

Product data sheet



MedKoo Cat#: 319622 Name: Netoglitazone CAS: 161600-01-7 Chemical Formula: C ₂₁ H ₁₆ FNO ₃ S Exact Mass: 381.0835 Molecular Weight: 381.4214	
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:

Netoglitazone, also known as isaglitazone and MCC-555, is an agent belonging to the glitazone class of antidiabetic agents with antihyperglycemic activity. Netoglitazone exerts both peroxisome proliferator-activated receptor (PPAR) alpha and gamma agonist activity. Netoglitazone decreases bone formation and increases marrow adipocyte formation in vivo.

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
DMF	30.0	78.65
DMSO	140.0	367.05
DMSO:PBS (pH 7.2) (1:1)	1.0	2.62
Ethanol	1.0	2.62

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.62 mL	13.11 mL	26.22 mL
5 mM	0.52 mL	2.62 mL	5.24 mL
10 mM	0.26 mL	1.31 mL	2.62 mL
50 mM	0.05 mL	0.26 mL	0.52 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

- Chen CY, Tseng KY, Wong ZH, Chen YP, Chen TY, Chen HY, Chen ZY, Lin FH, Wu HM, Lin S. Cooperative impact of thiazolidinedione and fatty acid synthase on human osteogenesis. *Aging (Albany NY)*. 2019 Apr 20;11(8):2327-2342. doi: 10.18632/aging.101916. PMID: 31005954; PMCID: PMC6519991.
- Lazarenko OP, Rzonca SO, Suva LJ, Lecka-Czernik B. Netoglitazone is a PPAR-gamma ligand with selective effects on bone and fat. *Bone*. 2006 Jan;38(1):74-84. doi: 10.1016/j.bone.2005.07.008. Epub 2005 Aug 30. PMID: 16137931; PMCID: PMC1850100.

In vivo study

- Imchen T, Manasse J, Min KW, Baek SJ. Characterization of PPAR dual ligand MCC-555 in AOM-induced colorectal tumorigenesis. *Exp Toxicol Pathol*. 2013 Sep;65(6):919-24. doi: 10.1016/j.etp.2013.01.005. Epub 2013 Jan 29. PMID: 23369238; PMCID: PMC3644347.
- Cekanova M, Lee SH, McEntee MF, Baek SJ. MCC-555-induced NAG-1 expression is mediated in part by KLF4. *Eur J Pharmacol*. 2010 Jul 10;637(1-3):30-7. doi: 10.1016/j.ejphar.2010.03.055. Epub 2010 Apr 10. PMID: 20385121; PMCID: PMC2878920.

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7. Bioactivity

Biological target:

Netoglitazone is a dual agonist of PPAR α and PPAR γ with antihyperglycemic activity.

In vitro activity

In this study, the pro-adipocytic and anti-osteoblastic activities of netoglitazone were evaluated in vitro, using both U-33/gamma2 cells as a model of marrow mesenchymal cell differentiation under the control of PPAR-gamma2 and primary bone marrow cultures, and in vivo in C57BL/6 mice. In vitro, netoglitazone induced adipocyte and inhibited osteoblast formation in a PPAR-gamma2-dependent manner; however, it was 100-fold less effective than rosiglitazone.

Reference: Bone. 2006 Jan;38(1):74-84. <https://pubmed.ncbi.nlm.nih.gov/16137931/>

In vivo activity

This study found that MCC-555 suppressed AOM-induced ACF in A/J mice, compared to the control group. Administration of MCC-555 resulted in decreased mitoses and increased apoptotic cells in the colon. Furthermore, expression of tumor suppressor protein MUC2 was increased in MCC-555 treated mice.

Reference: Exp Toxicol Pathol. 2013 Sep;65(6):919-24. <https://pubmed.ncbi.nlm.nih.gov/23369238/>

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.