

MD001

## Chemical Properties

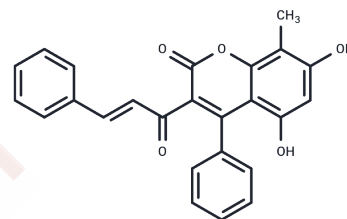
CAS No. : 2254605-76-8

Formula: C<sub>25</sub>H<sub>18</sub>O<sub>5</sub>

Molecular Weight: 398.41

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	MD001 is a dual agonist of peroxisome proliferator-activated receptor $\alpha$ (PPAR $\alpha$ ) and PPAR $\gamma$ . It binds to PPAR $\alpha$ and PPAR $\gamma$ (K <sub>d</sub> s = 9.55 and 0.14 $\mu$ M, respectively) but does not bind to PPAR $\beta/\delta$ at concentrations up to 500 $\mu$ M. It increases transcriptional activity of PPAR $\alpha$ and PPAR $\gamma$ in a cell-based luciferase reporter assay when used at a concentration of 10 $\mu$ M. MD001 (10 $\mu$ M) increases expression of PPAR $\alpha$ , PPAR $\gamma$ , and retinoid X receptor (RXR), as well as PPAR $\alpha$ and PPAR $\gamma$ target genes, in HepG2 cells. It increases glucose consumption as well as expression of GLUT2 and GLUT4 in HepG2 and 3T3-L1 cells, respectively, in a concentration-dependent manner. MD001 (20 mg/kg) decreases levels of glucose, insulin, free fatty acids, triglycerides, LDL, alanine aminotransferase (ALT), and aspartate aminotransferase (AST) in blood and reduces the size and number of hepatic lipid droplets in diabetic db/db mice.
Targets(IC50)	Others,PPAR

## Solubility Information

Solubility	DMSO: 30 mg/mL (75.3 mM),Sonication is recommended. Ethanol: 20 mg/mL (50.2 mM),Sonication is recommended. DMF: 30 mg/mL (75.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.510 mL	12.5499 mL	25.0998 mL
5 mM	0.502 mL	2.510 mL	5.020 mL
10 mM	0.251 mL	1.255 mL	2.510 mL
50 mM	0.0502 mL	0.251 mL	0.502 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Kim, S.-H., Hong, S.H., Park, Y.-J., et al. MD001, a novel peroxisome proliferator-activated receptor  $\alpha/\gamma$  agonist, improves glucose and lipid metabolism. *Sci. Rep.* 9(1), 1656 (2019).

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