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Project Title	Establishment of drug testing system for a precision medicine in cholangiocarcinoma
Principal Investigator	Watcharin Loilome (Associate Prof./Khon Kaen University(KKU))
Project Members IMSUT Host Researcher  Members	Yoshinori Murakami (Prof./IMSUT)  Narong Khuntikeo (Assoc Prof./KKU) Attapol Titapun (Lecturer/KKU) Poramate Klanrit (Lecturer/KKU) Jutarop Petcharaburanin (Lecturer/KKU) Daisuke Matsubara (Associate Prof./Jichii Univ.) Motoi Ohba (Lecturer/Showa Univ.) Yutaka Kasai (Res Associate/IMSUT) Takeshi Ito (Ass Prof./IMSUT)
Report	
<p>Cholangiocarcinoma (CCA) caused by the liver fluke infection, is an aggressive cancer originated from the bile duct epithelium. It has been defined as a major public health problem in the northeastern part of Thailand where the highest incidence in the world has been reported. Recently, incidence of CCA is also increasing in Japan, making CCA the 6<sup>th</sup> common cancer with annual death of 18,000 in 2018 and one of the representative intractable cancers.</p> <p>To provide novel approaches to diagnosis and treatment of CCA, the present study aimed to establish drug testing system for a precision medicine in CCA, including the histo-culture drug-response assay (HDRA), patient-derived xenograft (PDX), patient-derived organoid (PDO). In addition, the molecular mechanism underlying the development, progression and drug response of CCA will be elucidated using established CCA models and novel approaches, including multi-omics platform and comprehensive binding assay of cell adhesion molecules.</p> <p>In 2019, study design and technical approaches to establish HDRA, PDX and PDO were discussed, shared and determined by PI and participating researchers in KKU and IMSUT. Furthermore, comprehensive binding assay of cell adhesion molecules was being generated for CCA analysis by cloning over 100 immunoglobulin superfamily (IgSF) molecules. Expression and possible functions of some of IgSF molecules were examined by FACS, multi-omics and several related techniques using cell lines and serums from CCA patients.</p>	