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Abstract 517: The role of MYST4 in ovarian carcinoma

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Abstract

Histone acetyltransferases (HATs) play critical roles in the process of cell growth and development. However, little is known about the relationship between MYST4, a known HAT, and human tumors. In our previous studies, we found that MYST4 was overexpressed in ovarian high-grade serous carcinomas and patients with tumors overexpressing MYST4 had significantly worse survival. To explore the role of MYST4 in ovarian carcinoma, we built up stable ovarian cancer cell lines with MYST4 knockdown by shRNA. By cell proliferation assay and flow cytometry, we found that MYST4 enhanced cancer cell growth and regulated cell cycle progression. In addition, the migration distance was significantly decreased in MYST4 knockdown cell lines, suggesting that MYST4 promotes cellular migration. Further cDNA microarray revealed several target genes that were down-regulated by MYST4 knockdown, some have been reported to be involved in tumorigenesis and aggressive tumor behavior. Together, our study suggests that MYST4 promotes cancer cell growth and migration. Overexpression of MYST4 in cancer cells may contribute to tumors toward a more aggressive behavior. Thus, MYST4 may serve as a potential target in treating ovarian carcinomas overexpressing MYST4.

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Previous

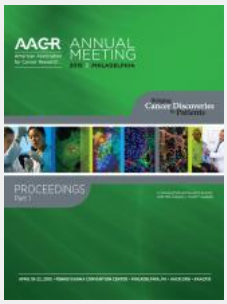

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Table of Contents
Index by author

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