Abstract

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DNA polymerase iota promotes invasion and metastasis in esophageal squamous cell carcinoma through the transcriptional factor ETS-1

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Abstract

Statement of the Problem: An aberrantly elevated expression of DNA polymerase ι (Pol ι) is significantly associated with poor prognosis of cancer patients with esophageal squamous cell carcinoma(ESCC), yet the mechanisms remains obscur. Findings: Based on RNA-Seq transcriptome and real-time PCR analysis, the expression Pol ι was positively correlated with ETS-1 in ESCC cell lines and clinical samples. Woundhealing and transwell assay indicated Pol ι-mediated invasiveness of ESCC was partly reversed through downregulated ETS-1. Signaling pathway analysis showed Erk phosphorylation and ETS-1 phosphorylation played an important role in Pol ι-induced invasion of ESCC. KaplanMeier analysis revealed an inverse correlation between the level of ETS-1 phosphorylation and ESCC patient prognosis. Conclusion & Significance: ETS-1 phosphorylation may serve as a mediator of the Pol ι -induced invasion of ESCC, and all these findings further illustrate Pol ι is a potential prognostic biomarker for ESCC.

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Biography

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