

Active oxygens(151-158)

- 151 Role of O_2^- in "Kada Effects"
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- A mechanism of "Kada Effects", which was presented at 34th Meeting, has been reexamined on formation of $ClOH^\cdot$ at neutral pH, possibility of participation of citrate peroxy radical or DNA peroxy radical, and a possible occurrence of Fenton reaction. Participation of DNA peroxy radical is denied because of their bimolecular process leading to single strand break. Fenton reaction was already denied by Takakura et al. with the experiment on after effect. The mechanism containing citrate peroxy radical can afford an excellent simulation curve, but the estimated rate constant for unimolecular decay of the peroxy radical to get meaningful fit is extraordinarily small compared with ones for analogous organic peroxy radicals. This implies no participation of the peroxy radical in "Kada Effects".

- 152 Radio- and drug-sensitivity of normal and
 acatalasemic mouse cell lines.
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Fibroblast cell lines have been established from the C3H/C₃^b mutant mouse. These cell lines have low levels of a catalase enzyme activity. When compared to wild-type C3H/C₃^a cells, the C3H/C₃^b cells are markedly more sensitive to the toxicity of hydrogen peroxide and slight sensitive to X-rays and NUV. However these cells are markedly resistant to the toxicity of Bleomycin. These cell lines will be of use in the study of the role which catalase plays in the toxicity of oxidative stress.