

CELLULAR RESPONSES TO DNA DAMAGE

Edited by

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FOREWORD

The Annali dell'Istituto Superiore di Sanità publish monographs examining scientific issues of contemporary importance for the public health. We are glad that we could organize a volume focusing on the responses of cells to chemical and physical DNA damaging agents. The topic is a timely one, because the field is undergoing rapid and impressive development owing to recent technological advances in molecular biology, immunology and chemistry.

The advent of recombinant DNA techniques is largely responsible for spurring the recent progress leading to our increasingly detailed understanding of the genes responsible for protecting cells from genotoxicity. Further advances in this area have led to novel and facile assays for determining the spectra of mutations induced by DNA damage, and to DNA vectors that have been used to uncover the features of chemical structure and to pre-determine the genetic fate of specific forms of genetic damage. Molecular cloning techniques also have facilitated the isolation of DNA repair proteins, and in several instances these studies have culminated in the characterization of the biochemical mechanisms by which repair factors restore the informational integrity of the genome. At the more practical level, chemical and immunological tools, in addition to and sometimes in combination with those of molecular biology, have been used to assess the extent and the qualitative nature of DNA damage in intact organisms. These molecular dosimetry studies have attained sufficient sensitivity such that their promise for the assessment of genetic risk from environmental hazards to humans now seems well within our reach.

In this volume the international community of workers in the field of DNA damage and repair have contributed articles on their respective areas of expertise. The Editors wish to express deep appreciation to their colleagues for their written contributions and extraordinary cooperation at all stages of preparation of the monograph. We also wish to thank the Editorial Service of the Istituto Superiore di Sanità for its heroic and successful efforts to publish the issue while the data were still fresh. And finally, we sincerely thank Prof. A. Carere, Prof. A. Sampaolo and the chief editor, Dr. M. Tomasi, for their continued enthusiasm and support of the project.

The Editors

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