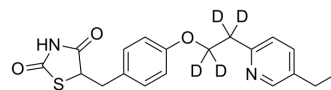


Pioglitazone-d₄ (alkyl)

Cat. No.:	HY-13956S1
CAS No.:	1134163-31-7
Molecular Formula:	C ₁₉ H ₁₆ D ₄ N ₂ O ₃ S
Molecular Weight:	360.46
Target:	PPAR; Ferroptosis; Isotope-Labeled Compounds
Pathway:	Cell Cycle/DNA Damage; Vitamin D Related/Nuclear Receptor; Apoptosis; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Pioglitazone-d ₄ (alkyl) (U 72107-d ₄ (alkyl)) is the deuterium labeled Pioglitazone. Pioglitazone (U 72107) is a potent and selective PPAR γ agonist with high affinity binding to the PPAR γ ligand-binding domain with EC ₅₀ of 0.93 and 0.99 μ M for human and mouse PPAR γ , respectively[1][2].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Kuwabara K, et al. A novel selective peroxisome proliferator-activated receptor alpha agonist, 2-methyl-c-5-[4-[5-methyl-2-(4-methylphenyl)-4-oxazolyl]butyl]-1,3-dioxane-r-2-carboxylic acid (NS-220), potently decreases plasma triglyceride and glucose level
- [3]. Puddu A, et al. Pioglitazone attenuates the detrimental effects of advanced glycation end-products in the pancreatic beta cell line HIT-T15. *Regul Pept.* 2012 Aug 20;177(1-3):79-84.
- [4]. Kubota N, et al. Pioglitazone ameliorates insulin resistance and diabetes by both adiponectin-dependent and -independent pathways. *J Biol Chem.* 2006 Mar 31;281(13):8748-55.
- [5]. Elrashidy RA, et al. Pioglitazone attenuates cardiac fibrosis and hypertrophy in a rat model of diabetic nephropathy. *J Cardiovasc Pharmacol Ther.* 2012 Sep;17(3):324-33.

Caution: Product has not been fully validated for medical applications. For research use only.

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