

Terminal Differentiation of Human Melanoma Cells-cDNA Microarray Analysis

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Combined treatment of IFN- α and mezerein to HO-1 human metastatic melanoma cells induces terminal differentiation followed by apoptosis. Gene expression pattern during the process was compared by cDNA microarray analysis. The expression of 133 genes was changed by two-fold at eight hr post treatment. Among them, 121 genes were up-regulated and 12 down-regulated. Twenty-four hr treatment at which the differentiation is not reversible any longer, manifested two-fold changes in expression of 87 genes (75 up-regulated and 12 down-regulated). Interferon-induced gene expression was predominant at eight hr post treatment, while mezerein and combined effect was notable at 24 hr. Combined effect defined by minimal two fold change more than each treatment alone was observed in eighteen genes, primarily in various interleukin genes. Genes of altered expression are discussed with regard to their functionality in terminal differentiation and apoptosis of the melanoma cells.