Amr Al-Haidari, J Mol Biomark Diagn 2016, 7:5(Suppl)
http://dx.doi.org/10.4172/2155-9929.C1.028

MiR-155-5p positively regulates colon cancer cell migration by targeting RhoA

Amr Al-Haidari
Lund University, Sweden

Colorectal cancer is one of the most commonly diagnosed cancers worldwide and most of death-related cases are due to metastasis. It is becoming interestingly obvious that mciroRNAs play a pivotal role in the tumorgenesis of different tumors including colon cancer. MiR-155 has been shown to regulate key proteins involved in the metastasis process. In our present study, we shed the light on the regulation mechanism of chemokine-induced colon cancer cell migration by miR-155 in serum starved HT-29 colon cancer cells. MiR-155-5p knockdown experiments using antagomiR-155-5p decreased HT-29 CCL17-induced colon cancer cells migration. Using GLISA assays, knocking down miR-155-5p demonstrated significant inhibition of CCL17-induced activation of RhoA suggesting that RhoA could be a potential target for miR-155-5p in HT-29 colon cancer cells. Bioinformatics analysis predicted a putative binding AU-rich elements regulatory site in 3′-UTR of RhoA. MiR-155-5p:RhoA binding was verified using target site blockers and functionally validated using RIP assays indicating that RhoA-positive regulation is mediated by the AU-rich elements present 3′-UTR of RhoA mRNA. These results showed that miR-155-5p positively regulates RhoA in starved HT-29 colon cancer cells and inhibiting miR-155-5p could be a useful strategy to antagonize colon cancer metastasis.

Biography

Amr Al-Haidari is a senior PhD student at Lund University. His research interest is focused on cancer and translational cancer research, molecular medicine, and cancer metastasis research. He has published 2 peer-reviwed papers in reputed journals and has 2 on the way of submission. He is an active scientific cancer research blogger on web. Beside his PhD work, he is also the Head of PhDlive group aimed at supporting newly arrived PhD students at Faculty of Medicine Lund University.

alhaidariamr@yahoo.com

Notes: