Dopamine receptors (DRD4 and DRD5) mRNA expression in peripheral blood lymphocytes of healthy Malay men subjects

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Abstract

Evidence suggests that dopamine systems peripherally reflect central dopamine systems activity. To recent, studies have been carried out widely on central dopamine systems, while investigation of dopamine system in various organs peripherally is still little. In this study we investigated dopamine receptors (DRD4 and DRD5) mRNA expression in peripheral blood lymphocytes of healthy Malay men subjects. Blood samples were collected from 40 healthy Malay men subjects. Lymphocyte was isolated from whole blood using isolation media, followed by RNA extraction and cDNA synthesis using commercially available kits. The mRNA expression of DRD4 and DRD5 were assessed by RT-PCR using specific primers for dopamine receptors mRNAs and β-actin as internal control. Descriptive statistic was applied for data analysis. Results showed that both DRD4 and DRD5 mRNAs were expressed in peripheral blood lymphocyte of healthy Malay men subjects. Even though the conclusive function of these receptors is still being investigated, these results may suggest that the peripheral dopamine systems might play important tools to reflect central dopamine physiology, pathology and pharmacologically.

Keywords: Dopamine receptors; mRNA Expression; lymphocytes; RT-PCR

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