



Bioinformatics evaluation of IL-17 pathway in type 1 (T1D) diabetes disease.

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Abstract:

Type 1 diabetes usually begins in childhood or adolescence but may start at any age and comprises only 5 to 10 percent of all diabetes cases, however its prevalence continues to increase worldwide. Type 1 diabetes (T1D) is defined as an autoimmune disorder caused by T-cell mediated degradation of the insulin-producing pancreas and begins with a combination of genetic and environmental factors. Many signaling pathways, including IL-17, are involved in autoimmune diseases. Interleukin-17 (IL-17) is a 32-kDa homodimeric cytokine and is distributed everywhere but is apparently more abundant in the spleen and kidney. In addition to its invasion by HSV T lymphocytes, this cytokine secretes IL-6, IL-8, PGE2, MCP-1, G-CSF by fibroblast cells, keratinocytes, epithelial and endothelial cells. IL-17 has been shown to be involved in the pathogenesis of hypertension, atherosclerosis and lipid differentiation, and the role of IL-17 in glucose metabolism has been elucidated and six members of its family (IL-17A-F) have been identified. IL-17A is largely produced by activated memory T lymphocytes but stimulates innate immunity and host defense. IL-17A and IL-17F partially mobilize neutrophils through induction of CXCR1 and CXCR2 chemotaxis as well as enhancing local survival. Evidence suggests that IL-17 family members play an active role in cancer, inflammatory and autoimmune diseases. The aim of this study was to select genes involved in IL-17 pathway based on expression profiles obtained from microbial studies from GEO database and evaluate their expression changes in order to introduce biomarkers for type 1 diabetes mellitus.



Biography:

Mandana kazemi postgraduate student of genetics at Shahrekord University.

Publication of speakers:

- Site Attachment Inhibition Therapeutics: Dealing with Association and Causation Issues. Joint Event on Global Summit on Immunology and Cell Biology & Global Congress on Bacteriology and Infectious Diseases. June 25-26.
- Mandana (2018) 12 th World Congress on Pharmaceutical Sciences and Pharma Industries, Site Attachment Inhibition Therapeutics: Dealing with Association versus Causation Issue February 26-27
- Mandana (2016) 6th International Conference and Expo on Immunology (870th Congress) Oct 24-26, Ireland.

2nd Annual Congress on Cellular Therapies, Cancer, Stem Cell and Bio-Medical Engineering, July 18, 2020, Vienna, Austria

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