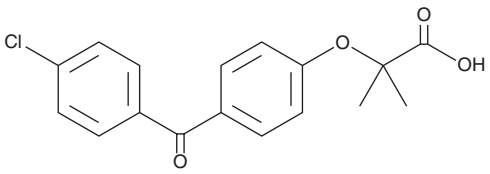
PRODUCT INFORMATION

Fenofibric Acid

Item No. 19262

CAS Registry No.:	42017-89-0
Formal Name:	2-[4-(4-chlorobenzoyl)phenoxy]-2-methyl-propanoic acid
Synonyms:	FNF Acid, NSC 281318, Procetofenic Acid
MF:	$C_{17}H_{15}ClO_4$
FW:	318.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 288 nm
Supplied as:	A crystalline solid
Storage:	4°C
Stability:	≥4 years



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

Laboratory Procedures

Fenofibric acid is supplied as a crystalline solid. A stock solution may be made by dissolving the fenofibric acid in the solvent of choice. Fenofibric acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of fenofibric acid in these solvents is approximately 16, 2, and 14 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of fenofibric acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of fenofibric acid in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Fenofibric acid is an agonist of peroxisome proliferator-activated receptor α (PPARα), PPARγ, and PPARδ (EC_{50}s = 22.4, 1.47, and 1.06 µM, respectively, in a transactivation assay) and an active metabolite of the PPARα agonist fenofibrate (Item No. 10005368).[1,2] It is formed by the hydrolysis of fenofibrate in tissue.[1] It inhibits COX-2 activity in a cell-free assay (IC_{50} = 0.048 µM).[4] Fenofibric acid (500 µM) reduces aldehyde oxidase 1 (AOX1) protein levels in HepG2 cells.[3] Fenofibric acid (10 mg/kg) reduces carrageenan-induced paw edema in rats.[4] Formulations containing fenofibric acid have been used in the treatment of high cholesterol and hypertriglyceridemia.

References

1. Caldwell, J. The biochemical pharmacology of fenofibrate. *Cardiology* **76(Suppl 1)**, 33-44 (1989).
2. Dietz, M., Mohr, P., Kuhn, B., *et al.* Comparative molecular profiling of the PPARα/γ activator aleglitazar: PPAR selectivity, activity and interaction with cofactors. *ChemMedChem* **7(6)**, 1101-1111 (2012).
3. Neumeier, M., Weigert, J., Schäffler, A., *et al.* Aldehyde oxidase 1 is highly abundant in hepatic steatosis and is downregulated by adiponectin and fenofibric acid in hepatocytes *in vitro*. *Biochem. Biophys. Res. Commun.* **350(3)**, 731-735 (2006).
4. Prasad, G.S., Govardhan, P., Deepika, G., *et al.* Anti-inflammatory activity of anti-hyperlipidemic drug, fenofibrate, and its phase-I metabolite fenofibric acid: *in silico*, *in vitro*, and *in vivo* studies. *Inflammopharmacology* **26(4)**, 973-981 (2018).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM