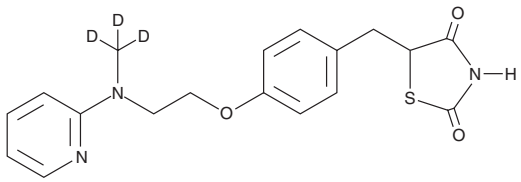
PRODUCT INFORMATION

Rosiglitazone-d_3

Item No. 22562

CAS Registry No.: 1132641-22-5
Formal Name: 5-[[4-[2-(methyl-d_3-2-pyridinylamino)ethoxy] phenyl]methyl]-2,4-thiazolidinedione
MF: $C_{18}H_{16}D_3N_3O_3S$
FW: 360.4
Chemical Purity: ≥95% (Rosiglitazone)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A solid
Storage: 20°C
Stability: ≥4 years



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

Laboratory Procedures

Rosiglitazone-d_3 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-d_3 is supplied as a solid. A stock solution may be made by dissolving the rosiglitazone-d_3 in the solvent of choice. Rosiglitazone-d_3 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 (PPARγ).[1] It activates PPARγ1 and PPARγ2 in reporter assays (EC_{50}s = 30 and 100 nM, respectively). Rosiglitazone selectively activates chimeras containing the ligand-binding domains (LBDs) of PPARγ over PPARα and PPARδ in a cell-based reporter assay at 10 mM. It induces differentiation of C3H10T1/2 stem cells into adipocytes when used at a concentration of 1 µM. Rosiglitazone is also an inhibitor of long-chain acyl-CoA synthetase 4 (ACSL4; IC_{50} = 0.5 µM), 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).

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