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Education

B.S. (Mar. 1991-Feb. 1997):
Dept. of Agricultural Chemistry, Gyeongsang National University
M.S. (Mar. 1998-Feb. 2000)
Dept. of Agricultural Chemistry, Gyeongsang National University
Thesis Title: Efficient Extraction and PEG fractionation of rice proteins to display rare proteins and its application.

Ph.D. (Mar. 2000- Feb. 2004)
Division of Applied Life Sciences, Gyeongsang National University
Thesis Title: Proteomic analysis and molecular characterization of differentially induced proteins during rice-rice blast fungus interactions.

RESEARCH CAREER

1. Postdoc: 2004, 3, 17-2006, 9, 15
University of California, Riverside
2. Research Professor: 2006, 11- 2009, 02
EB-NCRC, Gyeongsang National University
3. Assistant Professor: 2009, 3 - Current
Department of Plant Bioscience
Pusan National University

PUBLICATION LISTS

SCI papers

-2011-

1. Yiming Wang ,Sang Gon Kim , Jingni Wu , Kyu Young Kang , **SunTaeKim.** (2011) Proteasome Inhibitors Affects Appressorium Foramtion and Pathogenicity of the Rice Blast Fungus, Magnaporthe oryzae. Plant Pathology Journal, 27, 225-231.(IF=0.74)

2. Ji-Seong Kim, Sang-Gyu Seo, Byung-Ki Jun, Youngwoo Lee, Seo Bum Jeon, Jungwoo Choe, Jong-Bo Kim, **Sun Tae Kim** and Sun-Hyung Kim. (2011) An IbEF1 from sweet potato promotes flowering in transgenic tobacco. Genes & Genomics 33(4), 335-341. (IF= 0.435)

3. Yiming Wang, Sang Gon Kim, **Sun Tae Kim**, Ganesh Kumar Agrawal, Randeep Rakwal and Kyu Young Kang. (2011) Biotic Stress-Responsive Rice Proteome: An Overview. J. Plant Biology, 54 (4), 219-226. (IF= 0.964)

4. Yiming Wang, Jingni Wu, Zee Yong Park, Sang Gon Kim, Randeep Rakwal, Ganesh Kumar Agrawal, **Sun Tae Kim**, and Kyu Young Kang. (2011) Comparative Secretome Investigation of Magnaporthe oryzae Proteins Responsive to Nitrogen Starvation. J. Proteome Res., 2011, 10 (7), 3136–3148.(IF= 5.47, **Co corresponding author**)

5. **Sun Tae Kim**, Sang Gon Kim, Yiming Wang, Seok Yu, In Soo Choi, Yong Chul Kim, Woo Taek Kim, Ganesh Kumar Agrawal, Randeep Rakwal and Kyu Young Kang. (2011) RNase activity of rice probenazole-induced protein1 (PBZ1) plays a key role in cell death in plants. Mol. Cells, 31, 25-31. (SCI, IF= 1.878)

-2010-

1. Sang Gon Kim, Jingni Wu, Yiming Wang, Ethan E White, Young Whan Choi, Keun-Ki Kim, In Soo Choi, Yong Chul Kim, Sun-Hyung Kim, Kyu Young Kang, and **SunTaeKim**.(2010) EffectofPhytohormonesandChemicalInhibitorsonPathogenesis-relatedGenesIdentifiedbyDifferentialHybridizationinRiceSuspensionCultureCells.Plant Pathology Journal, 26, 386-393.(IF=0.74)

2. Sang Gon Kim, Yong Hun Chi, Jong-Sun Lee, Sara Rae Schlesinger, Masoud Zabet-Moghaddam, Jung-Sung Chung, David B. Knaff, **Sun Tae Kim**, Sang Yeol Lee and Sung-Kun Kim. (2010) Redox properties of a thioredoxin-like Arabidopsis protein, AtTDX. Biochimica et Biophysica Acta (BBA) - Proteins & Proteomics. 1804, 2213-2221. (IF=2.480)

