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Preface

Free radicals were discovered by Gomberg in 1900. In a celebration of the centennial anniversary of the discovery of free radicals, an international symposium on "Free Radicals in Life Science" was held at the University of Tokyo on March 9 and 10, 2000. The symposium was supported by the Research Center for Advanced Science and Technology of the University of Tokyo, the 170th Committee on Redox Life Science, the Japan Society for the Promotion of Science, the International Society for Free Radical Research, the Oxygen Club of California, and UNESCO-MCBN.

In the past 100 years, a number of studies on free radicals have been reported, ranging from the basic chemistry to biology and medicine. These studies have clearly increased our understanding of the nature of free radicals themselves, the reaction mechanisms of free radicals and damage to industrial materials and biological substrates by free radicals. Because of this, the existence of several defense systems, composed of antioxidants and antioxidant enzymes has been elucidated. Furthermore, recently, the roles of several free radicals in cell functions have been demonstrated. As we progress in this field, it appears that, as our knowledge base increases, more questions arise.

This symposium was also held to celebrate the retirement of Professor Etsuo Niki from the University of Tokyo. He has worked in the field of oxidation by free radicals and related active species and on antioxidation by various natural and synthetic antioxidants for most of his career. He also served as president of the International Society for Free Radical Research from 1990 to 1992.

On behalf of the organizing committee of this symposium, I would like to express my thanks to all the speakers who participated and presented the results of their excellent research.

Here their presentations are edited and published as a special issue of Free Radical Research with kind help of Professor Naoyuki Taniguchi, who served as the editor. All manuscripts were carefully reviewed by various editorial board members and by outside experts. Through this issue, our knowledge in this area will be brought up to date, and some elusive questions in this area, relative to free radicals in life science, will be answered.

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