

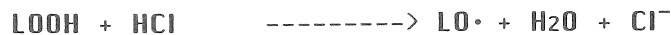
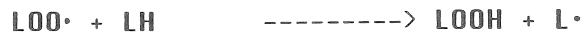
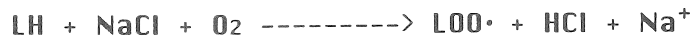
Mechanism of the antioxidant effect of NaCl on the lipid peroxidation

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Summary

This paper reveals for the first time that the studies of the lipid peroxidation and the antioxidant effect of NaCl. The purpose of this studies was to antioxidant effect of NaCl using aqueous solution system, emulsion system, and enzyme system and to follow the mechanisms to determine how they occur, as was the effect of tocopherol on the antioxidant actions. The antioxidant effects of NaCl were confirmed to exist in all systems and to be the same anti oxidizing effect. The mechanism of antioxidant action were as follows:



Linoleic acid (LH) combines with oxygen, which produces peroxy radicals (LOO·), while NaCl is dissociated Na⁺ and Cl⁻ at the same time. Then hydrogen is removed from LH and combines with the peroxy radicals, which produces by hydroperoxide (LOOH). Peroxy radical are then produced again. Thus, there can be a chain reaction, which cases LOOH to accumulate. Once a certain amount of LOOH accumulate, LH can also react with oxygen and Cl⁻, which would produce HCl. The HCl can then react with LOOH are produced of H₂O. In that reaction, LOOH accepts and decomposes. The effect of tocopherol on the antioxidant action at NaCl was synergistic in the all model systems. The study thus offers important finding for lipid biochemistry and sciences.