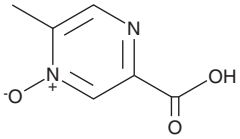
PRODUCT INFORMATION

Acipimox

Item No. 26090

CAS Registry No.:	51037-30-0
Formal Name:	5-methyl-2-pyrazinecarboxylic acid, 4-oxide
MF:	$C_6H_6N_2O_3$
FW:	154.1
Purity:	≥95%
UV/Vis.:	λ_{max}: 233, 276 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Acipimox is supplied as a crystalline solid. A stock solution may be made by dissolving the acipimox in the solvent of choice, which should be purged with an inert gas. Acipimox is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of acipimox in DMSO and DMF is approximately 30 mg/ml. Acipimox is slightly soluble in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of acipimox can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of acipimox in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Acipimox is an antilipolytic agent.[1] It inhibits lipolysis induced by noradrenaline and theophylline in rat epididymal adipocytes when used at a concentration of 1 µM. Acipimox (3 and 12 mg/kg, p.o.) decreases plasma free fatty acid levels in rats. It reduces plasma fatty acid concentration, the number of atherosclerotic plaques, and matrixmetalloproteinase-2 (MMP-2) activity in *ApoE*$^{-/-}$ mice fed a palmitate-rich diet.[2] Acipimox also reduces fasting blood glucose and plasma insulin levels as well as plasma free fatty acid and triglyceride levels in a rat model of diabetes induced by streptozotocin (Item No. 13104).[3] Formulations containing acipimox have been used in the treatment of hyperlipidemia in patients with non-insulin-dependent diabetes.

References

1. Lovisolo, P.P., Briatico-Vangosa, G., Orsini, G., *et al*. Pharmacological profile of a new anti-lipolytic agent: 5-methyl-pyrazine-2-carboxylic acid 4-oxide (acipimox) (1) I - Mechanism of action. *Pharmacol. Res. Commun*. **13(2)**, 151-161 (1981).
2. Feipeng, J., Jiang, S., Yang, D., *et al*. Acipimox attenuates atherosclerosis and enhances plaque stability in ApoE-deficient mice fed a palmitate-rich diet. *Biochem. Bioph. Res. Commun*. **428(1)**, 86-92 (2012).
3. Kim, Y.W., Kim, J.Y., and Lee, S.K. Effects of phlorizin and acipimox on insulin resistance in STZ-diabetic rats. *J. Korean Med. Sci.* **10(1)**, 24-30 (1995).

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