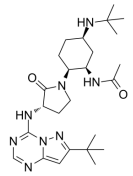


Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg

BMS-813160

Cat. No.: HY-109593

BMS-813160 is the first dual **CCR2/CCR5** antagonist, has the potential for cardiovascular treatment.



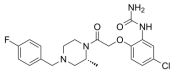
Purity: 99.89%
Clinical Data: Phase 2
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

BX471

(ZK-811752)

Cat. No.: HY-12080

BX471 (ZK-811752) is an orally active, potent and selective non-peptide **CCR1** antagonist with a K_i of 1 nM, and exhibits 250-fold selectivity for CCR1 over CCR2, CCR5 and CXCR4.



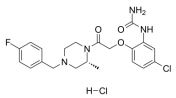
Purity: 99.78%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

BX471 hydrochloride

(ZK-811752 hydrochloride)

Cat. No.: HY-12080A

BX471 hydrochloride (ZK-811752 hydrochloride) is a potent, selective non-peptide **CCR1** antagonist with K_i of 1 nM for human CCR1, and exhibits 250-fold selectivity for CCR1 over CCR2, CCR5 and CXCR4.

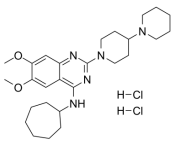


Purity: 98.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

C-021 dihydrochloride

Cat. No.: HY-103364A

C-021 dihydrochloride is a potent **CC chemokine receptor-4 (CCR4)** antagonist. C-021 dihydrochloride potently inhibits functional chemotaxis in human and mouse with IC_{50}s of 140 nM and 39 nM, respectively.

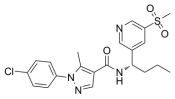


Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

CCR1 antagonist 6

Cat. No.: HY-114193

CCR1 antagonist 6 (compound 16q) is a **chemokine receptor 1 (CCR1)** antagonist, with an IC_{50} of 3 nM.

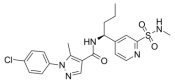


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CCR1 antagonist 7

Cat. No.: HY-114194

CCR1 antagonist 7 (compound 16r) is a **chemokine receptor 1 (CCR1)** antagonist, with an IC_{50} of 4 nM.

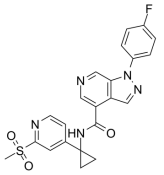


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CCR1 antagonist 8

Cat. No.: HY-120588

CCR1 antagonist 8 (compound 19n), a third azaindazole series compound, is a **CCR1** antagonist, with an IC_{50} of 1.8 nM in Ca^{2+} flux assay.

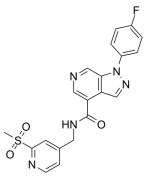


Purity: 99.54%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg

CCR1 antagonist 9

Cat. No.: HY-124759

CCR1 antagonist 9 is a potent and selective **CCR1** antagonist with an IC_{50} of 6.8 nM in calcium flux assay.

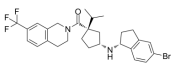


Purity: 99.88%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

CCR2 antagonist 1

Cat. No.: HY-112792

CCR2 antagonist 1 is a high-affinity and long-residence-time **CCR2** antagonist, with a K_i of 2.4 nM.

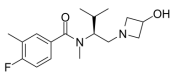


Purity: 98.67%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

CCR2 antagonist 3

Cat. No.: HY-101264

CCR2 antagonist 3 is a chemokine receptor 2 **(CCR2)** antagonist.



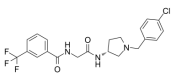
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CCR2 antagonist 4

(Teijin compound 1)

Cat. No.: HY-108323

CCR2 antagonist 4 (Teijin compound 1) is a potent and specific **CCR2** antagonist, with IC_{50}s of 180 nM for CCR2b. CCR2 antagonist 4 potently inhibits MCP-1-induced chemotaxis with an IC_{50} of 24 nM.



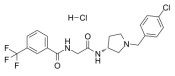
Purity: 100.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg

CCR2 antagonist 4 hydrochloride

(Teijin compound 1 hydrochloride)

Cat. No.: HY-103362

CCR2 antagonist 4 hydrochloride (Teijin compound 1 hydrochloride) is a potent and specific **CCR2** antagonist, with IC_{50}s of 180 nM for CCR2b. CCR2 antagonist 4 hydrochloride potently inhibits MCP-1-induced chemotaxis with an IC_{50} of 24 nM.

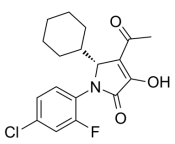


Purity: 99.88%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

CCR2-RA-[R]

Cat. No.: HY-50081

CCR2-RA-[R] is an allosteric antagonist of the **C-C chemokine receptor type 2 (CCR2)** with an IC_{50} of 103 nM.

