論 文 要 旨

Tumour-suppressive *microRNA-24-1* inhibits cancer cell proliferation through targeting *FOXM1* in bladder cancer

Satoru Inoguchi[1], Naohiko Seki[2], Takeshi Chiyomaru[1],
Tomoaki Ishihara[1], Ryosuke Matsushita[1], Hiroko Mataki[3],
Toshihiko Itesako[1], Shuichi Tatarano[1], Yusuke Goto[2],
Rika Nishikawa[2], Masayuki Nakagawa[1], Hideki Enokida[1]
[1]Department of Urology, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan
[2]Department of Functional Genomics, Chiba University Graduate School of Medicine, Chiba, Japan
[3]Department of Pulmonary Medicine, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan

Here, we found that *microRNA-24-1* (*miR-24-1*) was significantly reduced in bladder cancer (BC) tissues, suggesting that it functioned as a tumour suppressor. Restoration of mature *miR-24-1* inhibited cancer cell proliferation and induced apoptosis. *FOXM1* was a direct target gene of *miR-24-1*, as shown by genome-wide gene expression analysis and luciferase reporter assay. Overexpressed *FOXM1* was confirmed in BC clinical specimens, and silencing of *FOXM1* induced apoptosis in cancer cell lines. Our data demonstrated that the *miR-24-1-FOXM1* axis contributed to cancer cell proliferation in BC, and elucidation of downstream signalling will provide new insights into the molecular mechanisms of BC oncogenesis.