

Anticancer Effects of MicroRNA-1275 in Human Nasopharyngeal Carcinoma by Targeting HOXB5

Authors : Cheng-Cao Sun, Shu-Jun Li, De-Jia Li

Abstract : Through analysis of a published micro-array-based high-throughput assessment, we discovered that miR-1275 was markedly down-regulated in nasopharyngeal carcinoma (NPC) tissues. However, little is known about its effect and mechanism involved in NPC development and progression. In this study, we investigated the role of miR-1275 on the development of NPC. The results indicated that miR-1275 was significantly down-regulated in primary NPC tissues, and very low levels were found in NPC cell lines. Ectopic expression of miR-1275 in NPC cell lines significantly suppressed cell growth as evidenced by cell viability assay and colony formation assay, through inhibition of HOXB5. In addition, miR-1275 suppresses G1/S transition through inhibition of HOXB5. Further, oncogene HOXB5 was revealed to be a putative target of miR-1275, which was inversely correlated with miR-1275 expression in NPC. Collectively, our study demonstrates that as a tumor suppressor, miR-1275 played a pivotal role on NPC through inhibiting cell proliferation, and suppressing G1/S transition by targeting oncogenic HOXB5.

Keywords : microRNA-1275 (miR-1275), HOXB5, nasopharyngeal carcinoma, proliferation

Conference Title : ICCDD 2016 : International Conference on Cancer Drug Designing

Conference Location : Tokyo, Japan

Conference Dates : September 05-06, 2016