Detection of Cytochrome P450-2A6, -3A5 and -4B1 with Real-Time Polymerase Chain Reaction in Prostate Tissue

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Cytochrome P450 (CYP) is a heme-containing enzyme superfamily metabolizing a wide variety of xenobiotics, including drugs and carcinogens. The majority of CYP genes are expressed in the liver, however, some CYP isoforms are also reported for a number of extrahepatic tissues. We analyzed Cytochrome P450-2A6, -3A5 and -4B1 mRNAs using real-time reverse-transcriptase polymerase chain reaction (RT-PCR) in a total of 21 homogenized prostate tissues with or without malignancy. We detected a consistent expression of CYP2A6 and CYP3A5 in all, and of CYP4B1 in some (11/21) of the samples at mRNA level. Neither the histopathological status nor the smoking habit of the individuals affected CYP4B1 expression. Our results reflect possible roles for these particular CYPs in therapy and protection of prostate tissue.

Key words: Prostate, Cytochrome P450 Expression