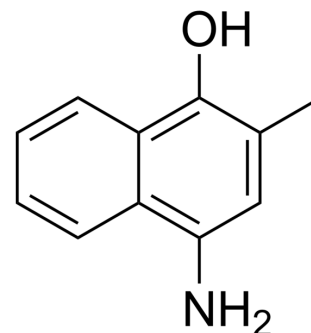


Vitamin K5

Cat. No.:	HY-B1814
CAS No.:	83-70-5
Molecular Formula:	C ₁₁ H ₁₁ NO
Molecular Weight:	173.21
Target:	Bacterial; Fungal; Pyruvate Kinase
Pathway:	Anti-infection; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vitamin K5 (Synkamin) is a photosensitizer and an antimicrobial agent. Vitamin K5 is a specific PKM2 inhibitor with IC ₅₀ values of 28, 191 and 120 μM for PKM2, PKM1 and PKL. Vitamin K5 induces apoptosis of colon 26 cells. Vitamin K5 can be used for the research of infection and cancer, and it also can be used as a preservative for pharmaceuticals, foods, and beverages ^[1] [2][3].
IC₅₀ & Target	IC ₅₀ : 28 μM (PKM2), 191 μM PKM1, 120 μM (PKL) ^[2]
In Vitro	Vitamin K5 (0-1600 μmol/L) increases the antibacterial effects of UVA irradiation to Escherichia coli, Bacillus cereus, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis and Klebsiella pneumoniae ^[1] . Vitamin K5 (250-1000 μmol/L) generates superoxide anion radical and hydroxyl radical with a fixed UVA dose of 2.9 J cm ⁻² ^[1] . Vitamin K5 (0-100 μM; 1 h) dose-dependently inhibits the cellular glucose consumption and lactate production ^[2] . Vitamin K5 dose-dependently suppresses the proliferation of colon 26 cells ^[3] . Vitamin K5 induces cell apoptosis and increases activity of caspase-3 in colon 26 cells ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Xu F, et al. Vitamin K5 is an efficient photosensitizer for ultraviolet A light inactivation of bacteria. FEMS Microbiol Lett. 2018 Feb 1;365(4).
- [2]. Chen J, et al. Vitamin K(3) and K(5) are inhibitors of tumor pyruvate kinase M2. Cancer Lett. 2012 Mar 28;316(2):204-10.
- [3]. Ogawa M, et al. Vitamins K2, K3 and K5 exert antitumor effects on established colorectal cancer in mice by inducing apoptotic death of tumor cells. Int J Oncol. 2007 Aug;31(2):323-31.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA