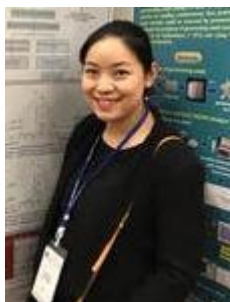


Personal Information



Parunya Chaiyawat

Address: Chiang Mai University

Country: Thailand

Curriculum Vitae

EDUCATION

- Ph.D.** 2009-2015 Applied Biological Sciences (International program),
Chulabhorn Graduate Institute, Bangkok, THAILAND
Thesis title: Studies of O -GlcNAc-modified proteins in
association with tumorigenesis of colorectal cancer
- M.S.** 2004-2007 Biotechnology,
Chiang Mai University, Chiang Mai, THAILAND
Thesis title: Detection of chitinase isozyme patterns in spur pepper
(*Capsicum annuum* L.) after transfection with *Fusarium oxysporum*
- B.S.** 2000-2004 Biochemistry and Biochemical Technology,
Chiang Mai University, Chiang Mai, THAILAND

RESEARCH EXPERIENCE

Postdoctoral researcher **2015-present**
OLARN Center, Department of Orthopaedics, Faculty of Medicine, Chiang Mai University

Doctoral Researcher **2011-2015**
Biochemistry Laboratory, Chulabhorn Graduate Institute

- Identified O-GlcNAc-modified-proteins in normal and cancer cell lines as well as tissue samples.
- Studied roles of O-GlcNAcylation on the biological effects of colorectal cancer cells
- Applied two-dimensional gel electrophoresis technique for studying a crosstalk between O-GlcNAcylation and O-Phosphorylation of colorectal cancer cell lines.
- Studied roles of O-GlcNAcylation on key proteins involving in biological signaling pathways and Warburg effect.
- Identified O-GlcNAc-modified proteins carried by extracellular vesicles (EVs) derived from non-metastatic and metastatic cancer cells.

Research Assistant **2013-2015**

- Assistant to Dr. Voraratt Champattanachai, conducting research on a project “Development of novel tumor markers using proteins modified by GlcNAc” funded by the National Science and Technology Development Agency (NSTDA).

TECHNICAL EXPERIENCE

- **Proteomics:** Two-dimensional gel electrophoresis; Sample preparation before protein identification by mass spectrometry including in-gel protein digestion and clean-up digested peptides; Secretome analysis; Protein profile analysis of clinical samples including serum and tissues.
- **Biochemistry:** Spectrophotometric enzyme assays; Protein quantitation; HPLC; 1-D polyacrylamide gel; Western blot; Subcellular fractionation protein enrichment; Fluorescent staining of phosphorylated and glycosylated proteins on polyacrylamide gel.
- **Molecular Genetics:** RNA isolation from cancer cell lines; Real-time RT-PCR; siRNA transfection.
- **Immunology:** Immunoprecipitation; ELISA; Multiplex ELISA; Fluorescent labeling of cellular proteins.
- **Cell Culture:** Mammalian adherent and non-adherent cell culture; Cell invasion and migration assay; Anoikis resistance assay; Anchorage independent growth assay; Cell proliferation assay.
- **Bioinformatics:** Cytoscape with ClueGO and CluePedia plugin; WebGestalt; PANTHER classification system; KEGG; BIOCARTA; DAVID Bioinformatics Resources; Gene Ontology Consortium.
- **Others:** Isolation of extracellular vesicles (exosomes, microvesicles, etc.) from cell culture and clinical samples (serum); Identification of proteins from extracellular vesicle using two-dimensional gel electrophoresis.

