Product Data Sheet

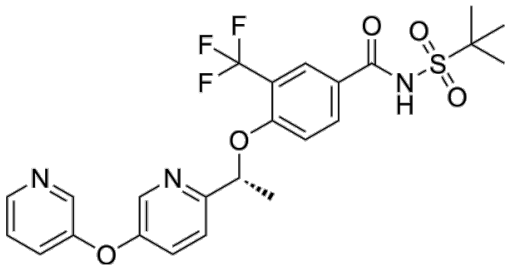
Product Name: ACSL5-IN-1
Cat. No.: GC81604

Chemical Properties

Cas. No.

Formula	$C_{24}H_{24}F_3N_3O_5S$	M.Wt	523.52
Solubility	DMSO: 4.17 mg/mL (7.97 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



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Background

ACSL5-IN-1 (Compound A) is an ACSL5 inhibitor with body weight-reducing activity. ACSL5-IN-1 inhibits ACSL5, an enzyme linked to fatty acid metabolism. ACSL5-IN-1 reduces body weight in diet-induced obesity mice. ACSL5-IN-1 can be used for the research of obesity, metabolic dysfunction-associated steatohepatitis, metabolic syndrome, non-alcoholic fatty liver disease, type 2 diabetes, acute myeloid leukemia, colorectal cancer, and breast cancer [1].

In Vitro, Long-chain acyl-CoA synthetase family member 5 (ACSL5) is widely expressed in the liver, small intestine, adipose tissue, spleen, uterus, lung and skeletal muscle of mammals. ACSL5 catalyzes the conversion of long-chain fatty acids in the cytoplasm to acyl-CoA. These acyl-CoA molecules are subsequently used for the synthesis of complex lipids and other products in the endoplasmic reticulum, or enter mitochondria for γ-oxidation. Fatty acids catalyzed by ACSL5 include palmitic acid, palmitoleic acid, oleic acid and linoleic acid. Studies show that ACSL5 is involved in glucose and lipid metabolism, and may play an important role in metabolic disorders. For example, ACSL5-/- mice exhibit increased FGF21 levels in the liver and serum, reduced fat mass, improved insulin sensitivity, increased energy expenditure and delayed triglyceride absorption[1].

References:
[1]. Thomas Bernard LEVY, et al. Compounds and methods of their use. WO2025174957A1. 2025-02-13.

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