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p٥٣ expression in MCF٧, T٤٧D and MDA-MB ٤٦٨ breast cancer cell lines treated with adriamycin using RT-PCR and immunocytochemistry

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View references (٢٢)

Abstract

Numerous mutated genes have been shown to be involved in breast cancer. The p٥٣, a well-known tumor suppressor gene, is the most commonly mutated gene that plays an important role in directing cells with DNA damage into apoptosis. On the other hand, Estrogen Receptor (ER), an important prognostic factor is differentially expressed in breast cancer cells. Therefore, we decided to study the p٥٣ gene and its protein in MCFT, T٤٧D and MDA-MB-٤٦٨ breast cancer cell lines with different ER status following exposure to Adiiamycin (ADR). Cytotoxicity of ADR on these cell lines was determined using MTT assay. The mRNA and protein levels were also analyzed in cell lines using RT-PCR and immunocytochemistry (ICC) assays, respectively. ADR cytotoxicity was highest on ER negative MDA-MB-٤٦٨ cells and lowest on ER positive MCF٧ cells. The p٥٣ mRNA level was highest before or after treatment with ADR in MDA-MB-٤٦٨ and lowest in T٤٧D cells. It is noteworthy to mention that the p٥٣ mRNA level slightly increased in T٤٧D cells but decreased in other two cell lines after ADR treatment. Interestingly, higher level of p٥٣ protein expression was detected after ADR exposure in all three cell lines. In conclusion, these three cell lines with different ER status showed differential molecular responses to Adriamycin that is important in tumor-targeted cancer therapy. © ٢٠٠٨ Asian Network for Scientific Information.

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Author keywords

Adriamycin; Breast cancer; Immunocytochemistry; p٥٣; RT-PCR

Indexed Keywords

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