3. **Sun Tae Kim**, Sang Gon Kim, Yiming Wang, Sung-Kun Kim, Keun-Ki Kim, Ju-Kon Kim, Sang Yeol Lee, and Kyu Young Kang. (2010) Overexpression of Rice Isoflavone Reductase-like Gene (OsIRL) Confers Tolerance to Reactive Oxygen Species. Physiol Plant. 138(1):1-9. (Co-first authors). (IF=2.708)

-2009-

1. Sun Tae Kim, Sang Gon Kim, Yiming Wang, Sung-Kun Kim, Keun-Ki Kim, Ju-Kon Kim, Sang Yeol Lee, and Kyu Young Kang. (2009) Overexpression of Rice Isoflavone Reductase-like Gene (OsIRL) Confers Tolerance to Reactive Oxygen Species. **Physiol Plant**. (Co-first authors, In Press). **(IF= 2.34)**

2. Sun Tae Kim, Yiming Wang, Sun Young Kang, Sang Gon Kim, Randeep Rakwal, Yong Chul Kim, Kyu Young Kang. (2009) Developing Rice Embryo Proteomics Reveals Essential Role for Embryonic Proteins in Regulation of Seed Germination. **J Proteome Res**. 8, 3598-3605. **(IF= 5.675)**

3. Sun Tae Kim, Young Hyun Kang, Yiming Wang, Jingni Wu, Zee Yong Park, Randeep Rakwal, Ganesh Kumar Agrawal, Sang Yeol Lee and Kyu Young Kang (2009) Secretome analysis of differentially-induced proteins in rice suspension-cultured cells triggered by rice blast fungus and elicitor. **Proteomics** , 9, 1301-1313. (**IF= 5.479**)

4. Won Kyeong Cho, Xiong-Yan Chen, Chu H, Yeonggil Rim, Suwha Kim, **Sun Tae Kim**, Seon-Won Kim, Zee Yong Park, Jae-Yean Kim. (2009) Proteomic analysis of the secretome of rice calli. **Physiol Plant**. 135(4):331-341.

5. Xiong-Yan Chen, **Sun Tae Kim**, Yeonggil Rim, Suwha Kim, Seon-Won Kim, Kyu Young Kang, Zee Yong Park, Jae-Yean Kim. (2009) Proteomics of weakly bound cell wall proteins in rice calli. **J. Plant Physiol**. 166(7):675-685. (**IF= 2.239**)
(**Co first author**)

-2008-

1. Sang Gon Kim, **Sun Tae Kim**, Sung-Kun Kim, and Kyu Young Kang (2008) Gene Expression Profiling in Rice Infected with Rice Blast Fungus using SAGE. **Plant Pathology J**. 24: 384-391. (**Co first author**)

2. Sun Tae Kim, Sun Young Kang, Yiming Wang, Sang Gon Kim, Du Hyeon Hwang, Kyu Young Kang (2008) Analysis of embryonic proteome modulation by GA and ABA from germinating rice seeds. **Proteomics** 8, 3577-3587. **(IF= 5.479)**

3. Sun Tae Kim, Sang Gon Kim, Young Hyun Kang, Yiming Wang, Jae-Yeon Kim, Nari Yi, Ju-Kon Kim, Randeep Rakwal, Hee-Jong Koh, and Kyu Young Kang
(2008) Proteomics analysis of rice lesion mimic mutant (spl1) reveals tightly localized probenazole-induced protein (PBZ1) in cells undergoing programmed cell death. **J. Proteome Research**. 7, 1750-1760. **(IF= 5.675)**

4. Sun Tae Kim, Seok Yu, Young Hyun Kang, Sang Gon Kim, Jae Yean Kim, Sun-Hyung Kim, and Kyu Young Kang (2008) The rice pathogen-related protein 10 (JIOsPR10) is induced by abiotic and biotic stresses and exhibits ribonuclease activity. **Plant Cell Rep**. 27, 593-603. **(IF= 1.973)**

