



Differentiation gene expression of Notch signaling pathway response to Ivermectin

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Abstract: Cancer treatment drugs effect on progressive cancer tumor by cell signaling pathways. One of the drugs is ivermectin. Although it has been known in paralysis diseases but ivermectin has used as colon cancer drug. Changes in Wnt signaling pathway genes has been reported after ivermectin treatment in colon cancer [1]. In addition, one of the most important signaling pathway is Notch pathway that has been studied in cancers like breast cancer. Notch is directly affected in lymphoblastic leukemia[2]. Upregulating of ligands and Notch proteins has described in multiple solid tumors [3]. There is no direct report on the gene expression differences on notch pathway genes response to Ivermectin in colon cancer. After extracting Notch pathway genes through genes signaling pathway data bank, we have analyzed microarray data (response colon cancer to Ivermectin) then have investigated notch pathway expression. After normalize gene expression data P value <0.05 , data analyze by R programming packages [4] to show result via heat map genes expression. Our analysis showed that some genes in notch pathway upregulated and some other downregulate in colon cancer cell response to Ivermectin. this analyze can be used in cancer drug treatment according to target genes in notch pathway.

Keywords: Cancer drugs; Data analysis; Gene expression; Notch pathway signaling.

References

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