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Academic History:

Department of Cell Biology,

PhD in Department of Cell Biology,

National Taiwan University, Taiwan, ROC

Professional/Scientific Career:

-Now Associate Professor

Graduate Institute of

Oral Biology School of Dentistry,

National Taiwan University, Taiwan, ROC

Awards/Professional Societies:

1. Han-Yi Chou and Sheng-chung Lee. (2008). Fluorescent Nanodiamonds for DNA Delivery. Diamond Material for Biological Applications Orchid 2008, Taipei, Taiwan.
2. Nguyen Thi Thanh Bao, Han-Yi Chou., Jhih-Yao Hsu, Fu-Chia Yang , Chau-Chung Han and Huan-Cheng Chang (2008). Fluorescent Nanodiamonds as a Novel Biomolecule Carrier for DNA Delivery. 2nd International Conference on New Diamond and Nano Carbons NDNC2008, Taipei, Taiwan.

Research Area/ Interests:

Functional studies of SIK2 in insulin stimulation.

Insulin is a peptide hormone secreted by beta cells (a type of islet cells) within the pancreas in response to high blood glucose level. Impaired insulin secretion from pancreatic beta cells is thought to be one of the major causes of diabetes mellitus, a disease with loss of glucose homeostasis which is leading to various complications. In IHC staining of tissue array, we found that salt inducible kinase (SIK2) S587 phosphorylation type is specific to pancreatic islet cells. Here we investigate whether

SIK2 S587 is associated with the secretion of islet cells. Based on IHC staining, we show that SIK2 S587 expression of beta cells in rat pancreas which is perfusion with 16.7mM glucose is higher than which is perfusion with no glucose. In addition, the functional role of protein Kinase A (PKA) in the regulation of insulin secretion by pancreatic beta cells has been established. According to consensus alignment, it suggested that SIK2 S587 site may be the phosphorylation target of PKA. In the future, we will investigate the potential mechanism of SIK2 S587 in regulating insulin secretion.

Publications * corresponding author

Selected publications (Original article, ; Review,)

1. Lee BS, Jan YD, Huang GS, Huang CH, Chou HY, Wang JS, Tseng WY. Effect of dentin bonding agent diffusing through dentin slices on the reactive oxygen species production and apoptosis of pulpal cells. *J Formos Med Assoc.* 2015 Apr;114(4):339-46.
2. Chen WJ, Ho CC, Chang YL, Chen HY, Lin CA, Ling TY, Yu SL, Yuan SS, Chen YJ, Lin CY, Pan SH, Chou HY, Chen YJ, Chang GC, Chu WC, Lee YM, Lee JY, Lee PJ, Li KC, Chen HW, Yang PC. Cancer-associated fibroblasts regulate the plasticity of lung cancer stemness via paracrine signalling. *Nat Commun.* 2014 Mar 25;5:3472.
3. Yang YC, Chou HY, Shen TL, Chang WJ, Tai PH, Li TK. Topoisomerase II-mediated DNA cleavage and mutagenesis activated by nitric oxide underlie the inflammation-associated tumorigenesis. *Antioxid Redox Signal.* 2013 Apr 1;18(10):1129-40.
4. Chou HY, Wang TH, Lee SC, Hsu PH, Tsai MD, Chang CL, Jeng YM. Phosphorylation of NuSAP by Cdk1 regulates its interaction with microtubules in mitosis. *Cell Cycle.* 2011 Dec 1;10(23):4083-9.
5. Hsieh WY, Chou CC, Ho CC, Yu SL, Chen HY, Chou HY, Chen JJ, Chen HW, Yang PC. Single-walled carbon nanotubes induce airway hyperreactivity and parenchymal injury in mice. *Am J Respir Cell Mol Biol.* 2012 Feb;46(2):257-67.