

Curriculum Vitae

Personal information

Given name: Kassaporn
Last name: Duangkumpha
Date of birth: 15 March 1989
Place of birth: Nakhon Phanom
Nationality: Thai Religion: Buddhism
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Current research project

1. Development of comprehensive two-dimensional gas chromatography-mass spectrometry (GCxGC-TOFMS) method for metabolite profiling of diabetic mellitus patients with kidney failure
2. Urinary proteomics/metabolomics analysis of primary glomerular diseases using LC-MS/MS
3. Targeted metabolomic analysis of kynurenine-tryptophan pathway in diabetic kidney disease using LC-MS/MS
4. Metabolomics profiles correlated with response to immunotherapy in advanced stage non-small cell lung cancer (NSCLC) using GCxGC-TOFMS

Research experiences

Jan 2020- present

Postdoctoral fellow at Metabolomics and System Biology (MSB), Department of Biochemistry, Siriraj Metabolomics and Phenomics Center (SiMPC), Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

Scope of interest research;

1. Development of comprehensive two-dimensional gas chromatography-mass spectrometry (GCxGC-TOFMS) method for metabolite profiling of diabetic mellitus patients with kidney failure
2. Urinary proteomics/metabolomics analysis of primary glomerular diseases using LC-MS/MS
3. Targeted metabolomic analysis of kynurenine-tryptophan pathway in diabetic kidney disease using GCxGC-TOFMS and LC-MS/MS

June 2014- June 2019

Ph. D. , The dissertation title: “ *A peptidomics approach for discovery of cholangiocarcinoma risk biomarker in plasma and urine of subjects with periductal fibrosis in an opisthorchiasis endemic area of Thailand*”

Advisor: Associate Professor Watcharin Loilome, Ph.D.

Research experiences

Dec 2016- Dec 2017

Visiting student, learning proteomic approaches including LC-MS/MS and MRM-MS and MS data processing and analysis at QIMR Berghofer Medical Research Institute, Brisbane, Australia
Oversea Advisor: Associate Michelle Hill, Ph.D.
Head, Precision & Systems Biomedicine, QIMR Berghofer Medical Research Institute.

June 2012-June 2014

M.Sc., The thesis title: *“Induction and inhibition of Twist and other epithelial- mesenchymal transition related protein expressions in cholangiocarcinoma”*
Advisor: Professor Puangrat Yongvanit, Ph.D.

June 2009- June 2012

B.Sc., Training in medical technology, Faculty of Associated medical science,
Khon Kaen University, Thailand
Advisor: Assistant Professor Montien Puntumetakul, Ph.D.

Academic qualification

June 2014- June 2019

Khon Kaen University
Doctor of Philosophy, Medical Biochemistry and Molecular Biology
Khon Kaen, Thailand

June 2012 – June 2014

Khon Kaen University
Master degree of science, Medical Biochemistry and Molecular Biology
Khon Kaen, Thailand

June 2008 – March 2012

Khon Kaen University
Bachelor degree of Science, Associated medical science
Khon Kaen, Thailand

Journal Publications

1. **Duangkumpha, K.**; Jariyasopit, N.; Wanichthanarak, K.; Dhakal, E.; Wisanpitayakorn, P.; Thotsiri, S.; Sirivatanauksorn, Y.; Kitiyakara, C.; Sathirapongsasuti, N.; Khoomrung, S., GC× GC-TOFMS Metabolomics Analysis Identifies Elevated Levels of Plasma Sugars and Sugar Alcohols in Diabetic Mellitus Patients with Kidney Failure. *Journal of Biological Chemistry* **2022**, 102445.
2. Mathema, V. B.; **Duangkumpha, K.**; Wanichthanarak, K.; Jariyasopit, N.; Dhakal, E.; Sathirapongsasuti, N.; Kitiyakara, C.; Sirivatanauksorn, Y.; Khoomrung, S., CRISP: a deep learning architecture for GC× GC-TOFMS contour ROI identification, simulation and analysis in imaging metabolomics. *Briefings in bioinformatics* **2022**, 23 (2), bbab550.
3. Titapun, A.; Luvira, V.; Srisuk, T.; Jareanrat, A.; Thanasukarn, V.; Thanee, M.; Sa-Ngiamwibool, P.; Padthaisong, S.; **Duangkumpha, K.**; Suksawat, M., High levels of serum ige for opisthorchis viverrini and cd44 expression predict worse prognosis for cholangiocarcinoma patients after curative resection. *International Journal of General Medicine* **2021**, 14, 2191.
4. **Duangkumpha, K.**; Yongvanit, P.; Sithithaworn, P.; Techasen, A.; Chamadol, N.; Laopaiboon, V.; Namwat, N.; Khuntikeo, N.; Thinkhamrop, B.; Loilome, W., An Innovative Algorithm for Population-based Risk Stratification using ultrasound for periductal fibrosis-associated with CCA. *Journal of Medical Technology and Physical Therapy* **2019**, 31 (3), 269-278.
5. **Duangkumpha, K.**; Stoll, T.; Phetcharaburanin, J.; Yongvanit, P.; Thanan, R.; Techasen, A.; Namwat, N.; Khuntikeo, N.; Chamadol, N.; Roytrakul, S., Discovery and qualification of serum protein biomarker candidates for cholangiocarcinoma diagnosis. *Journal of proteome research* **2019**, 18 (9), 3305-3316.
6. **Duangkumpha, K.**; Stoll, T.; Phetcharaburanin, J.; Yongvanit, P.; Thanan, R.; Techasen, A.; Namwat, N.; Khuntikeo, N.; Chamadol, N.; Roytrakul, S., Urine proteomics study reveals potential biomarkers for the differential diagnosis of cholangiocarcinoma and periductal fibrosis. *PLoS One* **2019**, 14 (8), e0221024.
7. Techasen, A.; Namwat, N.; Loilome, W.; **Duangkumpha, K.**; Puapairoj, A.; Saya, H.; Yongvanit, P., Tumor necrosis factor- α modulates epithelial mesenchymal transition mediators ZEB2 and S100A4 to promote cholangiocarcinoma progression. *Journal of Hepato-Biliary-Pancreatic Sciences* **2014**, 21 (9), 703-711.
8. **Duangkumpha, K.**; Techasen, A.; Loilome, W.; Namwat, N.; Thanan, R.; Khuntikeo, N.; Yongvanit, P., BMP-7 blocks the effects of TGF- β -induced EMT in cholangiocarcinoma. *Tumor Biology* **2014**, 35 (10), 9667-9676.