عنوان مقاله:

Diagnosis and Treatment B non-Hodgkin Lymphoma with System Biology Approaches

محل انتشار:

مجله تحقیق در پزشکی مولکولی, دوره 4, شماره 2 (سال: 1395)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Ali Salari - *Young Researcher and Elite Club, Borujerd Branch, Islamic Azad University, Borujerd, Iran*

Zahra Zanganeh - *۲Department of Basic Science, Biology group, Islamic Azad University of Hamedan, Iran*

Mansour Ebrahimi - *Department of Biology, School of Basic Sciences & Bioinformatics Research Group, University of Qom, Qom, Iran*

خلاصه مقاله:

Lymphomas are solid tumors of immune system and Non-Hodgkin Lymphomas (NHL) is the most prevalent lymphomas; with wide ranges of histological and clinical features, it is so difficult to identify them. Herein, various bioinformatics tools (such as gene differential expressions, epigenetics and protein analysis) employed to find new treatment approach for NHL based on gene expression variation between classic Hodgkin and B NHL. Microarray libraries GSE۲۰۰۱۱ downloaded from NCBI database and analyzed with GEO۲R software, then differential expression genes analyzed by four databases (DAVID, Wikipathways, BioCarta and KEGG databases). Kinase, transcription factor, microRNA analysis and protein-protein interaction network performed by X۲K ,ChEA, microRNA TargetScan and Genes۲Networks software respectively. Finally, drug target identified and carried out by Drug Pair Seeker and Connectivity MAP databases. The results showed GATA۲ Transcription Factor (TF) up-regulates genes while Sox۲ down-regulates them. Functional analysis of up-regulated genes showed highly activation in B cell receptor signaling pathway while programmed cell death and apoptosis program noted in down-regulated genes. Drug discovery facilities revealed that Verteporfin drug induces down-regulated genes while Prochlorperazine represses up-regulated genes. Three microRNA۳۴a۳۴c and miR-۴۴۹ repressed up-regulated gene networks. The finding paves the roads toward B-NHL therapy with ۳۴a/b and miR-۴۴۹ microRNAs and Prochlorperazine / Verteporfin drugs.

کلمات کلیدی:

B non-Hodgkin lymphoma, Enrichment analysis, System Biology