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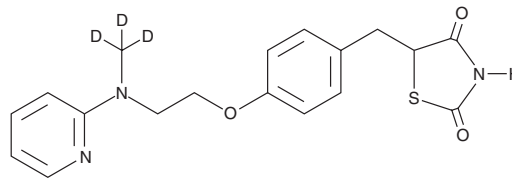
PRODUCT INFORMATION



Rosiglitazone-d₃

Item No. 22562

CAS Registry No.: 1132641-22-5
Formal Name: 5-[[4-[2-(methyl-d₃-2-pyridinylamino)ethoxy]phenyl]methyl]-2,4-thiazolidinedione
MF: C₁₈H₁₆D₃N₃O₃S
FW: 360.4
Chemical Purity: ≥95% (Rosiglitazone)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A 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

Rosiglitazone-d₃ is intended for use as an internal standard for the quantification of rosiglitazone (Item Nos. 71740 | 11884 | 71742) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Rosiglitazone-d₃ is supplied as a solid. A stock solution may be made by dissolving the rosiglitazone-d₃ in the solvent of choice. Rosiglitazone-d₃ is soluble in the organic solvent DMSO, which should be purged with an inert gas.

Description

Rosiglitazone is an agonist of peroxisome proliferator-activated receptor γ (PPAR γ).¹ It activates PPAR γ 1 and PPAR γ 2 in reporter assays (EC₅₀s = 30 and 100 nM, respectively). Rosiglitazone selectively activates chimeras containing the ligand-binding domains (LBDs) of PPAR γ over PPAR α and PPAR δ in a cell-based reporter assay at 10 nM. It induces differentiation of C3H10T1/2 stem cells into adipocytes when used at a concentration of 1 μ M. Rosiglitazone is also an inhibitor of long-chain acyl-CoA synthetase 4 (ACSL4; IC₅₀ = 0.5 μ M), inhibits RSL3-induced ferroptosis in Pfa1 cells and *Pparg* knockout (KO) cells, and increases survival in a *Gpx4* KO mouse model of ferroptosis when used at a concentration of 0.0125 mg/ml in the drinking water.^{2,3} It decreases hemoglobin A1c (HbA1c) and fasting blood glucose levels in a rat model of type 2 diabetes induced by streptozotocin (STZ; Item No. 13104) and a high-carbohydrate and high-fat diet when administered at a dose of 4 mg/kg.⁴ Formulations containing rosiglitazone have been used to improve glycemic control in the treatment of type 2 diabetes.

References

1. Lehmann, J.M., Moore, L.B., Smith-Oliver, T.A., *et al.* *J. Biol. Chem.* **270**(22), 12953-12956 (1995).
2. Kim, J.-H., Lewin, T.M., Coleman, R.A., *et al.* *J. Biol. Chem.* **276**(27), 24667-24673 (2001).
3. Doll, S., Proneth, B., Tyurina, Y.Y., *et al.* *Nat. Chem. Biol.* **13**(1), 91-98 (2017).
4. Zhou, J.Y., Zhou, S.W., Zhang, K.B., *et al.* *Biol. Pharm. Bull.* **31**(6), 1169-1176 (2008).

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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