



LKT Laboratories, Inc.

Cordycepin

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Product Information

Product ID C5968

CAS No. 73-03-0

Chemical Name 3'-deoxyadenosine

Synonym

Formula $C_{10}H_{13}N_5O_3$

Formula Wt. 251.24

Melting Point

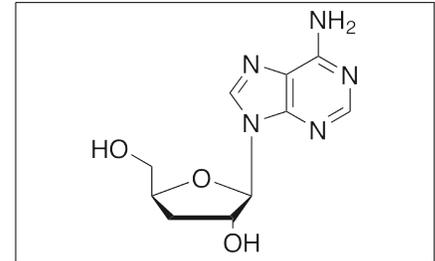
Purity $\geq 98\%$

Solubility Water

Store Temp Ambient

Ship Temp Ambient

Description Cordycepin is originally found in a variety of species of the fungus *Cordyceps* and displays anticancer, neuromodulatory, anti-inflammatory, anti-parasitic, and antiviral activities. Cordycepin induces double-stranded DNA breaks in cancer cells with incorporated into nucleic acid chains as it is a 3-deoxy analog of adenosine. Additionally, cordycepin increases generation of reactive oxygen species (ROS), increases caspase activity and PARP cleavage, and activates AMPK, inducing caspase-mediated apoptosis in cells. Cordycepin decreases the amplitude of excitatory presynaptic membrane potentials and indirectly inhibits AMPA receptor- and NMDA receptor-mediated responses through inhibition of presynaptic excitatory neurotransmitter release. In vitro, cordycepin decreases production of NO, activation of NF- κ B, and expression of iNOS, COX-2, and TNF- α . This compound displays antimicrobial activity against *Leishmania* and also terminates RNA chains in cells infected with picornavirus.



Bulk quantities available upon request

Product ID	Size
C5968	10 mg
C5968	25 mg
C5968	100 mg

References Yao LH, Huang JN, Li CH, et al. Cordycepin suppresses excitatory synaptic transmission in rat hippocampal slices via a presynaptic mechanism. *CNS Neurosci Ther.* 2013 Apr;19(4):216-21. PMID: 23419191.

Lee HJ, Burger P, Vogel M, et al. The nucleoside antagonist cordycepin causes DNA double strand breaks in breast cancer cells. *Invest New Drugs.* 2012 Oct;30(5):1917-25. PMID: 22821173.

Jeong JW, Jin CY, Park C, et al. Induction of apoptosis by cordycepin via reactive oxygen species generation in human leukemia cells. *Toxicol In Vitro.* 2011 Jun;25(4):817-24. PMID: 21310227.

Wang Z, Wang X, Qu K, et al. Binding of cordycepin monophosphate to AMP-activated protein kinase and its effect on AMP-activated protein kinase activation. *Chem Biol Drug Des.* 2010 Oct;76(4):340-4. PMID: 20738312.

Kim HG, Shrestha B, Lim SY, et al. Cordycepin inhibits lipopolysaccharide-induced inflammation by the suppression of NF- κ B through Akt and p38 inhibition in RAW 264.7 macrophage cells. *Eur J Pharmacol.* 2006 Sep 18;545(2-3):192-9. PMID: 16899239.

Wataya Y, Hiraoka O. 3'-Deoxyinosine as an anti-leishmanial agent: the metabolism and cytotoxic effects of 3'-deoxyinosine in *Leishmania tropica* promastigotes. *Biochem Biophys Res Commun.* 1984 Sep 17;123(2):677-83. PMID: 6487305.

Panicali DL, Nair CN. Effect of cordycepin triphosphate on in vitro RNA synthesis by picornavirus polymerase complexes. *J Virol.*

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.