

## عنوان مقاله:

Up-regulation of miR-21 decreases chemotherapeutic effect of dendrosomal curcumin in breast cancer cells

## محل انتشار:

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## خلاصه مقاله:

Objective(s): Despite the good results of anticancer activities by curcumin, there are some hurdles that limit the use of curcumin as an anticancer agent. Many methods were examined to overcome this defect like the use of the dendrosomal curcumin (DNC). There is increasing evidence that miRNAs play important roles in biological processes. In this study, we focus on the roles of microRNA-21 in the anti-cancer effects of DNC in breast cancer. Materials and Methods: Also, we have used different methods such as MTT, apoptosis, cell cycle analysis, transwell migration assay and RT-PCR to find out more. Results: We observed that miR-21 decreased apoptotic cells in both cells (from ۶.۳۵% to ۰.۳۴ % and from ۷.۷۲% to ۱.۳۲% orderly) and DNC increased it. As well as, our findings indicated that cell migration capacity was increased by miR-21 over expression and was decreased by DNC. The combination of miR-21 vector transfection and DNC treatment showed lower percentage of apoptotic cells or a higher level of penetration through the membrane compared with DNC treatment alone. Furthermore, DNC induced a marked increase in the number of cells in sub G1/G1 phase and a decrease in G2/M phase of the cell cycle in both; but, we observed reverse results compared it, after transfection with miR-21 vector. Conclusion: We observed that miR-21 suppress many aspects of anti-cancer effects of DNC in breast cancer cells, it seems that co-treatment with DNC and mir-21 down-regulation may provide a clinically useful tool for drug-resistance breast cancer cells.

## کلمات کلیدی:

Breast Cancer, Cell cycle, Cell Proliferation, Curcumin, Dendrosomal curcumin, MicroRNA-21