5. Yong Hun Chi, Jeong Chan Moon, Jin Ho Park, Ho-Seung Kim, Ismayil S. Zulfugarov, Wahyu Indra Fanata, Ho Hee Jang, Jung Ro Lee, Young Mee Lee, **Sun Tae Kim**, Yong-Yoon Chung, Chae Oh Lim, Jae-Yean Kim, Dae-Jin Yun, Choon-Hwan Lee, Kyun Oh Lee, and Sang Yeol Lee (2008) chloroplast development and growth inhibition in *Oryza sativa* thioredoxin *m* knock-down plants. **Pant Physiol**. 148, 808-817. (**IF 6.367**)

6. Sang Gon Kim, **Sun Tae Kim**, Sun Young Kang, Yiming Wang and Kyu Young Kang (2008) Proteomic analysis of reactive oxygen species (ROS)-related proteins in rice roots. **Plant Cell Rep.** 27, 363-375. **(IF= 1.973)**

-2007-

1. Du Hyeon Hwang, **Sun Tae Kim**, Sang Gon Kim, and Kyu Young Kang (2007) Comprehensive analysis of the expression of twenty-seven beta-1, 3-glucanase genes in rice (Oryza sativa L.). **Mol. Cells** 23, 207-214. (**IF= 1.8**) (**Co first author)**

2. Keun Chae, Kangling Zhang, Li Zhang, Dimitrios Morikis, **Sun Tae Kim**, Jean-Claude Mollet, Noelle de la Rosa, Kimberly Tan, and Elizabeth M. Lord (2007) Two SCA (Stigma/Style Cysteine-rich Adhesin) isoforms show structural differences that correlate with their levels of in vitro pollen tube adhesion activity. **J. Biol. Chem.** 282, 33845-33858. **(IF= 5.8)**

-2006-

1. Sun Tae Kim, Kangling Zhang, Juan Dong, and Elizabeth M. Lord. (2006) Exogenous Free Ubiquitin Enhances Lily Pollen Tube Adhesion to an in Vitro Stylar Matrix and May Facilitate Endocytosis of SCA (Stigma/stylar Cysteine-rich Adhesin**)** **Plant Physiol.** 142, 4 (12), 1397-1411. **(IF=6.367)**

-2005-

1. Juan Dong, **Sun Tae Kim**, Elizabeth M, Lord. (2005) Plantacyanin Plays a Role in Reproduction in Arabidopsis. **Plant Physiol.** 138, 778-789. **(IF=6.367)**

-2004-

1. Sun Tae Kim, Sang Gon Kim, Du Hyeon Hwang, Sun Young Kang, Han Ju Kim, Byung Hyun Lee, Jeong Joo Lee, Kyu Young Kang (2004) Proteomic analysis of pathogen-responsive proteins from rice leaves induced by rice blast fungus, Magnaporthe grisea. **Proteomics** 11, 3569-3578. **(IF= 5.479)**

2. Sun Tae Kim, Seuk Yu, Sang Gon Kim, Han Ju Kim, Sun Young Kang, Du Hyeon Hwang, Yu Sin Jang, Kyu Youg Kang (2004) Proteome analysis of rice blast fungus (Magnaporthe grisea) proteome during appressorium formation. **Proteomics** 11, 3579-3587. **(IF= 5.479)**

3. Jung Ro Lee, Kyun Oh Lee, Jin Ho Park, Ji Young Yoo, Jae Sook, Kang, Hye Sook Jeon, Sun Young Kim, Young Mi Lee, **Sun Tae Kim**, Chae Oh Lim, Jeong Dong Park, Moo Je Cho, Sang Yeol Lee (2004) Molecular and functional characterization of a PEX14a cDNA from rice. **Plant Science** 166, 123-130. (**IF=1.65)**

-2003-

1. Sun Tae Kim, Kyu Seong Cho, Seok Yu, Sang Gon Kim, Jong Chan Hong, Chang-Deok Han,Myung Hee Nam, and Kyu Young Kang (2003) Proteomic analysis of differentially expressed proteins Induced by rice blast fungus and elicitor in suspension-

cultured rice cells. **Proteomics** 12, 2368-2378. **(IF= 5.479)**

2. Sun Tae Kim, Hyun Soo Kim, Han Ju Kim, Sang Gon Kim, Sun Young Kang, Dong Bin Lim, and Kyu Young Kang (2003) Prefractionation of Protein Samples using Sodium Dodecyl Sulfate-Polyacrylamide Gel Electrophoresis–Based Size Fractionation for Proteome Analysis. **Mol. Cells** 16, 316-322. (**IF=1.8)**

