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Serum apurinic/aprimidinic endodeoxyribonuclease 1 in cholangiocarcinoma patients

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Cholangiocarcinoma (CCA) is a cancer from intra- and extra-hepatic biliary epithelial cells. The incidence of CCA in the north-eastern part of Thailand is very high, especially Khon Kaen province. Metastasis of tumor provides important prognostic information and can help guide therapy. This study is to discover CCA prognosis marker to distinguish between non-metastatic and metastatic patients from our database in CCA cell lines secretome. Using bioinformatics include SignalP, SecretomeP, TMHMM, Plasma Proteome Database and EMBOSS for selected candidate proteins from three CCA secretome but not in control immortalized cholangiocyte by GeLC-MS/MS. Secretory protein was selected for further validation studies according to criteria including proteins predicted to have signal peptide or non-classical proteins that have no transmembrane helix, identified in serum and selected proteins with maximum of signal peptide cleavage sites. Apurinic/aprimidinic endodeoxyribonuclease 1 (APEX1) was selected for further validation analysis. APEX1 has been reported to play a role in metastatic function. Thus, to validate APEX1 protein was differentially expressed in CCA and western blot (WB) for APEX1 was performed for metastatic and non-metastatic group in serum CCA. This revealed that APEX1 intensity ratio was highly expressed in metastatic compared to non-metastatic group (4.73 ± 2.02 for metastatic vs. 1.14 ± 0.81 for non-metastatic group). In conclusion, serum APEX1 might be useful as a prognosis biomarker for treatment in CCA patients.

Biography

Doungdean Tummanatsakun is currently pursuing a Doctor of Philosophy Program in Medical Technology at the Faculty of Associated Medical Sciences, Khon Kaen University, Thailand. She is interested in cancer biomarkers.

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