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UHRF1 is regulated by miR-9 in colorectal cancer

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The UHRF1 protein is pivotal for DNA methylation and heterochromatin formation, leading to decreased expressions of tumor suppressor genes and contributing to tumorigenesis. However, the factors that modulate UHRF1 expression incolorectal cancer (CRC) remain unclear. Here we showed that, compared with corresponding normal tissues, UHRF1 was upregulated and microRNA-9 (miR-9) was down regulated in CRC tissues. The expression of UHRF1 was inversely correlated with overall survival rates of patients with CRC. Over expression of miR-9 in CRC cell lines significantly attenuated CRC cell proliferation and promoted cell apoptosis. The expression of UHRF1 was markedly reduced in pre-miR-9 transfected CRC cells. Using luciferase reporter assay, we confirmed that miR-9 was a direct upstream regulator of UHRF1. Finally, analysis of miR-9 and UHRF1 levels in human CRC tissues revealed that expression of miR-9 was inversely correlated with UHRF1 expression. Collectively, our results offer in vitro validation of the concept that miR-9 could repress the expression of UHRF1, and function as a tumor-suppressive micro RNA in CRC. It may serve as a prognostic and therapeutic marker for CRC for diagnosis and a gene target for therapy.

Biography

Feng Yan is the vice director of Department of Clinical Laboratory in Nanjing Medical University Cancer Hospital & Jiangsu Cancer Hospital. The research works focus on the bioanalytical chemistry in laboratory medical diagnostics. She has published more than 42 papers in reputed journals.