

Product Datasheet

AFMK

Catalog No. **BP-02169** · CAS **52450-38-1** · Form **free base** · Physical state **solid** · Color **Light yellow to light brown** · Version **1.0** · Revision **2026-09-04**

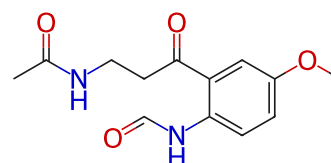
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Target Endogenous Metabolite	Research area Cancer
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Molecular formula **C₁₃H₁₆N₂O₄**

Molecular weight **264.2771**

STRUCTURE



DESCRIPTION

AFMK, antioxidant metabolite of Melatonin, attenuates X-ray-induced oxidative damage to DNA, proteins and lipids in mice. AFMK is a poorer scavenger. The pKa of AFMK at physiological pH is 8.7. Antioxidant capacity. AFMK improves the anti-tumor effect of Gemcitabine in PANC-1 cells through the modulation of apoptotic pathway.

BIOLOGICAL ACTIVITY

In Vitro

AFMK is one of the metabolites of melatonin and can be formed by both enzymatic or pseudoenzymatic and nonenzymatic metabolic pathways.

AFMK pretreatment significantly inhibits DNA damage. AFMK shows a very high level of in vitro hydroxyl radical scavenging potential which was measured by an electron spin resonance (ESR) study. IC50 values resulting from ESR analysis was 338.08 nM. AFMK, a melatonin metabolite, is a sparingly investigated biogenic amine.

AFMK administered to PANC-1 in combination with Gemcitabine inhibits the production of HSP70 and cIAP-2 as compared to the results obtained with Gemcitabine alone.

In Vivo

AFMK is a potent antioxidant in vivo. AFMK significantly reverses radiation-induced decline in the total antioxidant capacity of plasma in mice.

SOLUBILITY

Soluble in DMSO : 50 mg/mL

REFERENCES

- [1]. Annia Galano, et al. On the free radical scavenging activities of melatonin's metabolites, AFMK and AMK. J Pineal Res. 2013 Apr;54(3):245-57.
- [2]. Kailash Manda, et al. AFMK, a melatonin metabolite, attenuates X-ray-induced oxidative damage to DNA, proteins and lipids in mice. J Pineal Res. 2007 Apr;42(4):386-93.
- [3]. Anna Leja-Szpak, et al. Melatonin and its metabolite N1-acetyl-N2-formyl-5-methoxykynuramine (afmk) enhance chemosensitivity to gemcitabine in pancreatic carcinoma cells (PANC-1). Pharmacol Rep. 2018 Dec;70(6):1079-1088.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com

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