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A Role of SPINK1 in Cancer

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Abstract

Serine peptidase inhibitor Kazal type (SPINK) is a family of serine protease inhibitors. SPINK1 is a trypsin inhibitor, which are secreted from pancreatic acinar cells into pancreatic juice, whereas SPINK2 acts as trypsin and acrosin inhibitor in the genital tract and is localized in the spermatozoa. SPINK1 is associated with inflammation and pathogenesis and play an important role in SPINK1 cancer pathway. In this Editorial, the roles of SPINK1 in cancer pathway is focused.

Introduction

SPINK1 as a Prognostic Marker in Cancer

SPINK1 promotes proliferation, clonal formation, migration, invasion, chemoresistance and radiation resistance in cancer [1]. In rectal cancer patients receiving concurrent chemoradiotherapy, SPINK1 expression was a significant prognostic marker for poor prognosis [1]. The result of immunohistochemical staining of SPINK1 showed that immune reactivity of SPINK1 significantly differed by peri-neural invasion [1]. SPINK1 was a potential biomarker for the early detection, targeted therapy and prediction of immune checkpoint blockade treatment response of hepatocellular carcinoma [2]. SPINK1 is involved in immunity-related pathways including T-cell activation [2]. Pancreatic cancer estimated risk was 12, 28, and 52% at

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60, 70, and 80 years with a SPINK1 gene mutation [3]. Endoscopic ultrasound investigation of pancreatic cystic lesions revealed that the level of SPINK1 in cyst fluid could predict malignancy in cystic pancreatic lesions[4]. SPINK1 pathogenic variant has been identified in pancreatic ductal adenocarcinoma [5]. A gene set including SPINK1 was identified to predict postoperative recurrence in stage II/III colorectal cancer [6]. SPINK1, over expressed in TMPRSS2:ERG-negative prostate cancer, was detected in urine cell-sediment of prostate cancer [7].

Conclusion

SPINK1 plays a role as prognostic and diagnostic markers in various cancer. The precise mechanism of SPINK1 cancer pathway would need to be investigated in the future.

References

1. Chen YT, Tseng TT, Tsai HP, Kuo SH, Huang MY, et al. (2022) Serine protease inhibitor Kazal type 1 (SPINK1) promotes proliferation, migration, invasion and radiation resistance in rectal cancer patients receiving concurrent chemoradiotherapy: a potential target for precision medicine. *Hum Cell.* 35(6):1912-27.
2. Jia J, Ga L, Liu Y, Yang Z, Wang Y, et al. (2022) Serine Protease Inhibitor Kazal Type 1, A Potential Biomarker for the Early Detection, Targeting, and Prediction of Response to Immune Checkpoint Blockade Therapies in Hepatocellular Carcinoma. *Front Immunol.* 13:923031.
3. Le Cosquer G, Maulat C, Bournet B, Cordelier P, Buscail E, et al. (2023) Pancreatic Cancer in Chronic Pancreatitis: Pathogenesis and Diagnostic Approach. *Cancers (Basel).*15(3):761.
4. Okasha HH, Abdellatef A, Elkholy S, Mogawer MS, Yosry A, et al. (2022) Role of endoscopic ultrasound and cyst fluid tumor markers in diagnosis of pancreatic cystic lesions. *World J Gastrointest Endosc.* 14(6): 402-15.
5. Ryu KH, Park S, Chun JW, Cho E, Choi J, et al. (2023) Prevalence and Risk Factors of Germline Pathogenic Variants in Pancreatic Ductal Adenocarcinoma. *Cancer Res Treat.*
6. Xin C, Lai Y, Ji L, Wang Y, Li S, et al. (2022) A novel 9-gene signature for the prediction of postoperative recurrence in stage II/III colorectal cancer. *Front Genet.* 13:1097234.
7. Yazbek Hanna M, Winterbone M, O'Connell SP, Olivan M, Hurst R, et al. (2023) Gene-Transcript Expression in Urine Supernatant and Urine Cell-Sediment Are Different but Equally Useful for Detecting Prostate Cancer. *Cancers (Basel).* 15(3):789.