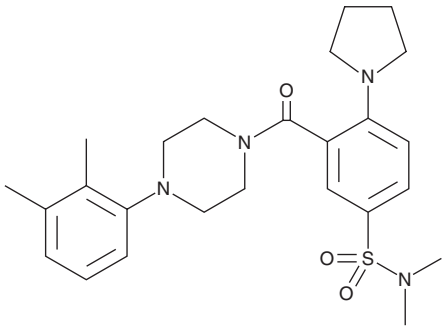
PRODUCT INFORMATION

ML-184

Item No. 17641

CAS Registry No.:	794572-10-4
Formal Name:	3-[[4-(2,3-dimethylphenyl)-1-piperazinyl] carbonyl]-N,N-dimethyl-4-(1-pyrrolidinyl)-benzenesulfonamide
Synonym:	CID-2440433
MF:	$C_{25}H_{34}N_4O_3S$
FW:	470.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 210, 290 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

ML-184 is supplied as a crystalline solid. A stock solution may be made by dissolving the XX in the solvent of choice, which should be purged with an inert gas. ML-184 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ML-184 in these solvents is approximately 1, 20, and 30 mg/ml, respectively.

ML-184 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ML-184 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. ML-184 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

GPR55 is a G protein-coupled receptor that is weakly activated by some cannabinoids (CBs) at nM concentrations but displays a 5- to 10-fold greater stimulation in response to 1 µM lysophosphatidylinositol (LPI).[1,2] ML-184 is a potent synthetic agonist of GPR55 (EC_{50} = 0.26 µM).[3] It does not act at the related kynurenic acid receptor GPR35 and is a weak antagonist of CB_1 and CB_2 (IC_{50}s = 21.8 and 15.1 µM, respectively).[3] Like LPI, ML-184 induces phosphorylation of ERK1/2 and translocation of PKCβII to the plasma membrane by activating GPR55.[3]

References

1. Ryberg, E., Larsson, N., Sjögren, S., *et al.* The orphan receptor GPR55 is a novel cannabinoid receptor. *Br. J. Pharmacol.* **152(7)**, 1092-1101 (2007).
2. Oka, S., Nakajima, K., Yamashita, A., *et al.* Identification of GPR55 as a lysophosphatidylinositol receptor. *Biochem. Biophys. Res. Commun.* **362(4)**, 928-934 (2007).
3. Kotsikorou, E., Madrigal, K.E., Hurst, D.P., *et al.* Identification of the GPR55 agonist binding site using a novel set of high potency GPR55 selective ligands. *Biochemistry* **50(25)**, 5633-5647 (2011).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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