Product Data Sheet

Product Name: Muraglitazar
Cat. No.: GC14246

Chemical Properties

Cas. No.	331741-94-7		
Chemical Name	N-[(4-methoxyphenoxy)carbonyl]-N-[[4-[2-(5-methyl-2-phenyl-4-oxazolyl)ethoxy]phenyl]methyl]-glycine		
SMILES	O=C(OC1=CC=C(OC)C=C1)N(CC(O)=O)CC2=CC=C(C=C2)OCCC3=C(C)OC(C4=CC=CC=C4)=N3		
Formula	$C_{29}H_{28}N_2O_7$	M.Wt	516.5
Solubility	Chloroform: Slightly Soluble,DMSO: Soluble,Methanol: Slightly Soluble	Storage	Store at 4°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Muraglitazar		

Background

IC50: 0.42 μM: shows agonistic activity at peroxisome proliferator-activated receptor α (PPARα)

IC50: 0.14 μM: shows agonistic activity at PPARγ.

Muraglitazar, a dual agonist of PPARα and PPARγ, induces an increase in HDL-C levels, a reduction of apolipoprotein B, total cholesterol, HbA1c and triglyceride. Muraglitazar is related to an increased risk of heart failure and adverse cardiovascular events. The PPARs, as a subfamily of the 48-member nuclear-receptor superfamily, regulate gene expression in response to ligand binding and are probably involved in pathogenesis, including insulin resistance, diabetes as well as its related complications. PPARα and PPARγ function in adipocyte maturation, lipid metabolism, and fatty acid storage.

In vitro: In murine J774 macrophages, Muraglitazar dose-dependently reduced lipopolysaccharide-induced inducible nitric oxide synthase (iNOS) expression, nitrous oxide, IL-6 and TNFα production and showed no effect on cell viability at the given concentration. Muraglitazar decreased the levels of iNOS mRNA expression, suggesting that the suppressive effect of muraglitazar was mediated at the level of iNOS transcription. In human HEK293 cells, muraglitazar did not affect the nuclear levels of NF- κB p65 compared to the control and did not modulate NF-κB-mediated transcription [1].

In vivo: Male Charles River mice were administrated orally with muraglitazar at a dose of 12.5, 25, 50 mg/kg for six hours. Muraglitazar, in a dose-dependent fashion, prevented the development of oedema. In addition, muraglitazar dose-dependently attenuated inflammation and decreased the levels of IL-6, TNFα and iNOS mRNA [1].

Reference:

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[1]. Paukkeri, E., Leppnen, T., Lindholm, M., Yam, M., Asmawi, M., & Kolmonen, A. et al. Anti-inflammatory properties of a dual PPARgamma/alpha agonist muraglitazar in in vitro and in vivo models. Arthritis Research & Therapy. 2013;15(2): R51.

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