

AMK (hydrochloride)

Chemical Properties

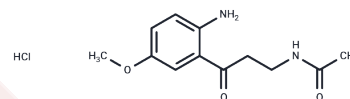
CAS No. : 1215711-91-3

Formula: C₁₂H₁₇ClN₂O₃

Molecular Weight: 272.73

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	AMK is an active metabolite of the neurohormone melatonin .1,2,3,4It is formed from melatonin in the metabolic intermediate AFMK that is then deformed by catalase or formamidase.5,6AMK scavenges singlet oxygen in vitro when used at a concentration of 200 μM.1It inhibits the epinephrine- and arachidonic acid-induced production of prostaglandin E2 and PGD2 in ovine seminal vesicle microsomes in a concentration- and time-dependent manner, as well as LPS-induced increases in COX-2 levels in RAW 264.7 macrophages when used at a concentration of 500 μM.2,3AMK (20 mg/kg) decreases MPTP-induced increases in lipid peroxidation in the cytosol and mitochondria from substantia nigra and striatum in a mouse model of MPTP-induced Parkinson's disease.4
Targets (IC50)	Others, COX, PGE Synthase, Prostaglandin Receptor, ROS

Solubility Information

Solubility	Methanol: Slightly soluble H ₂ O: Slightly soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6666 mL	18.3332 mL	36.6663 mL
5 mM	0.7333 mL	3.6666 mL	7.3333 mL
10 mM	0.3667 mL	1.8333 mL	3.6666 mL
50 mM	0.0733 mL	0.3667 mL	0.7333 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Schaefer, M., and Hardeland, R. The melatonin metabolite N1-acetyl-5-methoxykynuramine is a potent singlet oxygen scavenger. *J. Pineal Res.* 46(1)49-52(2009)
- Kelly, R.W., Amato, F., and Seamark, R.F. N-acetyl-5-methoxy kynurenamine, a brain metabolite of melatonin, is a potent inhibitor of prostaglandin biosynthesis. *Biochem. Biophys. Res. Commun.* 121(1)372-379(1984)
- Mayo, J.C., Sainz, R.M., Tan, D.-X., et al. Anti-inflammatory actions of melatonin and its metabolites, N1-acetyl-N2-formyl-5-methoxykynuramine (AFMK) and N1-acetyl-5-methoxykynuramine (AMK), in macrophages. *J. Neuroimmunol.* 165(1-2)139-149(2005)
- Tapias, V., Escames, G., López, L.C., et al. Melatonin and its brain metabolite N1-acetyl-5-methoxykynuramine prevent mitochondrial nitric oxide synthase induction in parkinsonian mice. *J. Neurosci. Res.* 87(13)3002-3010(2009)
- Tan, D.-X., Manchester, L.C., Reiter, R.J., et al. Melatonin directly scavenges hydrogen peroxide: A potentially new metabolic pathway of melatonin biotransformation. *Free Radic. Biol. Med.* 29(11)1177-1185(2000)
- Hirata, F., Hayaishi, O., Tokuyama, T., et al. In vitro and in vivo formation of two new metabolites of melatonin. *J. Biol. Chem.* 249(4)1311-1313(1974)

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481