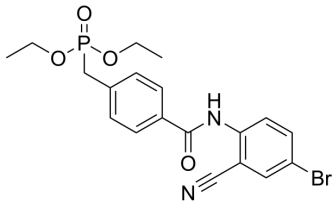
Ibrolipim

Cat. No.:	HY-117549		
CAS No.:	133208-93-2		
Molecular Formula:	$C_{19}H_{20}BrN_2O_4P$		
Molecular Weight:	451.25		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (110.80 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2161 mL	11.0803 mL	22.1607 mL
	5 mM	0.4432 mL	2.2161 mL	4.4321 mL
	10 mM	0.2216 mL	1.1080 mL	2.2161 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.54 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ibrolipim (NO-1886) is an orally active lipoprotein lipase (LPL)-promoting agent. Ibrolipim decreases plasma triglycerides, increases high-density lipoprotein cholesterol levels. Ibrolipim has renoprotective and hypolipidemic effects[1][2][3].

IC_{50} & Target

Lipoprotein lipase (LPL)[1][2][3]

In Vitro

Ibrolipim (0.5-10 μM; 0-24 hours; THP-1 macrophage-derived foam cells) treatment increases ABCA1 and ABCG1 expression at translational levels in a dose-dependent and time-dependent manner [1].
Ibrolipim (0.5-10 μM; 0-24 hours; THP-1 macrophage-derived foam cells) treatment increases ABCA1 and ABCG1 expression at the transcriptional levels in a dose-dependent and time-dependent manner [1].
Ibrolipim 5 and 50 μmol/L significantly increases cholesterol efflux from THP-1 macrophage-derived foam cells to apoA-I or

HDL. LXRα is also upregulated by the Ibrolipim treatment. LXRα small interfering RNA completely abolishes the promotion effect that is induced by Ibrolipim[1].

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

Western Blot Analysis[1]

Cell Line:	THP-1 macrophage-derived foam cells
Concentration:	0.5 μM, 5 μM, 10 μM
Incubation Time:	0 hour, 6 hours, 12 hours, 24 hours
Result:	Increased ABCA1 and ABCG1 translational levels in a dose-dependent and time-dependent manner.

RT-PCR[1]

Cell Line:	THP-1 macrophage-derived foam cells
Concentration:	0.5 μM, 5 μM, 10 μM
Incubation Time:	0 hour, 6 hours, 12 hours, 24 hours
Result:	Increased ABCA1 and ABCG1 expression at the transcriptional levels in a dose-dependent and time-dependent manner.

In Vivo

Ibrolipim (NO-1886; 100 mg/kg; oral administration; daily; for 8 weeks; female Sprague-Dawley rats) treatment decreases accumulation of visceral fat and suppresses the increase in body weight resulting from the ovariectomy. Ibrolipim decreases the respiratory quotient and increases expression of the fatty acid translocase messenger RNA (mRNA) in the liver, soleus muscle, and mesenteric fat. Ibrolipim also increases the expression of fatty acid-binding protein mRNA in the liver and soleus muscle and the expression of the uncoupling protein 3 (UCP3) mRNA in the heart, soleus muscle, and mesenteric fat, but not in the brown adipose tissue[2].

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

Animal Model:	Female Sprague-Dawley rats (10-week-old; 200-260 g) with experimental ovariectomy treatment[2]
Dosage:	100 mg/kg
Administration:	Oral administration; daily; for 8 weeks
Result:	Decreased accumulation of visceral fat and suppressed the increase in body weight resulting from the ovariectomy.

REFERENCES

[1]. Chen SG, et al. Ibrolipim increases ABCA1/G1 expression by the LXRα signaling pathway in THP-1 macrophage-derived foam cells. Acta Pharmacol Sin. 2010 Oct;31(10):1343-9.

[2]. Kano S, et al. NO-1886 (ibrolipim), a lipoprotein lipase-promoting agent, accelerates the expression of UCP3 messenger RNA and ameliorates obesity in ovariectomized rats. Metabolism. 2006 Feb;55(2):151-8.

[3]. Liu Y, et al. Preventive effect of Ibrolipim on suppressing lipid accumulation and increasing lipoprotein lipase in the kidneys of diet-induced diabetic minipigs. Lipids Health Dis. 2011 Jul 16;10:117.

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

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