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Principal Investigator

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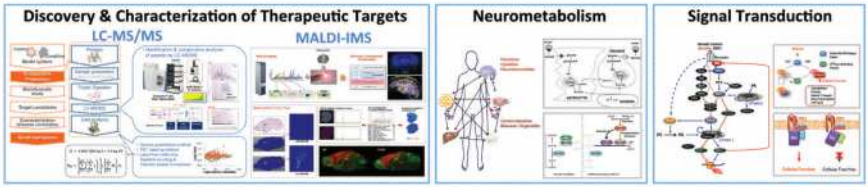
Mass spectrometry-based Omics and neurometabolism

I'm interested in study on biomarkers and therapeutic targets of neurological disorders using mass spectrometry-based Omics technology. This study aims at finding molecular targets of companion diagnostics for precision medicine. Metabolic organs, including brain, skeletal muscle and adipose, dynamically secrete various factors, communicate with each other and orchestrate functions to maintain body homeostasis. I'm also interested in metabolic features of neural cells under disorder state as well as crosstalk between brain and metabolic organs.

Aim	Elucidating molecular mechanisms in neurological disorders using mass spectrometry-based approach
Tool	Mass Spectrometry + Biochemistry + Molecular Biology + Cell Biology + Bioinformatics

TARGET



Research keywords

Proteomics, Biomarker, Multi-Omics, Neurometabolism, Signal transduction

Key techniques

Mass spectrometry, Biochemistry, Molecular Biology, Cell biology, Bioinformatics

Curriculum Vitae

2016~Present : Principal Investigator, KBRI, South Korea
2014~2016 : Senior Researcher, MOGAM Institute for Biomedical Research, South Korea
2012~2014 : Senior Researcher, Novacell tech. (in POSTECH), South Korea

Academic Credential

2012 : Ph.D., Life Science, POSTECH
2007 : M.S., Life Science, GIST
2005 : B.S., Genetic Engineering, Kyungpook Nat'l University

Awards/Honors/Memberships

2018 : Young Scientist Award, The Korean Human Proteome Organization (KHUPO)
2016 : Year's Author Award, KHUPO
2011 : Best Research Award, Korean Society for Biochemistry and Molecular Biology (KSBMB)
2019~present : Member of AOHUPO 2020_KHUPO Joint Conference Organizing Committee
2018~present : Member of Editorial Committee, KHUPO
2018~present : Member of Steering Committee, Korea Cancer ProteoGenomics Research Program, Ministry of Health and welfare
2018~present : Handling Editor, Molecules and Cells

Grants

2018~present : Korea Cancer ProteoGenomics Research Program, Ministry of Health and welfare
2018~present : Basic Science Research Program, Ministry of Education

Research Interests/Topics

- Discovery and characterization of biomarkers and therapeutic targets of neurological disorder using mass spectrometry-based Omics study.
- Characterization of metabolic features of neural cells under disorder state.
- Characterization of crosstalk between brain and metabolic organs.
- Development of new fusion proteins for brain drug delivery.

Research Publications (selected)

- Song P, Kwon Y, Joo JY, Kim DG, **Yoon JH**. Secretomics to Discover Regulators in Diseases. *Int J Mol Sci., 9;20(16).pii: E3893, 2019.* (Corresponding author)
- **Yoon JH**, Kim D*, Kim J, Lee H, Ghim J, Kang BJ, Song P, Suh PG, Ryu SH, Lee TG. NOTUM is involved in the progression of colorectal cancer. *Cancer Genomics Proteomics, 15(6):485-497, 2018.* (Corresponding author)
- Park S, Park JH, Jung, HJ, Jang JH, Ahn S, Kim Y Suh PG, Chae S, **Yoon JH**, Ryu SH, Hwang D. A secretome profile indicative of oleate-induced proliferation of hepatocellular carcinoma cells. *Exp Mol Med, 3;50(8):93, 2018.* (Corresponding author)
- **Yoon JH** Kim D, Jang JH, Ghim J, Park S, Song P, Kwon Y, Kim J, Hwang D, Bae YS, Suh PG, Berggren PO, Ryu SH. Proteomic analysis of the palmitate-induced myotube secretome reveals involvement of the annexin A1-FPR2 pathway in insulin resistance. *Mol Cell Proteomics, 14(4):882-92, 2015.*
- **Yoon JH***, Kim J*, Kim KL, Kim D-H, Jung S-J, Lee H, Ghim J, Kim D, Park JB, Ryu SH, Lee TG. Proteomic analysis of hypoxia-induced U373 MG glioma secretome reveals novel hypoxia-dependent migration factors. *Proteomics, 14(12):1494-1502, 2014.*

Patents (registered)

- **Yoon JH**, Lee TG, Kim J (2017). "Novel bio-marker of neuroglioma and use thereof". (KR10-1727026)
- Choi JK, **Lee HK**, Kim JA, Kwon Y (2017). "Pharmaceutical composition for treatingdiabetes". (KR10-1737051)
- **Yoon JH**, Kim D, Jang JH, Ghim J, Park S, Song P, Kwon Y, Hwang D, Bae YS, Suh PG, and Ryu SH (2016). "Composition for treating insulin resistance-related disease comprising substance capable of activating FPR2". (KR10-1645015)