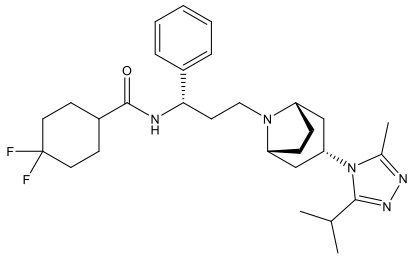
Catalog # 10-4260
Maraviroc

CAS# 376348-65-1

4,4-Difluoro-*N*-[(1*S*)-3-[(1*R*,5*S*)-3-(3-methyl-5-propan-2-yl-1,2,4-triazol-4-yl)-8-azabicyclo[3.2.1]octan-8-yl]-1-phenylpropyl]cyclohexane-1-carboxamide; UK-427,857

Lot # FBS3012



Maraviroc is a potent and selective CCR5 antagonist with potent anti-HIV activity. It prevents HIV-1 gp120 binding to CCR5 preventing cell-cell fusion. Maraviroc inhibited MIP-1α (IC_{50} = 3.3 nM), MIP-1β (IC_{50} = 7.2 nM), and RANTES (IC_{50} = 5.2 nM) binding to CCR5-expressing HEK-293.[1] Clinically useful antiretroviral drug. Many cancer cells express CCR5: Maraviroc blocked metastasis of basal breast[2] and pancreatic cancer[3] cells, induced cytotoxic and apoptotic effects in colorectal cancer cells[4], reduced metastatic tumor growth in lungs[5], and suppresses growth in acute ALL cells[6]. CCR5 inhibition with maraviroc showed macrophage repolarization with anti-tumoral effects.[7]

1) Dorr *et al.* (2005*), Maraviroc (UK-427,857), a Potent, Orally Bioavailable, and Selective Small-Molecule Inhibitor of Chemokine Receptor CCR5 with Broad-Spectrum Anti-Human Immunodeficiency Virus Type 1 Activity;* Antimicrob.Agents Chemother. **49** 4721
2) Velasco-Velazquez *et al.* (2012*), CCR5 antagonist blocks metastasis of basal breast cancer cells;* Cancer Res. **72** 3839
3) Singh *et al.* (2018*), CCR5/CCL5 axis interaction promotes migratory and invasiveness of pancreatic cancer cells;* Sci.Rep. **8** 1323
4) Pervaiz *et al.* (2015*), CCR5 blockage by maraviroc induces cytotoxic and apoptotic effects in colorectal cancer cells;* Med.Oncol. **32** 158
5) Halvorsen *et al.* (2016*), Maraviroc decreases CCL8-mediated migration of CCR5(+) regulatory T cells and reduces metastatic tumor growth in the lungs;* Oncoimmunology **5** e1150398
6) Zi *et al.* (2017*), Treatment with the C-C chemokine receptor type 5(CCR5)-inhibitor maraviroc suppresses growth and induces apoptosis of acute lymphoblastic leukemia cells;* Am.J.Cancer Res. **7** 869
7) Halama *et al.* (2016*), Tumoral Immune Cell Exploitation in Colorectal Cancer Metastases Can Be targeted Effectively by Anti-CCR5 Therapy in Cancer Patients;* Cancer Cell **29** 587

PHYSICAL DATA

Molecular Weight:	513.68
Molecular Formula:	$C_{29}H_{41}F_2N_5O$
Purity:	>98% by HPLC NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20ºC for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462
www.focusbiomolecules.com