

CDKL1, a novel diagnostic biomarker and gene therapy target for breast cancer

Feng Yan

Department of Clinical Laboratory, Jiangsu Cancer Hospital, China

Cyclin-dependent kinase like 1 (CDKL1) is a member of cell division control protein 2 (CDC2) related serine-threonine protein kinases family. This study aimed to evaluate the expression of CDKL1 in breast cancer tissues and its regulation in cancer cell growth. The CDKL1 mRNA level in fresh biopsy tissues from 186 breast cancer patients, and CDKL1 protein in 30 paraffin-embedded tissues from primary breast cancer patients were detected by real-time RT-PCR assay and immunohistochemical staining, respectively. CDKL1 was over-expressed in breast cancer patients and had a positive detection efficiency of 77% (144/186), which showed statistically significant difference compared with ER, PR, P53, VEGF and E-cad ($P < 0.05$). Inhibiting CDKL1 function with shRNA, MCF-7 cells exhibited obvious accumulation at G2/M phase and increased sensitivity to cell cycle chemotherapeutic drugs. Both CDKL1 mRNA level and its behavior after interference indicated that CDKL1 gene could be a potential tumor marker for diagnosis and a gene target for therapy.

Biography

Feng Yan, has completed her Ph.D from Yangzhou University in China. She is the vice director of Department of Clinical Laboratory in Jiangsu Cancer Hospital, and an Professor of Nanjing Medical University. The research works of Feng Yan focus on the bioanalytical chemistry in laboratory medical diagnostics, particularly in detection of tumor markers and tumor cells. She was the Outstanding Medical Talents (2007), Excellent Medical Talent (2011) and Leading Medical Talent (2011) of Jiangsu Province. She has published more than 42 papers in reputed journals.

yanfeng2007@sohu.com