Colorectal cancer is one of the most common cancers in the World. Cancer stem cells are main cause of low treatment efficiency of cancer, because these cells insensitive to radio- and chemotherapy and answer for cancer recurrence. Interferons (IFN) have direct cytotoxic and cytostatic effects on tumors. Several investigations were revealed that IFNα induces activation of the dormant stem cells. Dormancy is main property of cancer stem cells that protect cells from drugs. IFNα could be used as a cancer stem cell targeting drug in a combined way with current treatment. Glucose is basic energetic source of cancer cells. It is known that cancer cells have anaerobic glycolysis. Here we have investigated role of glucose starvation to IFNα influence to chemotherapy drug sensitivity of cancer stem cells. We have used HT-29 cell culture and different starvation conditions (starvation before experiment, during experiment, starvation during all period and standard conditions). We have checked sensitivity of cancer stem cells of HT-29 to 5 Fluorouracil (5FU) after IFNα stimulation. To isolate cancer stem cells we have used selection of cells by staurosporin. Our results revealed that glucose starvation before IFNα stimulation increase sensitivity of cancer stem cells to 5FU compare to control samples. We have concluded that IFNα can improve cancer stem cells sensitivity to chemodrugs and glucose starvation may increase this effect.

Biography
Issabekova A S has completed her PhD from Al-Farabi Kazakh National University, Almaty, Kazakhstan. She is the Senior Researcher of Stem cells Laboratory at National Center for Biotechnology, project leader about cancer stem cells supported by Education and Science Ministry Republic of Kazakhstan. She has published more than 18 papers in journals.

venerah07@mail.ru

Issabekova A S et al., J Biotechnol Biomater 2015, 5:2
http://dx.doi.org/10.4172/2155-952X.S1.038