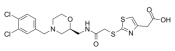


Purity: 99.36%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

CCR3 antagonist 1

Cat. No.: HY-U00331

CCR3 antagonist 1 is a potent antagonist of **CCR3**, used for the research of immunologic and inflammatory diseases.

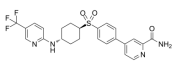


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CCR6 inhibitor 1

Cat. No.: HY-112701

CCR6 inhibitor 1 is a potent and selective **CCR6** inhibitor, with **IC_{50}**s of 0.45 and 6 nM for monkey and human CCR6, much more selective at CCR6 over human CCR1 (IC_{50}, > 30000 nM), and CCR7 (IC_{50}, 9400 nM). CCR6 inhibitor 1 markedly blocks ERK phosphorylation.



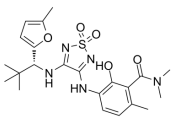
Purity: 99.82%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

CCR7 Ligand 1

(CCR7-Cmp2105)

Cat. No.: HY-133073

CCR7 Ligand 1 (CCR7-Cmp2105) is an allosteric Ligand and antagonist for human **CC chemokine receptor 7 (CCR7)** with a **K_d** of 3 nM. CCR7 Ligand 1, thiadiazole-dioxide ligan, suppresses arrestin binding in response to activation by CCL19 with an IC_{50} of 7.3 μM.



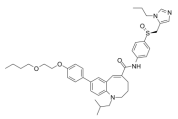
Purity: 99.64%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg

Cenicriviroc

(TAK-652; TBR-652)

Cat. No.: HY-14882

Cenicriviroc (TAK-652) is an orally active, dual **CCR2/CCR5** antagonist, also inhibits both HIV-1 and HIV-2, and displays potent anti-inflammatory and antiinfective activity.



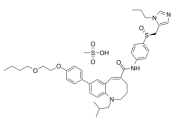
Purity: 98.07%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Cenicriviroc Mesylate

(TAK-652 Mesylate; TBR-652 Mesylate)

Cat. No.: HY-14882A

Cenicriviroc Mesylate (TAK-652 Mesylate) is a dual **CCR2/CCR5** antagonist, also inhibits both HIV-1 and HIV-2, and displays potent anti-inflammatory and antiinfective activity.



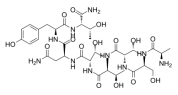
Purity: 98.84%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg

DAPTA

(D-Ala-peptide T-amide; Adaptavir)

Cat. No.: HY-P1034

DAPTA is a synthetic peptide, functions as a viral entry inhibitor by targeting selectively **CCR5**, and shows potent anti-HIV activities.

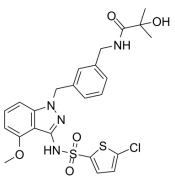


Purity: 98.73%
Clinical Data: Phase 2
Size: 1 mg, 5 mg, 10 mg, 25 mg

GSK2239633A

Cat. No.: HY-100183

GSK2239633A is a CC-chemokine receptor 4 (**CCR4**) antagonist, which inhibits the binding of [^{125}I]-TARC to human CCR4 with a **pIC_{50}** of 7.96±0.11.



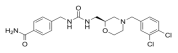
Purity: 99.77%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 50 mg

GW 766994

(GW 994)

Cat. No.: HY-107051

GW 766994 (GW 994) is an orally active and specific **chemokine receptor-3 (CCR3)** antagonist. GW 766994 has the potential for asthma and eosinophilic bronchitis research.

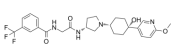


Purity: 99.53%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

INCB 3284

Cat. No.: HY-15450A

INCB 3284 is a potent, selective and orally bioavailable human **CCR2** antagonist, inhibiting monocyte chemoattractant protein-1 binding to **hCCR2**, with an **IC_{50}** of 3.7 nM. INCB 3284 can be used in the research of acute liver failure.

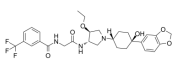


Purity: 99.30%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

INCB3344

Cat. No.: HY-50674

INCB3344 is a potent, selective and orally bioavailable **CCR2** antagonist with **IC_{50}** values of 5.1 nM (hCCR2) and 9.5 nM (mCCR2) in binding antagonism and 3.8 nM (hCCR2) and 7.8 nM (mCCR2) in antagonism of chemotaxis activity.

