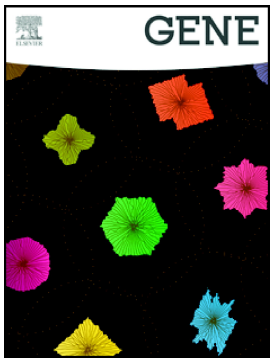


# Downregulation of long noncoding RNA H19 contributes to the proliferation and migration of papillary thyroid carcinoma

Xiabin Lan, Wei Sun, Wenwu Dong, Zhihong Wang, Ting Zhang, Liang He, Hao Zhang

PII: S0378-1119(17)31111-3
DOI: https://doi.org/10.1016/j.gene.2017.12.051
Reference: GENE 42437

To appear in: *Gene*

Received date: 2 August 2017
Revised date: 9 November 2017
Accepted date: 22 December 2017

Please cite this article as: Xiabin Lan, Wei Sun, Wenwu Dong, Zhihong Wang, Ting Zhang, Liang He, Hao Zhang , Downregulation of long noncoding RNA H19 contributes to the proliferation and migration of papillary thyroid carcinoma. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Gene(2017), https://doi.org/10.1016/j.gene.2017.12.051

# Downregulation of long noncoding RNA H19 contributes to the proliferation and migration of papillary thyroid carcinoma

**Authors:** Xiabin Lan[1, 2], Wei Sun[2], Wenwu Dong[2], Zhihong Wang[2], Ting Zhang[2], Liang He[2], Hao Zhang[2]

**The affiliation and address of authors:**

[1] Department of Head and Neck Surgery, Zhejiang Cancer Hospital, No.1, Banshandong Road, Gongshu District, Hangzhou, 310022, Zhejiang Province, China

[2] Department of Thyroid Surgery, The First Affiliated Hospital of China Medical University, No. 155, Nanjing Bei Street, Heping District, Shenyang, 110001, Liaoning Province, China

**Corresponding author:** Hao Zhang, Tel +86 24 83282191, E-mail: haozhang@mail.cmu.edu.cn

## Abstract

Recent studies have highlighted important roles for long noncoding RNAs (lncRNAs) during the complex process of carcinogenesis. H19 is an example of an lncRNA that can function either as a tumor promoter or a tumor suppressor. Here, we investigated the role of H19 in papillary thyroid carcinoma (PTC). First, we assessed H19 expression levels in human PTC tissues and PTC cell lines using quantitative real-time PCR. We also established H19-overexpressed PTC cell lines with lentiviral vectors to investigate the effects of H19 on the proliferation and migration of PTC cells. Our results suggest that H19 is downregulated in PTC tissues and in PTC cell lines compared to controls. Decreased H19 expression was correlated with lymph node metastasis. H19 overexpression reduced PTC cell proliferation and migration. It also inhibited the expression of tumor necrosis factor receptor 2. These results suggest that H19 inhibits tumorigenesis in PTC and may be utilized as a potential diagnostic tool for PTC.

**Keywords**

Papillary thyroid carcinoma; long noncoding RNA; lymph node metastasis; H19

## Highlights

- H19 is downregulated in papillary thyroid carcinoma tissues and cell lines. Decreased H19 expression is associated with lymph node metastasis.
- H19 overexpression inhibits the proliferation and migration of papillary thyroid cancer cells.
- There is a possibility that H19 may function as a tumor suppressor by negatively regulating TNFR2 in PTC.