



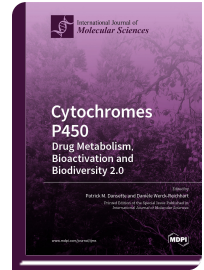
Special Issue Reprint

Cytochromes P450: Drug Metabolism, Bioactivation and Biodiversity 2.0

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This book, "Cytochromes P450: Drug Metabolism, Bioactivation and Biodiversity", presents five papers on human cytochrome P450 (CYP) and P450 reductase, three reviews on the role of CYPs in humans and their use as biomarkers, six papers on CYPs in microorganisms, and one study on CYP in insects.

The first paper reports the *in silico* modeling of human CYP3A4 access channels. The second uses structural methods to explain the mechanism-based inactivation of CYP3A4 by mibefradil, 6,7-dihydroxy-bergamottin, and azamulin. The third article compares electron transfer in CYP2C9 and CYP2C19 using structural and biochemical methods, and the fourth uses kinetic methods to study electron transfer to CYP2C8 allelic mutants. The fifth article characterizes electron transfer between the reductase and CYP using *in silico* and *in vitro* methods, focusing on the conformations of the reductase.

Then, two reviews describe clinical implications in cardiology and oncology and the role of fatty acid metabolism in cardiology and skin diseases. The second review is on the potential use of circulating extracellular vesicles as biomarkers.

Five papers analyze the CYPomes of diverse microorganisms: the *Bacillus* genus, Mycobacteria, the fungi Tremellomycetes, Cyanobacteria, and *Streptomyces*. The sixth focuses on a specific *Mycobacterium* CYP, CYP128, and its importance in *M. tuberculosis*.

the last paper is CYP in *Sogatella furcifera*, a plant pest, and its resistance to sulfoxaflor.

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