Yeu Su, J Cancer Sci Ther 2018, Volume: 10
DOI: 10.4172/1948-5956-C9-146

MicroRNA-203 diminishes the stemness of human colon cancer cells mainly by suppressing GATA6 expression

Yeu Su

National Yang-Ming University, Taiwan

The interaction between hyaluronan (HA) and CD44, an important cancer stem cell marker, is known to stimulate a variety of tumor cell-specific functions including their stemness. MicroRNA-203 (miR-203) can be down regulated by such an interaction in human colorectal cancer (CRC) cells which results in the increase of their stemness; however, its underlying mechanism has yet been defined. Here, we show that miR-203 overexpression and sequestration in HCT-116 and HT-29 human CRC cells reduces and enhances their stemness, respectively. We subsequently find that GATA6 is a direct target of miR-203 and upregulated expression of this transcription factor not only restores the self-renewal abilities of the miR-203-overexpressing HCT-116 and HT-29 cells but also promotes the stemness properties of their parental counterparts. More importantly, we show that silencing the expression of either LRH-1 or Hes-1 is sufficient to diminish the stemness-promoting effects of GATA6. Together, our findings delineate the mechanism underlying the stemness-inhibitory effects of miR-203 in human CRC cells and suggest this miR-203 as a potential therapeutic agent for colorectal cancer.

Biography

Yeu Su has completed his PhD from University of Wisconsin-Madison. He is a Professor of the Institute of Biopharmaceutical Sciences of National Yang-Ming University, a premier research University in Taiwan. He has published more than 55 papers in reputed journals and has been serving as an Editorial Board Member of several repute journals. His research interests are colorectal carcinogenesis and new drug discovery.

yeusu@ym.edu.tw

Notes: