

Molecular Cloning of the Peroxiredoxin Gene Homologue from the Mole Cricket, *Gryllotalpa orientalis*

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Naturally aerobic organisms generate reactive oxygen, which damages all major classes of biological macromolecules as by-products of respiration. However, they have evolved protective enzymatic mechanisms to guard themselves from damage caused by the oxidants. The family of proteins, exhibiting thiol-dependent peroxidase activity, referred to as peroxiredoxin (Prx), has been identified in a variety of prokaryotic and eukaryotic species. In this study, we have isolated a putative cDNA encoding one of the Prx genes from the cDNA library of the mole cricket, *Gryllotalpa orientalis*. Sequence analysis showed that a 708-bp cDNA clone contained an open reading frame of 220 amino acid residues consisted of 660-bp. GenBank database search showed the putative Prx gene to have a sequence homology with a diverse organism such as mammals, fungi, plants and etc., including five *Drosophilla* Prx (DPx) genes. Pairwise comparison and phylogenetic analysis showed that the putative mole cricket Prx is most similar to the DPx-2540 (67.8% of sequence identity). Multiple alignment of the Prx gene with the five DPx genes showed the presence of one conserved cysteine, which is a hallmark of 1-Cys type Prx in a diverse organism and a few conserved amino acid residues. Characterization of this putative mole cricket Prx gene homologue will further provide a detailed functional information of this gene.