

### عنوان مقاله:

Growth inhibitory and anti-proliferative effects of S14161 small molecule on Hela cervical cancer cell in Hydrogel Scaffold

## محل انتشار:

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## خلاصه مقاله:

Introduction: Cervical cancer is the third most common cancer and the fourth cause of death due to cancer among women in the world, accounting for more than 80% of deaths from this cancer type in developing countries. Chemotherapy and radiotherapy are considered as standard treatments for advanced and metastatic cancer of the cervix. With regard to the prevalence of cervical cancer in Iran, the upward slope of this malignancy over the past two decades and unsuccessful treatments, the effects of growth and proliferative inhibition of S14161 molecule on Hela cervical cancer cell line were investigated. Methods: Hela cells were seeded at a density of 50×10<sup>3</sup> into 24-well plate in 3D fibrin hydrogel and then were exposed to various concentrations of S14161(1, 2, 5, 10 and 15). Fibrin hydrogel was prepared by polymerization of fibrinogen (3mg/ml) by thrombin (120U/ml). Cell viability was evaluated by MTT assay. Also, Giemsa and AcridineOrange/EthidiumBromide(AO/EB) staining were used to detect apoptosis.Results: We determined IC50 concentration for S14161 (10 µM,) which induced 50% cell death and our observations showed a significant decrease in cell viability of treated cells with IC50 concentration of S14161 to the extent of 50, 41 and 31% after 1, 3, and 5 days respectively, in a dose and time-dependent manner. Also, apoptotic morphology in treated cells confirmed by AO/E and Giemsa staining.Conclusion: Therefore, we suggest that S14161 exerts significant .cytotoxic effects and can be used as a new therapeutic target for cervical cancer treatment

**کلمات کلیدی:** S14161, Small Molecule, Hela, Hydrogel Scaffold

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