PUBLICATIONS

1. Chaiyawat P, Pruksakorn D, Phanphaisarn A, Teeyakasem P, Klangjorhor J, and Settakorn J: Expression Patterns of Class I Histone Deacetylases in Osteosarcoma: A novel prognostic marker with potential therapeutic implications. *Modern pathology*. 2017, 1-11.
2. Chaiyawat P, Klangjorhor J, Settakorn J, Champattanachai V, Phanphaisarn A, Teeyakasem P, Svasti J, and Pruksakorn D: Activation Status of Receptor Tyrosine Kinases as an Early Predictive Marker of Response to Chemotherapy in Osteosarcoma. *Translational oncology*. 2017, 10: 846–853.
3. Chaiyawat P, Settakorn J, Sangsin A, Teeyakasem P, Klangjorhor J, Soongkhaw A, and Pruksakorn D: Exploring targeted therapy of osteosarcoma using proteomics data. *Oncotargets and Therapy*. 2017, 10: 565–577.
4. Chaiyawat P, Weeraphan C, Netsirisawan P, Chokchaichamnankit D, Srisomsap C, Svasti J, and Champattanachai V: Elevated O-GlcNAcylation of extracellular vesicle proteins derived from metastatic colorectal cancer cells. *Cancer genomics & proteomics*. 2016, 13: 387-398.
5. Phanphaisarn A, Patumanond J, Settakorn J, Chaiyawat P, Klangjorhor J, and Pruksakorn D: Prevalence and Survival Patterns of Patients with Bone Metastasis from Common Cancers in Thailand. *Asian Pacific Journal of Cancer Prevention*. 2016, 17 (9): 4335-4340.
6. Pruksakorn D, Teeyakasem P, Klangjorhor J, Chaiyawat P, Settakorn J, Diskul-Na-Ayudthaya P, Chokchaichamnankit D, Pothacharoen P, and Srisomsap C: Overexpression of KH-type splicing regulatory protein regulates proliferation, migration, and implantation ability of osteosarcoma. *International journal of oncology*. 2016, 49: 903-912.
7. Pruksakorn D, Phanphaisarn A, Pongnikorn D, Daoprasert K, Teeyakasem P, Chaiyawat P, Katruang N, and Settakorn J: Age-standardized incidence rates and survival of osteosarcoma in northern Thailand. *Asian Pacific Journal of Cancer Prevention*. 2016, 17: 3455-3458.
8. Chaiyawat P, Chokchaichamnankit D, Lirdprapamongkol K, Srisomsap C, Svasti J, and Champattanachai V: Alteration of O-GlcNAcylation affects serine-phosphorylation and regulates gene expression and activity of pyruvate kinase M2 in colorectal cancer cells. *Oncology reports*. 2015, 34: 1933-1942.

9. Chaiyawat P, Netsirisawan P, Svasti J, and Champattanachai V: Aberrant O- GlcNAcylated proteins: new perspectives in breast and colorectal cancer. *Frontiers in Endocrinology* . 2014, 5(193). (Review article)
10. Phueaouan T, Chaiyawat P, Netsirisawan P, Chokchaichamnankit D, Punyarit P, Srisomsap C, Svasti J, and Champattanachai V: Aberrant O-GlcNAc-modified proteins expressed in primary colorectal cancer. *Oncology reports*. 2013, 30: 2929-2936.
11. Champattanachai V, Netsirisawan P, Chaiyawat P, Phueaouan T, Charoenwattanasatien R, Chokchaichamnankit D, Punyarit P, Srisomsap C, and Svasti J: Proteomic analysis and abrogated expression of O-GlcNAcylated proteins associated with primary breast cancer. *Proteomics*. 2013, 13: 2088-2099.
12. Chaiyawat P, Boonchitsirikul C, and Lomthaisong S.K: An investigation of a defensive chitinase against *Fusarium oxysporum* in pepper leaf tissue. *Maejo International Journal of Science and Technology*. 2008, 2(1): 150-158.
13. Songjang K, Donchai T, Chaiyawat P, and Meyer R. C: Cloning and expression of chitinase gene isolated from insect pathogenic fungi, *Beauveria bassiana* in *Escherichia coli*. *Chiang Mai Journal of Science*. 2006, 33(3): 347 - 355.

