

## Inhibition of Bladder Cancer Growth *In Vitro* and *In Vivo* through Silencing LncRNAMALAT1 *via* Suppression of p-YAP

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**SUMMARY.** Among several types of prevalent malignant lesions of the urinary system bladder cancer (BC) and its frequency in addition to lethality rates is still a pressing problem. The aberrant translation of MALAT1 protein is intimately linked to tumorigenesis and progression of the pathogenesis of BC, yet to be completely clarified. The results from the present study demonstrated that slow virus MALAT1-Homo-3886-LV3R reduces MALAT1 expression in UM-UC-3 cell. Compared with the control and Empty groups, UM-UC-3 cell survival rate was reduced, apoptosis was increased, the number of migrating and invading cells was reduced and p-YAP protein expression was considerably augmented in the SVI group. Compared with the control plus empty groups, tumor volume, body weight, MALAT1 expression, the protein expression of Ki67 and p-YAP were reduced by silencing MALAT1. In summary, MALAT1 is highly expressed in UM-UC-3 cells and tumors. Silence MALAT1 can increase bladder cancer cell and tumor apoptosis, reduce cell migration and invasion, and that its mode of action involves p-YAP stimulation.

**RESUMEN.** Entre varios tipos de lesiones malignas prevalentes del sistema urinario, el cáncer de vejiga (CB) y su frecuencia, además de las tasas de letalidad, sigue siendo un problema apremiante. La traducción aberrante de la proteína MALAT1 está íntimamente ligada a la tumorigénesis y la progresión de la patogénesis de BC, aún por aclarar por completo. Los resultados del presente estudio demostraron que el virus lento MALAT1-Homo-3886-LV3R reduce la expresión de MALAT1 en células UM-UC-3. En comparación con los grupos control y vacío, la tasa de supervivencia de las células UM-UC-3 se redujo, la apoptosis aumentó, el número de células migratorias e invasoras se redujo y la expresión de la proteína p-YAP aumentó considerablemente en el grupo SVI. En comparación con los grupos de control más vacíos, el volumen tumoral, el peso corporal, la expresión de MALAT1, la expresión de proteínas de Ki67 y p-YAP se redujeron al silenciar MALAT1. En resumen, MALAT1 está altamente expresado en células y tumores UM-UC-3. Silence MALAT1 puede aumentar las células cancerosas de vejiga y la apoptosis tumoral, reduce la migración e invasión celular, y su modo de acción implica la estimulación de p-YAP.

**KEY WORDS:** apoptosis, bladder cancer, MALAT1, p-YAP, UM-UC-3.

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