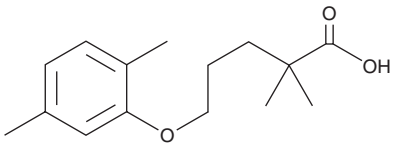
PRODUCT INFORMATION

Gemfibrozil

Item No. 14835

CAS Registry No.:	25812-30-0
Formal Name:	5-(2,5-dimethylphenoxy)-2,2-dimethyl-pentanoic acid
Synonym:	CI-719
MF:	$C_{15}H_{22}O_3$
FW:	250.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 275, 281 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

Gemfibrozil is supplied as a crystalline solid. A stock solution may be made by dissolving the gemfibrozil in the solvent of choice. Gemfibrozil is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of gemfibrozil in ethanol and DMF is approximately 30 mg/ml and approximately 16 mg/ml in DMSO.

Gemfibrozil is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, gemfibrozil should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Gemfibrozil has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Gemfibrozil is a peroxisome proliferator-activated receptor α (PPARα) and PPARγ agonist (EC_{50}s = 193.3 and 147.8 µM, respectively, in transactivation assays).[1] *In vivo*, gemfibrozil (50 mg/kg, p.o.) reduces serum total cholesterol, triglyceride, and LDL levels in a rat model of high-cholesterol diet-induced hyperlipidemia.[2] Gemfibrozil (100 mg/kg per day) reduces atherosclerotic plaque area, superoxide production, and expression of the genes encoding the NF-κB subunit p65 and chemokine (C-C) motif ligand 2 (CCL2) in *ApoE*$^{-/-}$ mice.[3] Formulations containing gemfibrozil have been used in the treatment of high cholesterol.

References

1. Kim, N.J., Lee, K.O., Koo, B.W., *et al*. Design, synthesis, and structure-activity relationship of carbamate-tethered aryl propanoic acids as novel PPARα/γ dual agonists. *Bioorg. Med. Chem. Lett.* **17(13)**, 3595-3598 (2007).
2. Solanki, Y.B. and Jain, S.M. Antihyperlipidemic activity of *Clitoria ternatea* and *Vigna mungo* in rats. *Pharm. Biol.* **48(8)**, 915-923 (2010).
3. Calkin, A.C., Cooper, M.E., Jandeleit-Dahm, K.A., *et al*. Gemfibrozil decreases atherosclerosis in experimental diabetes in association with a reduction in oxidative stress and inflammation. *Diabetologia* **49(4)**, 766-774 (2006).

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