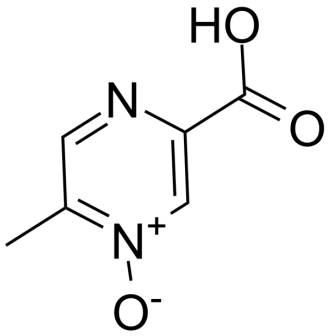
Acipimox

Cat. No.:	HY-B0283		
CAS No.:	51037-30-0		
Molecular Formula:	$C_6H_6N_2O_3$		
Molecular Weight:	154.12		
Target:	Others		
Pathway:	Others		
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 : ≥ 100 mg/mL (648.85 mM)

H_2O : 20 mg/mL (129.77 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.4885 mL	32.4423 mL	64.8845 mL
5 mM	1.2977 mL	6.4885 mL	12.9769 mL
10 mM	0.6488 mL	3.2442 mL	6.4885 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 46.67 mg/mL (302.82 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (16.22 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (16.22 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (16.22 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Acipimox (K-9321), a nicotinic acid analogue, is an antilipolytic compound. Acipimox stimulates leptin releas, inhibits lipolysis and suppresses systemic levels of free fatty acids (FFAs) and improves insulin sensitivity[1][2][3].

In Vitro	Acipimox (0-100 μM; 0-4 hours) enhances leptin release from adipocytes isolated from Sprague-Dawley rats in a time- and dose- dependent manner[2]. Acipimox (10 mM) stimulats leptin release in adipocytes from Streptozotocin (STZ)-treated and Zucker diabetic fat (ZDF) rats [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Acipimox (50 mg/kg; i.p.) significantly lowers circulating free fatty acid (FFA) and glucose in high-fat fed mice[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female C57BL/6J mice[3]
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection
Result:	Reduced circulating levels of FFA and glucose after 3 h.

CUSTOMER VALIDATION

- bioRxiv. 2023 Mar 29.

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REFERENCES

[1]. Vestergaard ET, et, al. Short-term acipimox treatment is associated with decreased cardiac parasympathetic modulation. Br J Clin Pharmacol. 2017 Dec;83(12):2671-2677.

[2]. Wang-Fisher YL, et, al. Acipimox stimulates leptin production from isolated rat adipocytes. J Endocrinol. 2002 Aug;174(2):267-72.

[3]. Ahrén B. Reducing plasma free fatty acids by acipimox improves glucose tolerance in high-fat fed mice. Acta Physiol Scand. 2001 Feb;171(2):161-7.

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