

Product Data Sheet

Product Name: O-1602
Cat. No.: GC13513

Chemical Properties

Cas. No. 317321-41-8

Chemical Name (1'R,2'R)-5',6-dimethyl-2'-(prop-1-en-2-yl)-1',2',3',4'-tetrahydro-[1,1'-biphenyl]-2,4-diol

SMILES OC1=C(C(C)=CC(O)=C1)[C@H]2[C@H](C(C)=C)CCC(C)=C2

Formula $C_{17}H_{22}O_2$ M.Wt 258.36

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml, Ethanol: PBS (pH 7.2)(1:1): 5 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

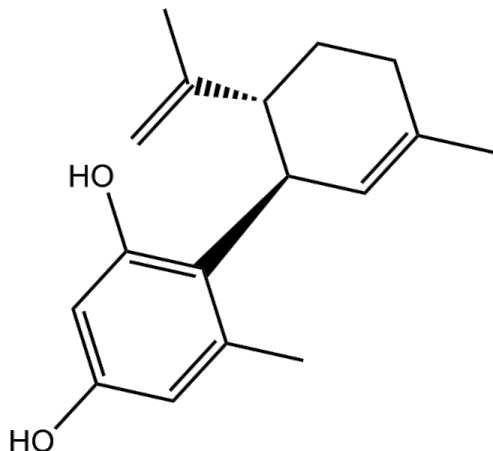
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Background

O-1602 is an agonist of GPR55 (EC₅₀ = 13 nM in a GTPγS binding assay) and a derivative of the GPR55 agonist abnormal cannabidiol.[1] It is selective for GPR55 over cannabinoid (CB) receptor 1 (CB1) and CB2 (EC₅₀s = >30 μM for both in GTPγS binding assays). O-1602 (50 μM) reduces growth of Mz-ChA-1, HuCCT-1, CC-LP-1, and SG231 cholangiocarcinoma cells and reduces tumor growth in a Mz-ChA-1 mouse xenograft model when administered at a dose of 10 mg/kg per day.[2] O-1602 increases calcium mobilization and lipogenesis in 3T3-L1 adipocytes in a concentration-dependent manner and increases food intake and fat mass in rats; however, this effect was also observed in mice lacking GPR55.[3] O-1602 reduces movement-induced firing of nociceptive C fibers in a rat model of inflammatory joint pain.[4] It also decreases IL-6 and TNF-α levels and myeloperoxidase activities in the plasma, lungs, and pancreas in a mouse model of acute pancreatitis.[5]

Reference:

[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).

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- [2]. Huang, L., Ramirez, J.C., Frampton, G.A., et al. Anandamide exerts its antiproliferative actions on cholangiocarcinoma by activation of the GPR55 receptor. *Lab Invest.* 91(7), 1007-1017 (2011).
- [3]. Díaz-Arteaga, A., Vázquez, M.J., Vazquez-Martínez, R., et al. The atypical cannabinoid O-1602 stimulates food intake and adiposity in rats. *Diabetes Obes. Metab.* 14(3), 234-243 (2012).
- [4]. Schuelert, N., and Mcdougall, J.J. The abnormal cannabidiol analogue O-1602 reduces nociception in a rat model of acute arthritis via the putative cannabinoid receptor GPR55. *Nuerosci. Lett.* 500(1), 72-76 (2011).
- [5]. Li, K., Feng, J.-Y., Li, Y.-Y., et al. Anti-inflammatory role of cannabidiol and O-1602 in cerulein-induced acute pancreatitis in mice. *Pancreas* 42(1), 123-129 (2013).

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