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The effects of *Zataria multiflora* extract on Dyrk1B gene expression in metabolic syndrome and coronary artery disease

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Introduction: Zataria multiflora, known as Avishan-e- Shirazi in Persian, plant that grows wild in central and southern Iran. In Iran, Zataria multiflora is used in traditional folk remedies for its antiseptic, pain-relieving and carminative. Cardiovascular disease (CVD) is the most common cause of death in developed countries and many developing countries. Metabolic syndrome (MS) is a collection of disorders that occur together and increase your risk of developing type 2 diabetes or cardiovascular disease (stroke or heart disease). In addition, recent studies have shown Dyrk1b gene involved in metabolic syndrome.

Methods: mesenchymal cells were grown in Dulbecco's Modified Eagle Medium (DMEM) supplemented with 10% fetal bovine serum, and 1% pen/strep. After differentiating of mesenchymal cells, cells were treated separately in the presence of Zataria multiflora extract. RNA extraction from mesenchymal cells was performed and Dyrk1b expression levels were examined by real-time PCR method.

Results: Expression was Dyrk1b when subjected to differentiation, 4.34 fold increases (pvalue=0.0062). It was also shown that Dyrk1B expression in differentiated cell groups treated with Zataria (6 µg/ml: Thyme 1, 12 µg/ml: Thyme 2) decreased gene expression compare differentiated cell group alone.

Discussion: This study provides first evidence that Zataria multiflora can reduced DYRK1B expression and it may be used as an effective and safe therapy for treatment in MS patients.

Biography

Reza Naderipour a MS student in Genetics. He has done research on Dyrk1B gene and medicine plants. He has worked in a genetic counseling center for a while.

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