Vaughan

DNA Repair Protocols

Prokaryotic Systems

When setting out to decide on the content of DNA Repair Protocols: Prokaryotic Systems, I was conscious of the need to portray the vast array of pathways and enzymatic activities that are part of the discipline of DNA repair. In addition to the classical DNA repair activities, I wanted to convey the significant interest that has been generated in recent years in the use of the proteins and repair systems as research tools, much like the use of restriction enzymes over the last few decades. Therefore, in addition to chapters deta- ing protocols for investigating specific repair activities, I have included s- eral chapters in this book on the applied use of DNA repair proteins and systems. The many years of research on bacterial DNA repair systems have allowed us to really understand the majority of DNA repair pathways in bac- rial cells. Building on this knowledge, research has lead to major advances in understanding mammalian DNA repair and uncovered its links to human d- ease, such as DNA mismatch repair and colon cancer, nucleotide excision repair and xeroderma pigmentosum, DNA helicase function in Bloom's s- drome, and so on. Such have been the advances that Science magazine iden- fied the collective DNA repair systems as its "Molecule of the Year" in 1994.

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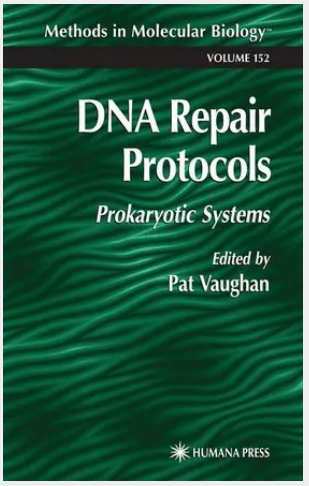

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