3. Sun Tae Kim, Kyu Seong Cho, Sang Gon Kim, Sun Young Kang, and Kyu Young Kang (2003) Isolation and Characterization of a Rice Isoflavone like Reductase (*OsIRL*) Gene Expressed by Rice Blast Fungal Elicitor. **Mol. Cells** 16, 224-231. **(IF=1.8)**

4. Cha Young Kim, Yoon Duck, Koo, Jing Bo Jin, Byeong Cheol Moon, Chang Ho Kang, **Sun Tae Kim**, Byeong Ouk Park, So Young Lee, Man Lyang, Kim, Inhwang Hwang, Kyu Young Kang, Jeong Dong Balk, Sang Yeol Lee, Moo Je Cho, (2003) Rice C2-domain proteins are induced and translocated to the plasma membrane in response to fungal elicitor. **Biochemistry** 42, 11625-11633. (**IF=3.8)**

-2002-

1. Min Chul Kim, Sang Hyoung Lee, Jong Kyong Kim, Hyun Jin Chun, Man Soo Choi, Woo Sik Chung, Byeong Cheol Moon, Chang Ho Kang, Chan Young Park, Jae Hyuk Yoo, Yun Hwan Kang, Seong Cheol Koo, Yoon Duck Koo, Jae Cheol Jung, **Sun Tae Kim**, Paul Schulze-Lefert, Sang Yeol Lee, and Moo Je Cho, (2002) Mlo, a Modulator of Plant Defense and Cell Death, Is a Novel Calmodulin-binding Protein. ISOLATION AND CHARACTERIZATION OF A RICE Mlo HOMOLOGUE. **J. Biol. Chem.** 277, 19304 - 19314. **(IF=5.85)**

-2001-

1. Sun Tae Kim, Kyu Seong Cho, Yu Sin Jang, Kyu Young Kang (2001) Two-dimensional electrophoretic analysis of rice proteins by polyethylene glycol fractionation for protein arrays. **Electrophoresis** 22, 2103–2109. **(IF= 3.6)**

−2000−

1. Nam Soo Kim, Nam Il Park, Sun Hyung Kim, **Sun Tae Kim**, Sung Sook Han, Kyu Young Kang, (2000) Isolation of TC/AG repeat microsatellite sequence for

fingerprinting rice blast fungus and their horizontal transfer in plant species. **Mol. Cells** 10,127-134. **(IF=1.8)**

Book Chapter

Sun Tae Kim and Kyu Young Kang (2008) Proteomics in plant defense response. In Agrawal GK and Rakwal R (eds) *Plant Proteomics: Technologies, Strategies, and Applications*. pp 587-604. John Wiley & Sons, Inc, Hoboken, NJ.

International Patent

1. Kyu Young Kang, **Sun Tae Kim**, Sang Gon Kim
PBZ1 protein involved in senescence and cell death of monocot plants.
(Patent # **PCT08003)**

Domestic Patents

1. Kyu Young Kang, **Sun Tae Kim**, Sang Gon Kim,
PBZ1 protein involved in senescence and cell death of monocot plants
(Patient # 10-0781076)

2. Kyu Young Kang, Ju Kon Kim, Du Hyeon Hwang, **Sun Tae Kim**, Sang Gon Kim,
Transgenic plant of *β* -1, 3-Glucanase (*OsGlu2*) gene showing high yield and pathogen resistance. (Patent #10-0839027)

3. Kyu Young Kang, Du Hyeon Hwang, **Sun Tae Kim**,
A rice *β* -1, 3-Glucanase (*OsGlu2*) gene showing high yield and pathogen resistance.
(Patent #10-0781076)

Research Areas

- Functional study of secretome during plant-microbe interactions.
- Functional study of biotic and abiotic stress related biomarker proteins for crop improvement using omics approach.
- Development of high efficient protein expression system within plant.