Maria A Miteva, Pharmaceut Reg Affairs 2017, 6:1(Suppl)
DOI: 10.4172/2167-7689-C1-024

Pharmacogenomics of cytochrome P450: Effects of missense mutations on drug metabolism

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Pharmacogenomics investigates DNA and RNA variations in the human genome related to drug responses. Cytochrome P450 (CYP) is a supergene family of drug metabolizing enzymes responsible for the metabolism of approximately 90% of human drugs. Among the major CYP isoforms, the CYP2C subfamily is of clinical significance because it metabolizes approximately 20% of clinically administrated drugs and represents several variant alleles leading to adverse drug reactions or altering drug efficacy. Recent progress on understanding the inter-individual variability of the CYP2C members and the functional and clinical impact on drug metabolism will be presented. The structural bases and molecular mechanisms of amino acid variants of CYP2C members that affect drug metabolism will be discussed.

Biography

Maria A Miteva has completed her PhD in 2000 at the Bulgarian Academy of Science. She has vast experience on bioinformatics, chemoinformatics, *in silico* drug design and pharmacology. She is a Research Director at Inserm Institute and a Leader of the team "Virtual screening, PPI & ADMET *in silico*" (MTi, Insem U973, Paris Diderot University). She has published over 80 scientific articles in peer-reviewed journals and she has edited a book "*In silico* Lead Discovery" (Bentham Sci). Currently, she is an appointed Member of the Editorial Board of 5 international journals in the field of Bioinformatics and Drug Design and Associated Editor for *BMC Pharmacology Toxicology*.

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