

CURRICULUM VITAE

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Current Position: Lecturer
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Educations: 1999 B.Sc. (Biotechnology), Silpakorn University, Thailand
2003 M.Sc. (Biochemistry), Mahidol University, Thailand
2010 Ph.D. (Biochemistry), Mahidol University, Thailand

Awards and Scholarships:

- 2001-2002 Recipient of Scholarship from the Ministry of University Affair and Faculty of Graduate Studies, Mahidol University, Thailand
- 2005-2006 Recipient of Scholarship of the Institutional Strengthening Program offered by the Faculty of Science, Mahidol University, Thailand
- 2008 Recipient of the Young Traveler award from 16th International symposium on flavins and flavoproteins 2008, Jaca, Spain
- 2007-2010 Recipient of Scholarship from the Royal Golden Jubilee Ph.D. program of the Thailand Research Fund
- 2011 Recipient of Vince Massey Award from 17th International symposium on flavins and flavoproteins 2011, Berkeley, CA. USA.

Research Experiences:

- Purification of *p*-Hydroxyphenylacetate Hydroxylase from *Acinetobacter baumannii* and 3,4-dihydroxyphenylacetate dioxygenase from *Pseudomonas* sp.
- Study of Redox properties of Flavoprotein Component of *p*-Hydroxyphenylacetate Hydroxylase.
- Cloning and Expression of *p*-Hydroxyphenylacetate Hydroxylase.
- Site-directed Mutagenesis of the Oxygenase Component of *p*-Hydroxyphenylacetate Hydroxylase.
- Pre-steady state Kinetics Studies of the Oxygenase Component of *p*-Hydroxyphenylacetate Hydroxylase
- Crystallization and Structure Determination of the mutants of the Oxygenase Component of *p*-Hydroxyphenylacetate Hydroxylase (with Professor Andrea Mattevi, University of Pavia, Italy)
- Knock out of Inward Rectifying Potassium (Kir) Mutant in *Burkholderia pseudomallei*

Other Experiences and Activities:

- 2001 Teaching assistant in Biochemistry Course (SCBC 211) for medical students, Mahidol University.
- 2002 Staff of workshop on "Analysis of gene and protein by electrophoresis techniques" during April 29th - March 3rd, Department of Biochemistry, Faculty of Science, Mahidol University.
- 2002-2006 Teaching assistant in Biomolecular and Spectroscopic Technique (SCID508), Separation Techniques (SCID 509), Gene Technology (SCID511), and Receptor Binding & Enzyme Kinetic Assays (SCID 512), for graduate students, Faculty of Science, Mahidol University.
- 2003 Laboratory leader, Quality Assurance Section, Procter & Gamble Manufacturing (Thailand) Ltd.

Publications:

1. Thotsaporn, K., Sucharitakul, J., Wongratana, J., Suadee, C., Chaiyen, P., (2004) Cloning and expression of *p*-hydroxyphenylacetate 3-hydroxylase from *Acinetobacter baumannii*: evidence of the divergence of enzymes in the class of two-protein component aromatic hydroxylases *Biochim. Biophys. Acta.* 1680: 60-66.
2. Baron, R., Riley, C., Chenprakhon, P., Thotsaporn, K., Winter, R.T., Alfieri, A., Forneris, F., van Berkel, W.J.H., Chaiyen, P., Fraaije, M.W., Mattevi, A., McCammon., J.A. (2009) Multiple pathways guide oxygen diffusion into flavoprotein active site *P. Natl. Acad. Sci. USA* 106: 10603-10608.
3. Thotsaporn, K., Chenprakhon, P., Sucharitakul, J., Mattevi, A., Chaiyen, P. (2011) Stabilization of C4a-hydroperoxy-flavin in a two-component flavin-dependent monooxygenase is achieved through interactions at flavin N5 and C4a atoms *J. Biol. Chem.* 286: 28170-28180.
4. Tongsook, C., Sucharitakul, J., Thotsaporn, K., Chaiyen, P. (2011) Interactions with the substrate phenolic group are essential for hydroxylation by the oxygenase component of *p*-hydroxyphenylacetate 3-hydroxylase. *J. Biol. Chem.* 286: 44491-44502.
5. Phongsak, T., Sucharitakul, J., Thotsaporn, K., Oonanant, W., Yuvaniyama, J., Svasti, J., Ballou, P., Chaiyen, P. (2012) The C-terminal domain of 4-hydroxyphenylacetate 3-hydroxylase from *Acinetobacter baumannii* is an autoinhibitory domain. *J. Biol. Chem.* 287: 26213-26222.
6. Tinikul R, Thotsaporn K, Thaveekarn W, Jitrapakdee S, Chaiyen P. (2012) The fusion *Vibrio campbellii* luciferase as a eukaryotic gene reporter. *J Biotechnol.* 162: 346-353.

