

عنوان مقاله:

Using MoS₂ nanoparticles in breast cancer treatment

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: ۱۳۹۷)

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خلاصه مقاله:

It is possible to target the hormone receptors and disrupt the growth of breast cancer cells. Although negative-triple breast cancer lacking three types of estrogen, progesterone and epidermal growth factor receptors, they express both androgenic and vitamin D receptors. Targeting these receptors simultaneously can be an effective therapeutic strategy for this cancer. In this regard, the effect of MoS₂ nanoparticle and its toxicity was evaluated on human breast cancer cell lines (MCFY), (MDA-MB-۴۶۸) and normal cell (PBD۲-fib). The toxicity effect of MoS₂ was determined on cancerous and normal cells at concentrations of ۵, ۱۰, ۲۰, ۳۵ and ۵۰ (μg/ml) for ۲۴ and ۴۸ hours using the MTT test. The obtained IC_{۵۰} at ۳۵ (μg/ml) concentration for MCFY cell line in ۲۴ and ۴۸ hours was ۹۶.۹ ± ۱.۰۹ and ۸۷.۰۳ ± ۱.۲۵ , respectively and for the MDA-MB-۴۶۸ cell line, it was ۷۳.۶۱ ± ۱.۲۱ and ۶۴.۶ ± ۱.۴۸ respectively. It was found that MoS₂ at different concentrations does not have a toxic effect on normal cells, but it can be considered as an anticancer agent on breast cancer cells. Therefore, the combination of this synthetic MoS₂ and chemotherapy treatment can be effective in eliminating breast cancer cells.

کلمات کلیدی:

Breast cancer, Estrogen receptor, Androgen receptors, MoS₂

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