Are there distinct deference in invasion between HT29 (colorectal cancer) and HT1080 (fibrosarcoma) cells and stem cells?

Mansoureh Yousefi, Seyed Nasser Ostad

Department of pharmacology, Islamic Azad University of pharmaceutical science (IAUPS)
Tehran University of Medical Sciences

Abstract: metastasis is responsible for a cancer related death and is a complex multi –step process. The first step in this process is invasion into the surrounding stroma with degradation of extracellular matrix. The ability of cancer cells to invade and enzymatic destruction of surrounding tissue results to metastasis and poor prognosis. Cancer stem cells now accepted to be responsible for second progression of cancer after chemotherapy. These cells usually behave differently to parent cells. In this study we want to know whether these cells invade similarly to parent cells which are important to the strategy of treatment. Assessment of the HT29 and HT1080 invasion ability in compare to their stem cells.

the methods of this study are as follows: 1. Cell culture of HT29 and HT1080. 2. The separation of side population of stem cells with magnetic MACS microbeads (milteny biotech) 3. Assessment of separated stem cells by specific cell markers with flowcytometry 4. Invasion assay using matrigel assay.

The result of flowcytometry showed that the separation of HT29 and HT1080 cancer stem cells had done properly. HT29 cells and their stem cells did not pass through matrigel whereas HT1080 cells and its stem cells passed through matrigel. Furthermore the rate of passing through matrigel for cancer stem cells of this cells is less than parent cells. HT1080 cell lines are invasive than their stem cells. HT29 and HT29 cancer stem cells did not have invasion potency.

Keyword: HT29- HT1080, Cancer Stem Cell, Invasion