

CURRICULUM VITAE

Name ชัชชัย ตะยาภิวัฒน์นา
Mr. Chatchai Tayapiwatana

Date of birth 21 March 1966

Age 43

Current position Associate Professor

Postal address Division of Clinical Immunology,
Department of Medical Technology,
Faculty of Associated Medical Sciences,
Chiang Mai University, Thailand.

TEL No. 66-81-8845141

FAX No. 66-53-946042

Email address asimi002@chiangmai.ac.th

Education

1988 : B.Sc. (Medical Technology) Mahidol University
1991 : M.Sc. (Microbiology) Mahidol University
2001 : Ph.D. (Biotechnology) Chiang Mai University

Award

1. First rank in biological study field award in 1991 from **Dr. Tab Nilanidhi Foundation**.
2. Outstanding scientific presentation award in 2000 for The Royal Golden Jubilee Ph.D. Congress I at Kanjanaburee from **The Thailand Research Fund**.
3. Outstanding research project in 2001 selected by **The Thailand Research Fund**.
4. Traveling Assistance Award in 2003 for 12th. International Congress of Immunology in Montreal, Canada from **Federation of Immunological Societies of Asia-Oceania**.
5. Outstanding New Researcher Award in 2004 from **Thailand Research Fund**.
6. Young Scientist Award in 2006 for The 22nd National Congress on Allergy and Immunology from **Thai Society of Allergy and Immunology**.
7. AAI Junior Faculty Award in 2006 for The Annual Meeting of AAI 2006 in Boston, USA from **The American Association of Immunologists**.
8. Alumni Award to Distinguished Former Students (Academic) in 2007 from **Faculty of Medical Technology, Mahidol University**.
9. Thesis supervisor of Graduate School Outstanding Dissertation Award in 2007 from **Chiang Mai University**.
10. Thesis supervisor of Outstanding Poster Presentation Award in 2008 from **The Chulabhorn Graduate Institute Award for Young Scientist**.

Scholarship

1. The Royal Golden Jubilee Program (RGJ) from The Thailand Research Fund (TRF)
2. Deutscher Akademischer Austauschdienst (DAAD)

Research Fellowship

1. Universität Tübingen, Germany
2. Boehringer Ingelheim an der Riss, Germany

Visiting Researcher

2002: Cancer Care Institute, University of Manitoba, Canada with Dr. Sabine Mai

2005: The Scripps Research Institute, CA, USA with Dr. Carlos F Barbas

2005: University Paris Sud 11, France with Dr. Philippe Minards

2006: Children's Hospital, Columbus, OH, USA with Dr. Mark E. Peeples

2007: Cancer Care Institute, University of Manitoba, Canada with Dr. Sabine Mai

2007: University Lyon, France with Dr. Pierre Boulanger

Research Grant

2002-2003: Young Scientis Research Fund from The Thailand Research Fund (TRF)

2003-2006: Basic Research Fund from The Thailand Research Fund (TRF)

2007-2010: Basic Research Fund from The Thailand Research Fund (TRF)

Membership

2002-present: Selected member of The Thai Academy of Science and Technology (TAST)

2005-present: Selected member of The American Association of Immunologists

Scientific publication

1. Sirisinha S , Chawengkirtikul R , **Tayapiwatana C** et al . Specific and cross- reactive monoclonal antibodies to the 89-kDa of Opisthorchis viverini . Southeast Asian J Trop Med Pub Hlth 1992; 23:489-90.
2. Munde Y, **Tayapiwatana C** . Comparison of 5 HBsAg screening test kits for blood ba nk. J Med Tech Assoc Thailand 1996; 24:45-54.
3. **Tayapiwatana C** . and Poonpipat P . Characterization of monoclonal antibodies recognizing alpha and beta subunits of human chorionic gon adotropin hormone . Asian Pac J Allergy Immunol 1998; 16:127-135.
4. **Tayapiwatana C** . and Tung R. Combined immunoprecipitation and agglutination for the detection of the heterodimeric molecule: human chorionic gonadotropin as a study model. Asian Pac J Allergy Immunol. 1999; 17:301-6.

