

AB093. C1QBP regulates YBX1 to suppress the androgen receptor (AR)-enhanced RCC cell invasion

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Background: Early studies suggested that the androgen receptor (AR) might play important roles to promote the renal cell carcinoma (RCC) progression; however, the detailed mechanisms remain unclear.

Methods: IHC was used to test C1QBP and YBX1 expression. RCC cell migration and invasion was analyzed *in vitro* and *in vivo*. CO-IP was used to test the interaction between C1QBP and YBX1.

Results: We demonstrated the higher YBX1 expression with lower C1QBP expression in human RCC clinical tissues. C1QBP could interact with YBX1 to suppress the YBX1 activation. Suppression of YBX1 might result in suppressing the RCC cell invasion that involved altering the AR-modulated MMP9 signals.

Conclusions: Collectively, these data suggest that C1QBP could regulate YBX1 to suppress the AR-enhanced RCC cell invasion. Targeting this newly identified C1QBP/YBX1/AR/MMP9 signal pathway may provide a new potential therapy to better suppress RCC metastasis.

Keywords: C1QBP; YBX1; renal cell carcinoma (RCC)

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AB094. C1QBP negatively regulates the activation of oncoprotein YBX1 in the renal cell carcinoma as revealed by interactomics analysis

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Background: The Y-box-binding protein 1 (YBX1) plays a critical role in tumorigenesis by promoting cell proliferation, overriding cell cycle check points, and enhancing genomic instability.

Methods: The interactome of YBX1 in renal cell carcinoma (RCC) was analyzed by coimmunoprecipitation and mass spectrometry. The interaction between C1QBP and YBX1 was confirmed by immunoprecipitation and Western blotting. The clinical significance of these two proteins by IHC.

Results: A total of 129 proteins were identified as potential YBX1 binding partners. Knockdown of C1QBP enhanced the phosphorylation of YBX1 and its nuclear translocation. Expression of YBX1 was markedly elevated. Meanwhile, the level of C1QBP in the carcinoma tissues was significantly lower.

Conclusions: These data suggest that C1QBP is a novel regulator of YBX1, and the expression of C1QBP and the nuclear expression of YBX1 could both be used as independent prognostic makers for cancer progression in the RCC patients.

Keywords: C1QBP; Y-box-binding protein 1 (YBX1); renal cell carcinoma (RCC)

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