

Cloning and Characterization of the Cu,Zn Superoxide
Dismutase (SOD1) cDNA from the Mole Cricket, *Gryllotalpa
orientalis*

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A Cu,Zn superoxide dismutase (SOD1) cDNA was cloned from the mole cricket, *Gryllotalpa orientalis*. The *G. orientalis* SOD1 (GoSOD1) cDNA contains an open reading frame of 462 bp encoding 154 amino acid polypeptide with a predicted molecular mass of 15.8 kDa and pI of 6.1, and possesses the typical metal binding ligands of six histidines and one aspartic acid common to SOD1s. The deduced amino acid sequence of the GoSOD1 cDNA showed 75% identity to *Lasius niger* SOD1, 73% to *Apis mellifera* SOD1, and 70% - 68% to SOD1 sequences from other insects. Northern blot analysis revealed the presence of GoSOD1 transcripts in all tissues examined. The expression level of GoATX1 mRNA in the fat body was induced when *G. orientalis* adult was exposed at low (4 °C) and high (37 °C) temperatures, suggesting that the GoSOD1 seems to play a protective role against oxidative stress caused by temperature shock.