

## The Use of Alginate Encapsulation to Study EGF and FGF2 Effect on Colorectal Cancer Cells Proliferation in Low Adhesion Conditions *in vitro*

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Cancer stem cells (CSCs) are promising targets for the development of new anti-cancer agents. Success in studying these tumor cells subpopulation properties largely depends on the selection of adequate methods for its identification and isolation. To assess the possibilities of encapsulation in alginate in the context of studying the properties of CSCs, we tested the effect of EGF and FGF2 on the colony size of colorectal cancer cell cultures under conditions of low adhesion. The study showed that the addition of exogenous growth factors leads to a slowdown in the growth of colonies of the HT-29 culture and an increase in the growth of Caco-2, without significantly affecting the HCT116 culture. Thus, encapsulation in alginate with further measurement of the size of the formed colonies can be used to create a test similar to the classical test for the formation of colonies in semi-liquid agar with the prospect of further expanding the functionality of the method with the addition of chemical modifications of alginate, co-cultivation of different cell types and other additions.

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