

Certificate of Analysis

Product Name: Mitoglitazone

Catalog No.: 5799

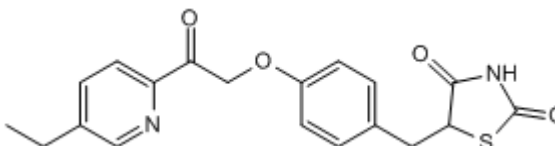
Batch No.: 2

CAS Number: 146062-49-9

IUPAC Name: 5-[[4-[2-(5-Ethyl-2-pyridinyl)-2-oxoethoxy]phenyl]methyl]-2,4-thiazolidinedione

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₁₈N₂O₄S.H₂O
Batch Molecular Weight: 388.44
Physical Appearance: White solid
Solubility: DMSO to 100 mM
ethanol to 20 mM with gentle warming
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.75	5.19	7.21
Found	58.62	4.98	7.18

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Insulin sensitizer; enhances insulin sensitivity and lowers blood-glucose levels in diabetic mouse models. Inhibits mitochondria pyruvate carriers; increases mitochondrial respiration rates, leading to a reduction in expression of lipogenic enzymes. Suppresses gluconeogenesis and lipogenesis in primary hepatocytes. Exhibits low binding affinity and activity at PPAR γ (EC₅₀ = 23.7 μ M).

Physical and Chemical Properties:

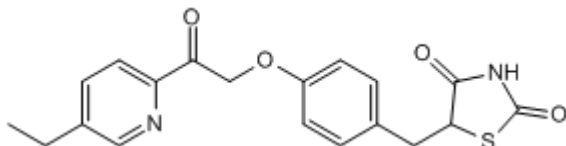
Batch Molecular Formula: C₁₉H₁₈N₂O₄S.H₂O

Batch Molecular Weight: 388.44

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Colca et al (2013) Identification of a mitochondrial target of thiazolidinedione insulin sensitizers (mTOT) relationship to newly identified mitochondrial pyruvate carrier proteins. PLoS One **8** e61551. PMID: 23690925.

Divakaruni et al (2013) Thiazolidinediones are acute, specific inhibitors of the mitochondrial pyruvate carrier. Proc.Natl.Acad.Sci.U.S.A. **110** 5422. PMID: 23513224.

Chen et al (2012) Insulin resistance and metabolic derangements in obese mice are ameliorated by a novel peroxisome proliferator-activated receptor γ -sparing thiazolidinedione. J.Biol.Chem. **287** 23537. PMID: 22621923.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 20 mM with gentle warming

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956