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# Molecular Cloning and Characterization of the Superoxide Dismutase Gene of *Cordyceps militaris*

**Nam Sook Park[1], Byung Rae Jin[1], Sang Mong Lee[2], Eun Joo Park[3], and Hung Dae Sohn[1]**

*[1]College of Natural Resources and Life Science, Dong-A University, Busan 604-714, Korea and [2]Department of Sericultural and Entomological Biology, Miryang National University, Miryang 627-130, Korea and [3]Department of Life Science, Kyungnam University, Masan, Korea*

We describe here the complete nucleotide sequence and the exon-intron structure of the superoxide dismutase (SOD) gene of *Cordyceps militaris*. The SOD gene of *C. militaris* spans 922 bp and consisted of three introns and four exons coding for 154 amino acid residues. The SOD cDNA was also cloned from *C. militaris*. The deduced amino acid sequence of the SOD of *C. militaris* showed 89.4% identity with *Claviceps purpurea* Cu,Zn SOD (*SOD1*) and 66.5% - 87.0% with other fungi *SOD1*s. Phylogenetic analysis further confirmed that the deduced amino acid sequences of the *C. militaris SOD1* gene belonged to the fungi group. The *SOD1* of *C. militaris* did not form any helical regions in the predicted three-dimensional structure, suggesting that *C. militaris SOD1* seems to be β-barrel structure. Southern blot analysis of genomic DNA suggested the presence of the *C. militaris SOD1* gene as a single copy and Northern blot analysis confirmed single *SOD1* transcript from *C. militaris*. Furthermore, the *SOD1* enzyme assay showed that *SOD1* activity in the late stage of *C. militaris* growth was 169.15 IU/mg sample and 1082.72 IU/mg protein.