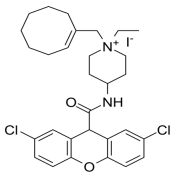


Purity: 99.73%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

J-113863

Cat. No.: HY-103360

J-113863 is a potent and selective **CCR1 (CD18)** antagonist with IC_{50} values of 0.9 nM and 5.8nM for human and mouse **CCR1** receptors, respectively. J-113863 is also a potent antagonist of the human **CCR3** (IC_{50} of 0.58 nM) , but a weak antagonist of the mouse **CCR3** (IC_{50} of 460 nM).

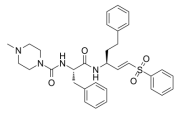


Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

K777

Cat. No.: HY-119293

K777 is a potent, orally active and irreversible **cysteine protease** inhibitor. K777 is also a potent **CYP3A4** inhibitor with an IC_{50} of 60 nM and a selective **CCR4** antagonist featuring the potent chemotaxis inhibition.

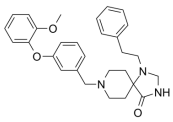


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

LMD-009

Cat. No.: HY-121885

LMD-009 is a selective **CCR8** nonpeptide agonist. LMD-009 mediates chemotaxis, inositol phosphate accumulation, and calcium release in high potencies with EC_{50}s from 11 to 87 nM.



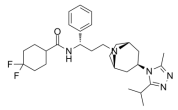
Purity: 99.76%
Clinical Data:
Size: 5 mg, 10 mg

Maraviroc

(UK-427857)

Cat. No.: HY-13004

Maraviroc (UK-427857) is a selective **CCR5** antagonist with activity against human **HIV**.

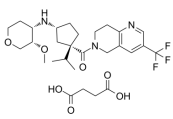


Purity: 99.95%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

MK-0812 Succinate

Cat. No.: HY-50669A

MK-0812 Succinate is a potent and selective **CCR2** antagonist with high affinity at CCR2.

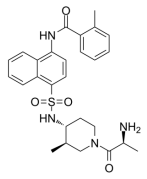


Purity: 99.69%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

ML604086

Cat. No.: HY-124416

ML604086 is a selective **CCR8** inhibitor, inhibiting CCL1 binding to CCR8 on circulating T-cells. ML604086 inhibits CCL1 mediated chemotaxis and increases in intracellular Ca^{2+} concentrations.

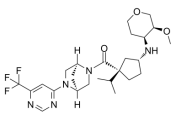


Purity: 99.89%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg, 100 mg

PF-04634817

Cat. No.: HY-117621

PF-0463481 is a potent and orally active dual **CCR2/CCR5** antagonist with comparable human and rodent CCR2 potency (rat IC_{50}=20.8 nM), and displays 10-20 fold less rodent CCR5 potency (rat IC_{50}=470 nM).



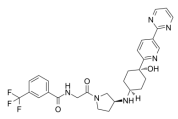
Purity: 98.87%
Clinical Data: Launched
Size: 1 mg

PF-4136309

(INCB8761)

Cat. No.: HY-13245

PF-4136309 is a potent, selective, and orally bioavailable **CCR2** antagonist, with IC_{50}s of 5.2 nM, 17 nM and 13 nM for human, mouse and rat CCR2.



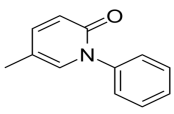
Purity: 99.59%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Pirfenidone

(AMR69)

Cat. No.: HY-B0673

Pirfenidone (AMR69) is an antifibrotic agent that attenuates **CCL2** and **CCL12** production in fibrocyte cells. Pirfenidone has growth-inhibitory effect and reduces **TGF-β2** protein levels in human glioma cell lines. Pirfenidone also has anti-inflammatory activities.



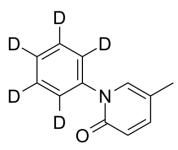
Purity: 99.98%
Clinical Data: Launched
Size: 10 mM × 1 mL, 100 mg, 500 mg, 1 g, 5 g

Pirfenidone D5

(AMR69 D5)

Cat. No.: HY-B0673S

Pirfenidone D5 (AMR69 D5) is a deuterium labeled Pirfenidone. Pirfenidone is an antifibrotic agent that attenuates **CCL2** and **CCL12** production in fibrocyte cells. Pirfenidone has growth-inhibitory effect and reduces **TGF-β2** protein levels in human glioma cell lines.

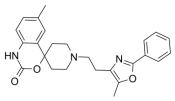


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

RS 504393

Cat. No.: HY-15418

RS 504393 is a selective **CCR2** chemokine receptor antagonist (IC_{50} values are 89 nM and > 100 μM for inhibition of human recombinant CCR2 and CCR1 receptors respectively).