International Proceedings:

1. Chaiyen, P., Suadee, C., Thotsaporn, K., Svasti, J. (2002) Flavins and Flavoproteins, 14th International Symposium on Flavins and Flavoproteins, pp 975-980, Rodolf Weber, Berlin
2. Thotsaporn, K., Chaiyen, P. (2011) Flavins and Flavoproteins, 17th International Symposium on Flavins and Flavoproteins, In press

Poster presentations: (National Level)

1. Thotsaporn, K., Chaiyen, P. (2001) "Redox Potential and Substrate binding of Reductase component of *p*-Hydroxyphenylacetate Hydroxylase" in 27th Congress on Science and Technology of Thailand, Songkhla, Thailand.
2. Chaiyen, P., Suadee, C., Thotsaporn, K. (2001) "Oxygenase Enzymes involved in Degradation of *p*-Hydroxyphenylacetate" in BioThailand 2001: From Research to Market, Queen Sirikit National Convention Center Bangkok, Thailand.
3. Thotsaporn, K., Chaiyen, P. (2002) "An Investigation of Thermodynamic properties of Reductase component of Flavoprotein component and Gene cloning of *p*-Hydroxyphenylacetate Hydroxylase" in Protein Research Network Symposium 2002 on Protein Structure and Molecular Enzymology, Mahidol University, Thailand.
4. Thotsaporn, K., Chaiyen, P. (2003) "Cloning and Expression of *p*-Hydroxyphenylacetate Hydroxylase" in 29th Congress on Science and Technology of Thailand, Khonkaen, Thailand.

5. Chaiyen, P., Sucharitakul, J., Thotsaporn, K., Suadee, C., Entsch, B., Ballou, D.P. (2005) "Two-component flavoproteins in oxygenation reactions." in 2nd Protein Research Network Symposium on Proteins Structure, Function, and Proteomics, Chulabhorn Research Institute Conference Center, Bangkok, Thailand.
6. Thotsaporn, K., Tucker, S.J., Tungpradabkul, S. (2005) "Cloning and Gene Knock Out of Inward Rectifying Potassium (Kir) Channels in *Burkholderia pseudomallei*." in 31st Congress on Science and Technology of Thailand, Nakhon Ratchasima, Thailand.
7. Chaiyen, C., Sucharitakul, J., Suadee, C., Thotsaporn, K., Entsch, B., Ballou, D.P. (2005) "Reaction Mechanism of *p*-Hydroxyphenylacetate Hydroxylase" in 31th Congress on Science and Technology of Thailand, Nakhon Ratchasima, Thailand.
8. Thotsaporn, K., Chaiyen, P. (2007) "Site-Directed Mutagenesis Studies of the His396 Mutants of the Oxygenase Component (C₂) of *p*-Hydroxyphenylacetate Hydroxylase" in 2nd Annual Symposium of Protein Society of Thailand on Odysseys in Protein Research, Chulabhorn Research Institute Conference Center, Bangkok, Thailand.

Poster presentations: (International Level)

1. Chaiyen, P., Suadee, C., Thotsaporn, K., Svasti, J. (2002) "Studies of The Two-Component *p*-Hydroxyphenylacetate Hydroxylase from *Acinetobacter Baumannii*." in 14th International Symposium on Flavins and Flavoproteins, St. John's College, University of Cambridge, UK.
2. Thotsaporn, K., Wongratana, J., Sucharitakul, J., Chaiyen, P. (2004) "*p*-Hydroxyphenylacetate 3-Hydroxylase from *Acinetobacter baumannii* is a novel prototype enzyme in the two-protein component class of aromatic hydroxylase" in 17th FAOBMB Symposium / 2nd IUBMB Special Meeting / 7th A-IMBN Conference on Genomics and Health in the 21st Century, The Imperial Queen's Park Hotel, Bangkok, Thailand.
3. Thotsaporn, K., Tucker, S.J., Tungpradabkul, S. (2005) "Construction of Inward Rectifying Potassium (Kir) Mutant in *Burkholderia pseudomallei*" in the 9th Asian- Pacific Conference on Transcription (ACT-IX), National Health Research Institute, Zhunan Town, Miaoli Country, Taiwan, R.O.C.
4. Thotsaporn, K., Chaiyen, P. (2008) "Role of His-396 in the Reaction of the Oxygenase Component (C₂) of *p*-Hydroxyphenylacetate Hydroxylase" in 16th International Symposium on Flavins and Flavoproteins, Palacio de Congresos, Jaca, Spain.
5. Thotsaporn, K., Chaiyen, P. (2011) "Site-directed Mutagenesis Studies to Investigate the Roles of His396 and Ser171 in the Oxygenase Component of *p*-Hydroxyphenylacetate Hydroxylase" in the 3rd Biochemistry and Molecular Biology (BMB) International Conference, Chiang Mai, Thailand.
6. Chenprakhon, P., Thotsaporn, K., Chaiyen, P. (2011) "Control of protonation in the oxygenase component of *p*-hydroxyphenylacetate 3-hydroxylase (HPAH) (C₂) from *Acinetobacter baumannii*" in 17th International Symposium on Flavins and Flavoproteins, University of California, Berkley, CA, USA.
7. Tinikul, R., Thotsaporn, K., Jitrapakdee, S., Chaiyen, P. (2011) "Characterization of fusion luciferase from *Vibrio campbellii*" in 17th International Symposium on Flavins and Flavoproteins, University of California, Berkley, CA, USA.

8. Thotsaporn, K., Chaiyen, P. (2011) “Interactions at the flavin C4a/N5 locus are important for formation and stabilization of C4a-hydroperoxy-flavin in a two-component flavin-dependent monooxygenase” in 17th International Symposium on Flavins and Flavoproteins, University of California, Berkley, CA, USA.