POTENTIAL ROLE OF THE BRAIN DOPAMINERGIC SYSTEM IN THE REGULATION OF CYTOCHROME P-450 EXPRESSION

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Although there are no literature data, which would clearly describe the role of catecholaminergic systems (including dopaminergic system) in the expression of the liver cytochrome P-450, there are well documented reports on physiological regulation of cytochrome P-450 by endogenous hormones (glucocorticoids, sex hormones, thyroid hormones, growth hormone, insulin) and by the immune system (cytokines), and all these factors remain under central nervous system control. Therefore, one can expect that dysfunction of catecholaminergic systems may lead to significant changes in activities of particular cytochrome P-450 isoenzymes by altering levels of endogenous hormones. The mechanism underlying dopamine-induced regulation of the liver cytochrome P-450 expression seems not to be direct, but rather mediated by pituitary hormones and cytokines.

Key words: brain, dopaminergic system, cytochrome P-450, liver, regulation

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