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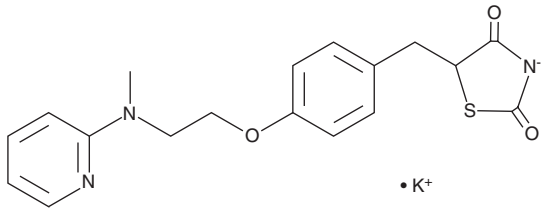
PRODUCT INFORMATION

Rosiglitazone (potassium salt)

Item No. 71742

CAS Registry No.: 316371-84-3
Formal Name: 5-[[4-[2-(methyl-2-pyridinylamino)ethoxy]phenyl] methyl]-2,4-thiazolidinedione, monopotassium salt
MF: $C_{18}H_{18}N_3O_3S \bullet K$
FW: 395.5
Purity: ≥98%
UV/Vis.: λ_{max}: 247 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

Rosiglitazone (potassium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the rosiglitazone (potassium salt) in the solvent of choice. Rosiglitazone (potassium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of rosiglitazone (potassium salt) in ethanol is approximately 2 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Rosiglitazone (potassium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, rosiglitazone (potassium salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Rosiglitazone (potassium salt) has a solubility of approximately 0.5 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. To obtain a higher aqueous concentration rosiglitazone (potassium salt) can be directly dissolved in water at a concentration of 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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., and Coleman, R.A. *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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