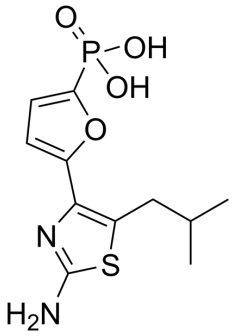
MB05032

Cat. No.:	HY-16307
CAS No.:	261365-11-1
Molecular Formula:	$C_{11}H_{15}N_2O_4PS$
Molecular Weight:	302.29
Target:	FBPase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (165.40 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3081 mL	16.5404 mL	33.0808 mL
	5 mM	0.6616 mL	3.3081 mL	6.6162 mL
	10 mM	0.3308 mL	1.6540 mL	3.3081 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MB05032 is a special and efficacious gluconeogenesis inhibitor targeted the AMP binding site of fructose 1,6-bisphosphatase (FBPase) with an IC_{50} value of 16 nM.

IC_{50} & Target

IC50: 16 nM (Human Liver FBPase)[1]

In Vivo

MB06322 (3/6-300 mg/kg (young/aged Zucker diabetic fatty (ZDF) rats); p.o.; once) results in dose-dependent glucose lowering in young ZDF rats with mild diabetes and aged ZDF rats with overt diabetes[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	ZDF rats (8- to 9-week-old (mild diabetes) and 12- to 13-week-old (overt diabetes))[1]
Dosage:	3, 6, 10, 30, 300 mg/kg (young ZDF rats); 6, 10, 30, 300 mg/kg (aged ZDF rats)
Administration:	Oral administration; once
Result:	Results in dose-dependent glucose lowering.

CUSTOMER VALIDATION

- Nat Med. 2018 Sep;24(9):1395-1406.
- Cell Metab. 2018 Aug 7;28(2):243-255.e5.
- J Dairy Sci. 2023 May 8;S0022-0302(23)00226-6.

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REFERENCES

[1]. Erion MD, et al. MB06322 (CS-917): A potent and selective inhibitor of fructose 1,6-bisphosphatase for controlling gluconeogenesis in type 2 diabetes. Proc Natl Acad Sci U S A. 2005 May 31;102(22):7970-5.

[2]. Zhang Y, et al. Fructose-1,6-bisphosphatase regulates glucose-stimulated insulin secretion of mouse pancreatic beta-cells. Endocrinology. 2010 Oct;151(10):4688-95.

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