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News & Comments

SNH^{-1} is Highly Expressed in Breast Cancer

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Females frequently get Breast Cancer (BC), a malignancy with a rising incidence in China in recent years. When BC manifests visible symptoms, the tumour is typically in the middle or later stages, which directly affects BC's prognosis. The study of BC-related genes has emerged as a major area of research due to the rising number of BC patients. Additionally, BC is a complex disease whose onset and progression was influenced by numerous intrinsic and extrinsic variables. The improper activation of its oncogenes and the abnormal deletion or inactivation of its tumour-suppressor genes control the progression of BC. On the chromosome, LncRNA SNH^{-1} has been demonstrated to function in the human body as an oncogene. They also discoveredthe presence of SNH^{-1}. Consequently, this study speculates that SNH^{-1} may similarly disrupt the growth of BC, which has significant ramifications for assessing the illness.

As study participants, 50 BC patients who were admitted to the First Central Hospital in Baoding and had surgical resection were chosen. Before surgery, patients' consent was obtained before extracting BC tissues and their non-cancerous equivalents (5 cm from the edge of the tumour, as determined by two pathologists). All of the patients who were included were over-18-year-old females. Sigma provided the RPMI 1640 medium and p+s antibiotics (USA). Invitrogen provided Lipofectamine 2000 and Trizol (USA). Hanbio provided SNH^{-1}-WT and SNH^{-1}- MUT for transfection (China). Trypsin transfection was followed by cell digestion lasting 48 hrs. The Matrigel and culture solution without serum were combined at a ratio of 1:9 before being administered to the apical chamber to cover the PC membrane to measure cell invasiveness.

According to the ENCORI database, rectum cancer tissue expresses SNH^{-1} at a higher level than surrounding tissues. Initially, qRT-PCR was used to assess the expression of SNH^{-1} in malignant tissues and corresponding normal tissues. A matrix metalloproteinase associated with cell invasion and migration is MMP-2. The etiology of BC is still being studied, and it has been discovered that miRNA and LncRNA aberrant expression is related to the development of BC. A discovery in the field of tumour biomarkers is SNH^{-1}. The link between SNH^{-1} and BC is yet unknown, despite evidence of aberrant SNH^{-1} expression in lung cancer and hepatocellular carcinoma. Additionally, we discovered that individuals with higher TNM stage and more severe disease had greater levels of SNH^{-1}, confirming that SNH^{-1} was involved in the onset and development of BC. This finding was supported by our investigation of clinicopathological characteristics of BC. A more thorough experimental examination of SNH^{-1} in the diagnosis, disease evaluation, prognosis, and mechanism of BC is needed before the true practical application can be realized. This work, however, only examined the role of SNH^{-1} in BC

preliminarily. SNH^{-1} is strongly expressed in BC, which is closely associated with the development of the disease. The ability of BC cells to proliferate, invade, and migrate can be decreased, and apoptosis can be increased, by downregulating the expression of SNH^{-1}.

JOURNAL REFERENCE

Zhu, L., J. Lu, Y. Yang, Y. Miao, H. Chen and J. Zhang, 2022. LncRNA SNHG1 expression changes and mechanism regulating in breast cancer. Int. J. Pharmacol., 18: 932-941.

KEYWORDS

Breast cancer, lncRNA SNH^{-1}, invasiveness, apoptosis, proliferation