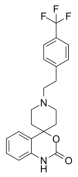


Purity: 99.75%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

RS102895

Cat. No.: HY-18611A

RS102895 is a potent **CCR2** antagonist, with an IC_{50} of 360 nM, and shows no effect on CCR1.

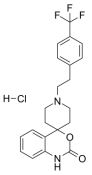


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RS102895 hydrochloride

Cat. No.: HY-18611

RS102895 hydrochloride is a potent **CCR2** antagonist, with an IC_{50} of 360 nM, and shows no effect on CCR1.

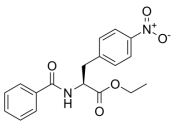


Purity: 99.69%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

SB297006

Cat. No.: HY-103361

SB297006 is a **CCR3** antagonist, which significantly inhibits proliferation and neurosphere formation in CCL11-treated neural progenitor cells.

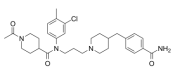


Purity: 99.77%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

TAK-220

Cat. No.: HY-19974

TAK-220 is a selective and orally bioavailable **CCR5** antagonist, with IC_{50}s of 3.5 nM and 1.4 nM for inhibition on the binding of RANTES and MIP-1α to CCR5, respectively, but shows no effect on the binding to CCR1, CCR2b, CCR3, CCR4, or CCR7; TAK-220 also selectively inhibits **HIV-1**,...



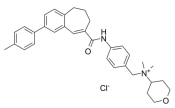
Purity: 99.95%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

TAK-779

(Takeda 779)

Cat. No.: HY-13406

TAK-779 is a potent and selective nonpeptide antagonist of **CCR5** and **CXCR3**, with a K_i of 1.1 nM for CCR5, and effectively and selectively inhibits **R5 HIV-1**, with EC_{50} and EC_{90} of 1.2 nM and 5.7 nM, respectively, in MAGI-CCR5 cells.



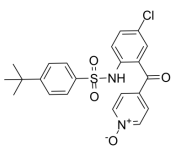
Purity: 99.73%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

Vercirnon

(GSK-1605786; CCX282-B; Traficet-EN)

Cat. No.: HY-15724

Vercirnon (GSK1605786A) is an orally bioavailable, selective, and potent antagonist of **CCR9**. Vercirnon inhibits CCR9-mediated Ca^{2+} mobilization and chemotaxis on Molt-4 cells with IC_{50} values of 5.4 and 3.4 nM, respectively.



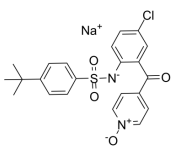
Purity: 98.58%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Vercirnon sodium

(GSK-1605786 sodium; CCX282-B sodium; Traficet-EN sodium)

Cat. No.: HY-15724A

Vercirnon (GSK1605786A) sodium is an orally bioavailable, selective, and potent antagonist of **CCR9**. Vercirnon sodium inhibits CCR9-mediated Ca^{2+} mobilization and chemotaxis on Molt-4 cells with IC_{50} values of 5.4 and 3.4 nM, respectively.



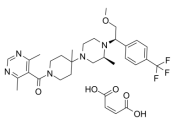
Purity: 98.76%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Vicriviroc maleate

(SCH-417690 maleate; SCH-D maleate)

Cat. No.: HY-17377

Vicriviroc maleate (SCH-417690 maleate; SCH-D maleate) is a potent, selective, oral bioavailable and CNS penetrated antagonist of **CCR5**, with a K_i of 2.5 nM, and also inhibits HIV-1 in PBMC cells, with IC_{90}s of 3.3 nM (JrFL), 2.8 nM (ADA-M), 1.8 nM (301657), 4.9 nM (JV1083) and 10 nM (RU570).

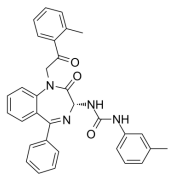


Purity: 99.41%
Clinical Data: Phase 3
Size: 10 mM × 1 mL, 5 mg

YM022

Cat. No.: HY-103355

YM022 is a highly potent, selective and orally active **gastrin/cholecystokinin (CCK)-B receptor (CCK-BR)** antagonist. YM022 shows the K_i values of 68 pM and 63 nM for CCK-B and CCK-A receptor, respectively.

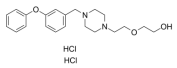


Purity: 99.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg

ZK756326 dihydrochloride

Cat. No.: HY-101038A

ZK756326 dihydrochloride is a nonpeptide chemokine receptor agonist for the CC chemokine receptor **CCR8**.



Purity: 98.28%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg