# Product data sheet

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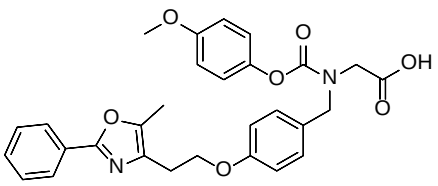
|---|---|
| MedKoo Cat#: 525720<br>Name: Muraglitazar<br>CAS: 331741-94-7<br>Chemical Formula: $C_{29}H_{28}N_2O_7$<br>Exact Mass: 516.1897<br>Molecular Weight: 516.5418 |  |
| Product supplied as: | Powder |
| Purity (by HPLC): | ≥ 98% |
| Shipping conditions | Ambient temperature |
| Storage conditions: | Powder: -20°C 3 years; 4°C 2 years. |
| | In solvent: -80°C 3 months; -20°C 2 weeks. |

**1. Product description:**
Muraglitazar is a Peroxime Proliferator Activated (PPAR) Agonist that has glucose- and lipid-lowering activities. It is used for the treatment of Type-2 Diabetes Mellitus, Mixed Dyslipidemia, Atherosclerosis, and Metabolic Syndrome (Dual (alpha and gamma). Muraglitazar improves glycaemic control by enhancing insulin sensitivity and β cell function in T2DM (Type 2 Diabetes Mellitus) subjects, improves multiple cardiovascular risk factors, reduces muscle, visceral and hepatic fat content in T2DM subjects.

**2. CoA, QC data, SDS, and handling instruction**
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

**3. Solubility data**

| Solvent | Max Conc. mg/mL | Max Conc. mM |
|---|---|---|
| TBD | TBD | TBD |

**4. Stock solution preparation table:**

| **Concentration / Solvent Volume / Mass** | **1 mg** | **5 mg** | **10 mg** |
|---|---|---|---|
| 1 mM | 1.94 mL | 9.68 mL | 19.36 mL |
| 5 mM | 0.39 mL | 1.94 mL | 3.87 mL |
| 10 mM | 0.19 mL | 0.97 mL | 1.94 mL |
| 50 mM | 0.04 mL | 0.19 mL | 0.39 mL |

**5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator**
Please refer the product web page under section of "Calculator"

**6. Recommended literature which reported protocols for in vitro and in vivo study**
In vitro study

1. Rogue A, Anthérieu S, Vluggens A, Umbdenstock T, Claude N, de la Moureyre-Spire C, Weaver RJ, Guillouzo A. PPAR agonists reduce steatosis in oleic acid-overloaded HepaRG cells. Toxicol Appl Pharmacol. 2014 Apr 1;276(1):73-81. doi: 10.1016/j.taap.2014.02.001. Epub 2014 Feb 15. PMID: 24534255.
2. Devasthale PV, Chen S, Jeon Y, Qu F, Shao C, Wang W, Zhang H, Cap M, Farrelly D, Golla R, Grover G, Harrity T, Ma Z, Moore L, Ren J, Seethala R, Cheng L, Sleph P, Sun W, Tieman A, Wetterau JR, Doweyko A, Chandrasena G, Chang SY, Humphreys WG, Sasseville VG, Biller SA, Ryono DE, Selan F, Hariharan N, Cheng PT. Design and synthesis of N-[(4-methoxyphenoxy)carbonyl]-N-[[4-[2-(5- methyl-2-phenyl-4-oxazolyl)ethoxy]phenyl]methyl]glycine [Muraglitazar/BMS-298585], a novel peroxisome proliferator-activated receptor alpha/gamma dual agonist with efficacious glucose and lipid-lowering activities. J Med Chem. 2005 Mar 24;48(6):2248-50. doi: 10.1021/jm0496436. PMID: 15771468.

In vivo study

1. Paukkeri EL, Leppänen T, Lindholm M, Yam MF, Asmawi MZ, Kolmonen A, Aulaskari PH, Moilanen E. Anti-inflammatory properties of a dual PPARgamma/alpha agonist muraglitazar in in vitro and in vivo models. Arthritis Res Ther. 2013 Apr 17;15(2):R51. doi: 10.1186/ar4211. PMID: 23594962; PMCID: PMC4060226.

2. Tozzo E, Ponticiello R, Swartz J, Farrelly D, Zebo R, Welzel G, Egan D, Kunselman L, Peters A, Gu L, French M, Chen S, Devasthale P, Janovitz E, Staal A, Harrity T, Belder R, Cheng PT, Whaley J, Taylor S, Hariharan N. The dual peroxisome proliferator-activated receptor alpha/gamma activator muraglitazar prevents the natural progression of diabetes in db/db mice. J Pharmacol Exp Ther. 2007 Apr;321(1):107-15. doi: 10.1124/jpet.106.115337. Epub 2007 Jan 26. PMID: 17259449.

**7. Bioactivity**

Biological target:

Muraglitazar is a PPAR α/γ dual agonist for the treatment of type 2 diabetes and associated dyslipidemia.

In vitro activity

In this study, the effects of various PPAR agonists, i.e. fenofibrate, bezafibrate, troglitazone, rosiglitazone, muraglitazar and tesaglitazar on oleic acid-induced steatotic HepaRG cells were investigated after a single 24-hour or 2-week repeat treatment. The greatest effects on reduction of steatosis were obtained with the dual PPARα/γ agonist muraglitazar.

Reference: Toxicol Appl Pharmacol. 2014 Apr 1;276(1):73-81. https://pubmed.ncbi.nlm.nih.gov/24534255/

In vivo activity

In study 2, diabetic db/db mice were treated for 4 weeks. The control mice displayed increased glucose levels, severe loss of islets, and their isolated islets secreted reduced amounts of insulin in response to glucose and exendin-4 compared with baseline. In muraglitazar-treated mice, glucose levels were reduced to normal. These mice showed reduced loss of islets, and their isolated islets secreted insulin at levels comparable to baseline. Thus, muraglitazar treatment decreased both insulin resistance and preserved beta-cell function.

Reference: J Pharmacol Exp Ther. 2007 Apr;321(1):107-15. https://pubmed.ncbi.nlm.nih.gov/17259449/

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*