

P32

## ERH promotes bladder cancer cells proliferation and tumorigenesis regulating the PERK/eIF2 $\alpha$ Pathway by combining protein eIF2 $\alpha$

Eur Urol Suppl 2019;18(8):e3096

Pang K., Hao L., Shi Z., Chen B., Han C.

Xuzhou Central Hospital, Urology, Xuzhou, China

**Introduction & Objectives:** The enhancer of rudimentary homolog (ERH) is up-regulated in human bladder cancer (bladder cancer) cells. The aim of this study is to study the function of ERH on the proliferation and its machoism in bladder cancer T24 cell lines.

**Materials & Methods:** Tissue microarray (TMA) and immunohistochemistry (IHC) analysis were used to find the expression of ERH in bladder cancer. ERH shRNA was used to knockdown ERH gene. MTT assay and tumorigenesis assay in vivo were used to investigate the function of ERH related proliferation and tumorigenesis ability. Flow cytometry analysis was used to find the effect of ERH on cell cycle of T24 cells. Then, mass spectrometry analysis and Immunoprecipitation (IP) assay were used to find the machoism of ERH related proliferation and tumorigenesis ability.

**Results:** The result of TMA and IHC shows the high expression of ERH in bladder cancer. After the ERH was knockdown in bladder cancer T24 cell lines, the proliferation and tumorigenesis ability were deceased. Further studies demonstrated that ERH specifically interacts with eIF2 $\alpha$  and inhibiting the TGF- $\beta$  signaling pathway. The results of functional rescue experiment will be discussed.

**Conclusions:** ERH promotes bladder cancer cells proliferation and tumorigenesis by combining eIF2 $\alpha$  and inhibiting the TGF- $\beta$  signaling pathway.