Proceedings in Obstetrics and Gynecology, 2011 July; 2(1):7

Meeting Abstracts

KEYSTONE SYMPOSIA: MICRORNAS AND NON-CODING RNAS AND CANCER
February 11 - 16, 2011
Fairmont Banff Springs · Banff, Alberta

H19/miR-675 non-coding RNA expression differentiates among cancers of the human endometrium

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Key Words: endometrium, endometrial cancer, RNA

H19 is a maternally expressed non-coding RNA located at chromosome 11p15.5 near the reciprocally imprinted insulin-like growth factor 2 (IGF2) gene. Though the function of H19 is unknown, it is transcribed during embryonic development after which transcription is absent in all but a few tissues including cardiac muscle, breast, ovary, uterus, and placenta. Over the past fifteen years, however, high H19 expression has been seen in a number of human cancers. Recently, the 2.6kb H19 transcript was shown to be the pre-miRNA of *miR-675* whose target mRNA is the tumor suppressor RB1.

We have carried out real-time PCR assays for H19, *miR-675*, and RB1 transcription in seven endometrial cancer cell lines and a panel of 27 primary endometrial tumors. Results showed that H19 and *miR-675* expression is highly correlated (r = 0.84) and that *miR-675* and RB1 expression levels are negatively correlated (r = -0.52). Among the primary tumors, *miR-675* expression is unchanged in endometrioid tumors compared to benign endometrium (-1.3 fold) but is increased in carcinosarcomas (2.7 fold) and is highest in serous tumors (7.2 fold).

Linking H19, *miR-675* and RB1 expression with serous tumors of the endometrium suggests that RB1 suppression may be a differentiating event in serous tumorigenesis.

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This work supported in part by NIH 2CA99908-7 and the Department of Obstetrics and Gynecology Research and Development Fund.

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