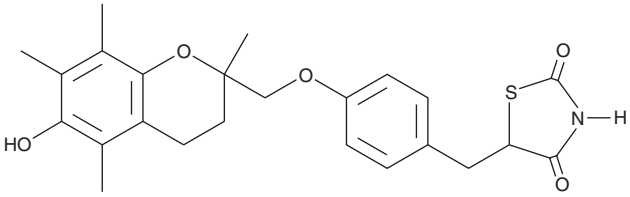
# PRODUCT INFORMATION

## Troglitazone

*Item No. 71750*

**CAS Registry No.:** 97322-87-7
**Formal Name:** 5-[[4-[(3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopryran-2-yl)methoxy]phenyl]methyl]-2,4-thiazolidinedione
**MF:** $C_{24}H_{27}NSO_5$
**FW:** 441.5
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 225, 284 nm
**Supplied as:** A crystalline solid
**Stability:** ≥2 years




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

### Laboratory Procedures

Troglitazone is supplied as a crystalline solid. A stock solution may be made by dissolving the troglitazone in an organic solvent purged with an inert gas. Troglitazone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of troglitazone in these solvents is approximately 300 µg/ml in ethanol and approximately 30 mg/ml in DMSO and DMF.

Troglitazone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, troglitazone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Troglitazone has a solubility of approximately 100 µg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Troglitazone is a selective agonist of peroxisome proliferator-activated receptor γ (PPARγ; $EC_{50}$s = 0.78 and 0.55 µM for the mouse and human receptors, respectively, in a transactivation assay).[1] It is selective for PPARγ over PPARα and PPARδ, at which it is inactive at concentrations up to 10 µM. Troglitazone (500 mg/kg twice per day) exhibits antihyperglycemic and antihyperlipidemic properties in Zucker diabetic fatty rats, reducing plasma glucose and triglyceride levels by 61 and 87% respectively.[2] It also induces cell cycle arrest at the $G_1$ phase in SK-HEP-1 and Hep3B hepatocellular carcinoma cells when used at a concentration of 10 µM and increases apoptosis in these cells at concentrations of 30 µM and higher.[3]

### References


1. Willson, T.M., Brown, P.J., Sternbach, D.D., *et al.* The PPARs: From orphan receptors to drug discovery. *J. Med. Chem.* **43(4)**, 527-550 (2000).
2. Henke, B.R., Blanchard, S.G., Brackeen, M.F., *et al.* N-(2-Benzoylphenyl)-L-tyrosine PPARγ agonists. 1. Discovery of a novel series of potent antihyperglycemic and antihyperlipidemic agents. *J. Med. Chem.* **41(25)**, 5020-5036 (1998).
3. Yoshizawa, K., Cioca, D.P., Kawa, S., *et al.* Peroxisome proliferator-activated receptor γ ligand troglitazone induces cell cycle arrest and apoptosis of hepatocellular carcinoma cell lines. *Cancer* **95(10)**, 2243-2251 (2002).





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