GPR55

G protein-coupled receptor 55

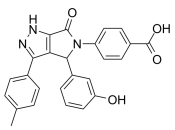
GPR55 (G protein-coupled receptor 55) is a G protein-coupled receptor that in humans is encoded by the GPR55 gene. GPR55, along with GPR119 and GPR18, have been implicated as novel cannabinoid receptors. GPR55 is activated by the plant cannabinoids 9-THC and cannabidiol, and the endocannabinoids anandamide, 2-AG, noladin ether in the low nanomolar range. Recent research suggests that lysophosphatidylinositol and its 2-arachidonoyl derivative may be the endogenous ligands for GPR55, and the receptor appears likely to be a possible target for treatment of inflammation and pain as with the other cannabinoid receptors. The physiological role of GPR55 is unclear. GPR55 has been proposed as a new potential drug target for the treatment of diabetes, Parkinson's disease, neuropathic pain, and cancer.

GPR55 Agonists & Antagonists

CID 16020046

Cat. No.: HY-16697

CID 16020046 is a potent and selective **GPR55** antagonist and inhibits GPR55 constitutive activity with an IC_{50} of 0.15 μM. CID 16020046 inhibits GPR55-mediated Ca^{2+} signaling and GPR55-mediated ERK1/2 phosphorylation.



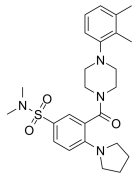
Purity: 99.92%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

ML-184

(CID2440433)

Cat. No.: HY-116461

ML-184 (CID2440433) is a selective **GPR55** agonist with an EC_{50} of 250 nM and exhibits >100-fold selectivity for GPR55 over GPR35, CB1 and CB2. ML-184 induces phosphorylation of ERK1/2 and translocation of PKCβII to the plasma membrane by activating GPR55.



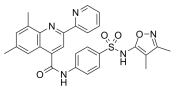
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

ML-193

(CID 1261822)

Cat. No.: HY-110125

ML-193 (CID 1261822) is a potent and selective antagonist of **GPR55**, with an IC_{50} of 221 nM. ML-193 shows more than 27-fold selectivity for GPR55 over GPR35, CB1 and CB2. ML-193 can improve the motor and the sensorimotor deficits of Parkinson's disease (PD) rats.



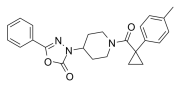
Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

ML191

(CID23612552)

Cat. No.: HY-111083

ML-191 is an antagonist of **GPR55**. It inhibits GPR55 signaling induced by lysophosphatidylinositol (EC_{50}=1.076 μM in U2OS cells overexpressing GPR55).



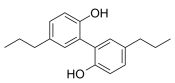
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Tetrahydromagnolol

(Magnolignan)

Cat. No.: HY-116637

Tetrahydromagnolol (Magnolignan), a main metabolite of Magnolol, is a potent and selective **cannabinoid CB2 receptor** agonist with an EC_{50} of 170 nM and a K_i of 416 nM. Tetrahydromagnolol possesses 20-fold more selective for **CB2 receptor** than CB1 receptor.



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