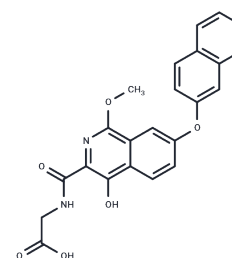


THR-β agonist 9

Chemical Properties

CAS No. : 2920045-74-3
 Formula: C₂₃H₁₈N₂O₆
 Molecular Weight: 418.40
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	THR-β agonist 9 is a potent and selective THR-β activator, which shows sensitivity to His435 mutations with an EC ₅₀ of 3.2 nM. It demonstrates moderate selectivity, approximately 10-fold, and effectively activates various His435 mutants (H435A, H435Y, and H435R), with EC ₅₀ values ranging from 134.2 nM to 515.5 nM. THR-β agonist 9 presents potential for research into conditions such as dyslipidemia, metabolic syndrome-associated steatohepatitis (MASH), and resistance to thyroid hormone (RTH).
Targets(IC50)	Acetyl-CoA Carboxylase, Mitochondrial Metabolism, AMPK, Thyroid hormone receptor (THR)
In vitro	THR-β agonist 9 (Compound 15n) at a concentration of 1 μM activates THR-β with an EC ₅₀ of 258.2 nM while showing an activation potency of 1707.0 nM for THR-α, demonstrating remarkable selectivity in cell-based reporter gene assays. It also activates three THR-β mutants with EC ₅₀ values of 515.5 nM for THR-β H435A, 134.2 nM for THR-β H435R, and 513.1 nM for THR-β H435Y. Administered at 1-10 μM for 24 hours, it reduces triglyceride (TG) and total cholesterol (TC) levels in primary mouse hepatocytes and HepG2 cells, thus decreasing lipid accumulation. Additionally, it enhances both basal and uncoupled mitochondrial respiration in HepG2 cells. Moreover, within the same concentration and duration, THR-β agonist 9 increases the phosphorylation of AMPK and ACC, accompanied by elevated CPT1 protein levels, thereby improving metabolism in HepG2 cells via the AMPK pathway.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3901 mL	11.9503 mL	23.9006 mL
5 mM	0.478 mL	2.3901 mL	4.7801 mL
10 mM	0.239 mL	1.195 mL	2.3901 mL
50 mM	0.0478 mL	0.239 mL	0.478 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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