

## BOOK REVIEW

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Oxidative Damage and Related Enzymes - EMBO Workshop 1983  
Life Chemistry Reports, Supplement 2

This monograph constitutes the proceeding of a specialised meeting which as the introduction states, discussed the toxic effects of free radicals, their use in cancer treatment and the defence mechanisms present in the body. The volume is divided into three sections:

- a) molecular mechanisms of free radical production and damage;
- b) cellular aspects of free radical production and damage;
- c) mechanisms of antioxidant defence.

In a well-written opening paper, Winterbourne raises what is to become a recurrent theme, the importance of iron, whether deliberately present in the system under study or present as trace contamination. The importance of free or decompartmentalised iron is again taken up in the two following papers, one by Halliwell, Rowley & Gutteridge on Transition Metal Catalysts and Oxygen Radical Reactions, and the other by Gutteridge, Halliwell & Rowley on Catalytic Iron Complexes in Biological Materials: A Potential for Oxygen Radical Damage. Although both papers are well written the fact that two papers are needed to get across a particular message and that this message has already been well presented in numerous other papers highlights the problems associated with this type of publication. The 430-page volume contains sixty papers, of average length less than seven pages. Any free radical researcher who is at all up with the literature, will quickly realise that the contents of most of the papers have, or will be published in greater detail elsewhere. Many of them do not have an extra experimental section and those that are clearly of a review format are often either too short to be useful or are well worn. Unless such papers offer a new slant on existing information, or in a manner geared to a hitherto untouched audience, one seriously questions whether a further publication can be justified. A five-page paper containing three diagrams and a table referenced 1983, hardly helps to justify a volume costing \$58 in 1985.

On the positive side the non-free radical researcher picking up this book will soon appreciate not only the wide ranging aspects of free radical biology but also the difficulties and complexities associated with extrapolating from *in vitro* model systems to the *in vivo* situation. Problems associated with iron in particular, are also discussed in papers by Czapski and colleagues concerning radiation damage, by Bannister *et al.* concerning the roles of ferritin and lactoferrin and by Peisach *et al.* with respect to the

action of bleomycin.

A five-page paper by Noriega and colleagues on the Spanish toxic oil syndrome showing that the levels of lipid peroxides in oil from families presenting symptoms was in all cases greater than in that found in clean oil, makes interesting reading. Whether the authors are absolutely sure that such levels were present in the oil at the time of ingestion is not clear. In any case as they point out, ingestion of such levels of lipid peroxides may or may not be the origin of the oil syndrome but it certainly cannot be beneficial, either directly or after metabolic transformation to other toxic products.

In the section concerned with anti-oxygen defence several of the papers are concerned with the role of glutathione transferase, glutathione peroxidase, and superoxide dismutase. In the final paper Demple describes his studies with mutants of *E.coli* which are extremely sensitive to hydrogen peroxide. Pre-treatment of the bacteria with non-toxic concentrations of  $H_2O_2$  apparently causes the induction of resistance to the toxicity of lethal  $H_2O_2$  levels and to ionising radiation. A key part of the induction is an increased repair of oxidised DNA which evidently acts on some damages generated by the radiation. Clearly considerable effort has gone into the publication of this volume which is well produced. However, in my view the growing trend for the proceedings of scientific meetings to be published purely as a collection of short papers, with no recording of the actual discussion taking place is something that should be discouraged. More and more the submission of papers is being used only to justify attendance at a meeting and the inevitable duplication of scientific material is only adding to the huge unread mountain of scientific literature.

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