LOXL1 suppresses colorectal tumor growth in mice

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Video Byte

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Abstract

Colorectal cancer is the third most frequently diagnosed cancer and the second leading cause of cancer-related death in the world. Understanding the associated mechanisms is critical to the development of strategies to treat patients with colorectal cancer. Emerging evidence suggests that LOXL1, a lysyl oxidase, is a promising drug candidate for its effects on malignant cancer progression. Now, a molecular-level study could indicate why. Researchers examined the effects of LOXL1 on tumorigenicity and metastasis ability in lab-grown colorectal tumor cells and mouse xenografts. In vitro, LOXL1 overexpression dramatically reduced migration, invasion, and colony formation. In mice, LOXL1 overexpression drastically inhibited metastatic progression and tumor growth. Further experiments showed that LOXL1 exerted its effects by inhibiting the transcriptional activity of Yes-associated protein (YAP). by interacting with MST1/2 and increasing the phosphorylation of MST1/2 thereby activating the Hippo signaling pathway. The findings suggest that LOXL1 could serve as an important tumor suppressor in regulating tumor growth, invasion, and metastasis.