

A CIRCULAR RNA GENERATED FROM LRBA SUPPRESSED COLORECTAL CANCER PROGRESSION THROUGH HSPA8-MEDIATED AUTOPHAGY

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Poster

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A novel circular RNA from the LRBA gene (circLRBA) was identified as significantly down-regulated in colorectal cancer tissues and demonstrated tumor suppression functions through interaction with the autophagy chaperone HSPA8.

KEY POINTS

- RNA sequencing of 10 paired CRC tumor and adjacent tissue samples identified 853 differentially expressed circular RNAs, with circLRBA significantly down-regulated and associated with unfavorable clinicopathological parameters in an 85-pair validation cohort.
- Gain- and loss-of-function experiments demonstrated that circLRBA inhibited CRC cell proliferation, metastasis, and apoptosis in vitro and in vivo using cell line models and orthotopic xenograft mouse models.
- RNA pulldown and immunoprecipitation assays validated that circLRBA directly binds to HSPA8 protein, an essential chaperone for chaperone-mediated autophagy that translocates KFERQ-like motif-containing proteins to lysosomes for degradation.
- The authors propose that circLRBA probably inhibited CRC progression through chaperone-mediated autophagy via HSPA8 interaction, though further work is needed to identify the substrate proteins involved.
- This study may be of interest to researchers investigating circular RNA biology, autophagy mechanisms in cancer, and potential therapeutic targets in colorectal cancer.

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