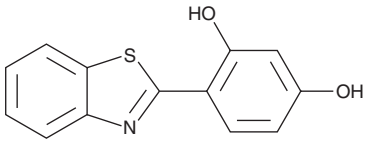
PRODUCT INFORMATION

MHY553

Item No. 36088

CAS Registry No.: 6265-56-1
Formal Name: 4-(2-benzothiazolyl)-1,3-benzenediol
Synonym: NSC 33005
MF: $C_{13}H_9NO_2S$
FW: 243.3
Purity: ≥98%
UV/Vis.: λ_{max}: 219, 336 nm
Supplied as: A 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

MHY553 is supplied as a solid. A stock solution may be made by dissolving the MHY553 in the solvent of choice, which should be purged with an inert gas. MHY553 is soluble in the organic solvent DMSO at a concentration of approximately 24.5 mg/ml.

Description

MHY553 is an agonist of peroxisome proliferator-activated receptor α (PPARα).[1] It activates PPARα in HepG2 cells in a reporter assay when used at a concentration of 1 µM but does not activate PPARβ or PPARγ at 10 µM. MHY553 (3 µM) prevents triglyceride accumulation induced by the liver X receptor (LXR) agonist T0901317 (Item No. 71810) in HepG2 cells, as well as scavenges reactive oxygen species (ROS) and peroxynitrite in cell-free assays (IC_{50}s = 39.7 and 2.39 µM, respectively).[1,2] It also inhibits β-glucuronidase and tyrosinase (IC_{50}s = 8.9 and 0.01 µM for the bovine liver and mushroom enzymes, respectively).[3,4] MHY553 (5 mg/kg) reduces age-induced increases in liver weight and triglyceride levels in a rat model of hepatic steatosis.[1]

References

1. Kim, S.M., Lee, B., An, H.J., *et al.* Novel PPARα agonist MHY553 alleviates hepatic steatosis by increasing fatty acid oxidation and decreasing inflammation during aging. *Oncotarget* **8(28)**, 46273-46285 (2017).
2. Jung, H.J., Kim, S.M., Kim, D.H., *et al.* 2,4-Dihydroxyphenyl-benzo[*d*]thiazole (MHY553), a synthetic PPARα agonist, decreases age-associated inflammatory responses through PPARα activation and RS scavenging in the skin. *Exp. Gerontol.* **143**, 111153 (2021).
3. Khan, K.M., Rahim, F., Halim, S.A., *et al.* Synthesis of novel inhibitors of β-glucuronidase based on benzothiazole skeleton and study of their binding affinity by molecular docking. *Bioorg. Med. Chem.* **19(14)**, 4286-4294 (2011).
4. Ha, Y.M., Park, J.Y., Park, Y.J., *et al.* Synthesis and biological activity of hydroxy substituted phenyl-benzo[*d*]thiazole analogues for antityrosinase activity in B16 cells. *Bioorg. Med. Chem. Lett.* **21(8)**, 2445-2449 (2011).

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