

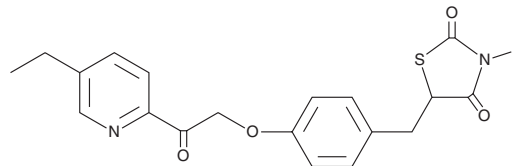
PRODUCT INFORMATION



MSDC-0160

Item No. 71748

CAS Registry No.: 146062-49-9
Formal Name: 5-[[4-[2-(5-ethyl-2-pyridinyl)-2-oxoethoxy]phenyl]methyl]-2,4-thiazolidinedione
MF: C₁₉H₁₈N₂O₄S
FW: 370.4
Purity: ≥98%
UV/Vis.: λ_{max}: 231, 273 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

MSDC-0160 is supplied as a crystalline solid. A stock solution may be made by dissolving the MSDC-0160 in the solvent of choice, which should be purged with an inert gas. MSDC-0160 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MSDC-0160 in ethanol is approximately 0.5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

MSDC-0160 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MSDC-0160 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. MSDC-0160 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

MSDC-0160 is a thiazolidinedione (TZD) with antidiabetic and neuroprotective activities.¹ It inactivates the mitochondrial pyruvate carrier (MPC; IC₅₀ = 1.2 μM) without affecting peroxisome proliferator-activated receptor γ (PPARγ; IC₅₀ = 31.65 μM) *in vitro*.² MSDC-0160 enhances the rate of insulin-stimulated lipogenesis in 3T3-L1 adipocytes in a dose-dependent manner.¹ Dietary administration of MSDC-0160 (100 mg/kg) lowers blood glucose levels in obese, hyperglycemic, hyperinsulinemic, and insulin-resistant KKAy mice. MSDC-0160 prevents neurodegeneration in a *C. elegans* model of Parkinson's disease, an effect that is blocked by knockdown of the mammalian target of rapamycin (mTOR).² It also prevents overactivation of mTOR in the MPTP-induced and engrailed heterozygous (*En^{+/-}*) mouse models of Parkinson's disease.

References

1. Tanis, S.P., Parker, T.T., Colca, J.R., *et al.* Synthesis and biological activity of metabolites of the antidiabetic, antihyperglycemic agent pioglitazone. *J. Med. Chem.* **39(26)**, 5053-5063 (1996).
2. Quansah, E., Peelaerts, W., Langston, J.W., *et al.* Targeting energy metabolism via the mitochondrial pyruvate carrier as a novel approach to attenuate neurodegeneration. *Mol. Neurodegener.* **13(1)**, 28 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM