E309 Purification and Characterization of Copper and Zinc-containing Superoxide Dismutase from *Candida albicans*

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Superoxide dismutase(SOD) was purified 20.3-fold with an overall yield of 0.4% to apparent electrophoretic homogeneity from the dimorphic pathogenic fungus, *Candida albicans*. The molecular weight of the native enzyme was 42.7 kDa and the enzyme was composed of two identical subunits with the molecular of 21 kDa. The enzyme was stable at the range of pH 4.0-10.0 and up to 55℃. The enzyme was inhibited by cynaide and H_2O_2 but nearly not inhibited by azide. The atomic emission analysis revealed that the enzyme contained 1.1 g-atom of copper and 1.0 g-atom zinc per mol of subunit. The UV-visible absorption spectrum of the enzyme showed the absorption band of Cu,ZnSOD in the range of 600-700nm. *N*-terminal sequence of the enzyme was similar to that of Cu,ZnSOD from *Saccaromyces cerevisiae*.

E310 Purification and Characterization of Ascorbyl Free Radical Reductase from *Pleurotus ostreatus*

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Ascorbyl free radical (AFR) reductase was purified 1140-fold to electrophoretic homogeneity from the white rot fungus, *Pleurotus ostreatus*. The molecular weight of the native enzyme was 127 kDa and the enzyme was composed of two identical subunits with molecular weight of 62 kDa. The enzyme contained FMN as a prosthetic group which was reduced by NADH and reoxidized by AFR. The enzyme had 1 mol thiol group/mol of subunit in the active site and its pK_a was determined to 6.7 by the chemical modification study with thiol reagent. Reduction of AFR by the enzyme was observed by EPR spectroscopy. The amino acid composition is presented.