CONFERENCE PRESENTATIONS

ORAL PRESENTATIONS

1. Chaiyawat P, Settakorn J, Sangsin A, Teeyakasem P, Klangjorhor J, Soongkhaw A, and Pruksakorn D: Exploring targeted therapy of osteosarcoma using proteomics data. The RCOST and AOA Combined Meeting 2016 , 6-8 October 2016, Chiang Mai, Thailand.
2. Chaiyawat P, Weeraphan C, Chokchaichamnankit D, Srisomsap C, Svasti J, and Champattanachai V: Discovery of O-GlcNAcylation of extracellular vesicle proteins derived from non-metastatic and metastatic colorectal cancer cell lines. The 10th international symposium of the protein society of Thailand, 15-17 July 2015, Bangkok, Thailand.
3. Chaiyawat P, Lirdprapamongkol K, Srisomsap C, Svasti J, and Champattanachai V: The expression of O-GlcNAcylated and serine phosphorylated proteins in subcellular compartments of colorectal cancer cell. The 5th Asian Community of Glycoscience and Glycotechnology (ACGG), 16-18 October 2013, Khon Kaen, Thailand.
4. Chaiyawat P, Lirdprapamongkol K, Srisomsap C, Svasti J, and Champattanachai V: Abrogated expression and identification of O-GlcNAcylated proteins in colorectal cancer cells. The 8th international symposium of the protein society of Thailand, 5-7 August 2013, Bangkok, Thailand.

POSTER PRESENTATIONS

1. Chaiyawat P, Pruksakorn D, Phanphaisarn A, Teeyakasem P, Klangjorhor J, and Settakorn J: Co-expression of different class I histone deacetylase isoforms in osteosarcoma: prognostic and therapeutic implications. 5th Asia Pacific Protein Association Conference and 12th Protein Society of Thailand Symposium. 11-14 July 2017, Bangsaen, Thailand.
2. Chaiyawat P, Settakorn J, Teeyakasem P, Klangjorhor J, Sanguine A, Soongkhaw A, and Pruksakorn D: Explored targeted therapy of osteosarcoma using proteomics data. the 11th International Symposium of the Protein Society of Thailand (PST). 3-5 August 2016, Bangkok, Thailand.
3. Chaiyawat P, Weeraphan C, Chokchaichamnankit D, Srisomsap C, Svasti J, and Champattanachai V: Extracellular O-GlcNAc-modified proteins of colorectal cancer cells. The joint 7th Asia Oceania Human Proteome Organization (AOHUPO) congress and 9th international symposium of the protein society of Thailand (PST). 6-8 August 2014, Bangkok, Thailand.
4. Chaiyawat P, Lirdprapamongkol K, Srisomsap C, Svasti J, and Champattanachai V: Abrogated expression and identification of O-GlcNAcylated proteins in colorectal cancer cells. The 12th Human Proteome Organization (HUPO) annual world congress. 14 -18 September 2013, Yokohama, Japan.

5. Chaiyawat P, Lirdprapamongkol K, Srisomsap C, Svasti J, and Champattanachai V: O-GlcNAcylation plays distinct roles in colorectal cancer cell biological effects. The 7th Princess Chulabhorn International Science Congress “Cancer: From basic research to cure”. 28 November- 3 December 3 2012, Bangkok, Thailand.
6. Chaiyawat P and Songjang K: Chitinase isozyme patterns in intercellular fluids from chilli leaves inoculated with *Fusarium oxysporum*. The 18th Annual Meeting of the Thai Society for Biotechnology “Biotechnology: Benefits & Bioethics”. 2-3 November 2006, Bangkok, Thailand.

PROCEEDING P RESENTATION

Chaiyawat P and Songjang K: Chitinase isozyme patterns in intercellular fluids from chilli leaves inoculated with *Fusarium oxysporum*. Proceedings of the 18th Annual Meeting of the Thai Society for Biotechnology “Biotechnology: Benefits & Bioethics”. 2-3 November 2006, Bangkok, Thailand.

TEACHING EXPERIENCE

Teaching Assistant

2006-2007

Biochemistry laboratory course, Faculty of Science, Chiang Mai University

HONORS AND AWARDS

The Best basic orthopedic science research award in topic
“Exploring targeted therapy of osteosarcoma using proteomics data”
in The RCOST and AOA Combined Meeting 2016, 6-8 October 2016,
Chiang Mai, Thailand. **2016**

Young Scientist Program
the 5th Asian Community of Glycoscience and Glycotechnology (ACGG),
Khon Kaen, Thailand. **2013**

Protein society of Thailand conference travel grant
to join HUPO World Congress, Japan **2013**

Scholarship, the Center of Excellence on
Environmental Health and Toxicology (EHT) **2009-2013**

Scholarship, Chulabhorn Graduate Institute **2009-2013**

ENGLISH COURSES

General English course (Advanced level) **Nov 2007 – May 2008**
Bloomsbury International, London, England

IELTS Exam Preparation **May 2008 – Aug 2008**
Bloomsbury International, London, England