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-κB, 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.

**References**