5. Manosroi J., **Tayapiwatana C.**, Götz F., Werner R.G. and Manosroi A. Secretion of active recombinant human tissue plasminogen activator derivatives in *Escherichia coli*. Appl Environ Microbiol. 2001; 67:2657-64.
6. Manosroi J., **Tayapiwatana C.**, Götz F., Werner R.G. and Manosroi A. Lektinase a secreted t-PA derivative from *Escherichia coli*. Arzneimittelforschung 2002; 52:60-66.
7. The ISOBM TD-7 workshop on hCG and related molecules. Tumor Biology 2002; 23:1-38.
8. **Tayapiwatana C.**, Kasinrerak W. Construction and characterization of phage-displayed leukocyte surface molecule, CD99. Appl Microbiol Biotechnol 2002; 60:336-41.
9. **Tayapiwatana C.**, Arooncharus P, Kasinrerak W. Displaying and epitope mapping of CD147 on VCSM13 phages: influence of *Escherichia coli* strains. J Immunol Methods 2003; 281:177-85.
10. Intasai N, Arooncharus P, Kasinrerak W and **Tayapiwatana C.** Construction of high-density display of CD147 ectodomain on VCSM13 phage via gpVIII: effects of temperature, IPTG, and helper phage infection-period. Protein Expr Purif 2003; 32:323-31.
11. Boonmuen S, **Tayapiwatana C.**, Kasinrerak W. Comparison of polyclonal anti CD147 antibody production using DNA based and phage-displayed CD147 immunizations. ScienceAsia 2005; 31:83-6.
12. Pattarawarapan M, Nangola S and **Tayapiwatana C.** Establishment of competitive ELISA for the detection of chloramphenicol. Chiang Mai J Sci 2006; 33:85-94.
13. Thammawong P, Kasinrerak W, Turner RJ and **Tayapiwatana C.** Twin-arginine signal peptide attributes effective display of CD147 to filamentous phage. Appl Microbiol Biotechnol 2006; 69:697-703.
14. Intasai N, Kasinrerak W, Mai S and **Tayapiwatana C.** Binding of multivalent CD147 phage induces apoptosis of U937 cells. Int Immunol 2006; 18:1159-69.
15. **Tayapiwatana C.**, Chotpadiwetkul R and Kasinrerak W. A novel approach of using streptavidin magnetic bead sorting in vivo biotinylated survivin for monoclonal antibody production. J Immunol Methods 2006, 317: 1-11.
16. Pattarawarapan M, Nangola S, Cressey T and **Tayapiwatana C.** Development of a one-step immunochromatographic strip test for the rapid detection of Nevirapine (NVP), a commonly used antiretroviral drug for the treatment of HIV/AIDS. TALANTA 2007, 71: 462-70.
17. Cressey TR, Nangola S, Tawon Y, Pattarawarapan M, Lallemand M and **Tayapiwatana C.** An immunochromatographic strip test for the rapid detection of nevirapine in plasma samples of HIV-infected patients. Antimicrob Agents Chemother. 2007, 51: 3361-63.

18. Tragoolpua K, Intasai N, Kasinrerak W, Mai S, Yuan Y and **Tayapiwatana C**. Generation of functional scFv intrabody to abate the expression of CD147 surface molecule of 293A cells. *BMC Biotech*. 2008, 29; 8:5.
19. Cressey R, Pimpa S, Chewaskulyong B, Lertprasertsuke N, Saeteng S, **Tayapiwatana C** and Kasinrerak W. Simplified approaches for the development of an ELISA to detect circulating autoantibodies to p53 in cancer patients. *BMC Biotech*. 2008, 20; 8:16.
20. Pattarawarapan M, Komkham S, Kareuhanon W and **Tayapiwatana C**. Synthesis of nicotinamide-imprinted polymers and their binding performances in organic and aqueous media. *e-Polymers* 2008, no. 091.
21. Mengumpun K, **Tayapiwatana C**, Hamilton RG, Sangsupawanich P and Wititsuwannakul R. Hydrophobic allergens from the bottom fraction membrane of *Hevea brasiliensis*. *Asian Pac J Allergy Immunol*. 2008, 26: 129-36.
22. Intasai N, Tragoolpua K, Pingmuang P, Khunkaewla P, Moonsom S, Kasinrerak W, Lieber A and **Tayapiwatana C**. Potent inhibition of OKT3-induced T cell proliferation and suppression of CD147 cell surface expression in HeLa cells by scFv-M6-1B9. *Immunobiology* 2009, 214; 410-21.
23. Khamta Y, Pattarawarapan M, Nangola S and **Tayapiwatana C**. Development of immunochromatographic assay for the on-site detection of salbutamol. *J Immunoassay Immunochem*. 2009, 30; 441-56.
24. **Tayapiwatana C**, Kuntaruk S, Tatu T, Chiampanichayakul C, Munkongdee T, Winichagoon P, Fuchareon S and Kasinrerak W. Simple method for screening of α -thalassaemia 1 carriers. *Int J Hematology*. 2009, 89; 559-67.
25. Butr-indr B, Kasinrerak W and **Tayapiwatana C**. Sequential simplex optimization of recombinant biotinylated survivin production by *Escherichia coli* using mineral supplementation. *Biochem Eng J*. 2009, 46; 115-20.
26. Pata S, **Tayapiwatana C** and Kasinrerak W. Three different immunogen preparation strategies for production of CD4 monoclonal antibodies. *Hybridoma (Larchmt)*. 2009, 28; 159-65.
27. Sakkhachornphop S, Jiranusornkul S, Kodchakorn K, Nangola S, Sirisanthana T and **Tayapiwatana C**. Designed Zinc Finger Protein Interacting with the HIV-1 Integrase Recognition Sequence at 2-LTR-Circle Junctions. *Prot Sci*. (in press 2009)

Patent

1. United States Patent
Method for large scale protein production of recombinant DNA-derived tPA of K2S molecules: Patent No. US 6,955,910 B2. Assigned by Boehringer Ingelheim International GmbH.
2. World Intellectual Property Organization
Method for large scale protein production in prokaryotes: Patent No. 02/40696 A3. Assigned by Boehringer Ingelheim International GmbH.

Scientific presentation

1. Monoclonal antibodies to hepatitis B virus surface antigen: their potential for diagnosis. **The 19th Medical Technology Conference 1995.**
2. Production of anti-*C. neoformans* polysaccharide (CNPS) antigen for developing diagnostic kit. **The 20th Medical Technology Conference 1996.**
3. Multimedia computer software for enhancing the learning ability of medical sciences students. **The 20th Medical Technology Conference 1996.**
4. The production of secretory recombinant human tissue plasminogen activator (r-tpa) by phage display technique. **RGJ Ph.D. Congress I** at Kanjanaburee, Thailand 2000.
5. Homodimer human chorionic gonadotropin beta subunit as determined by double-particle reverse passive hemagglutination. **The 27th congress on Science and Technology of Thailand 2001.**
6. Lektinase a secreted t-PA derivative from *Escherichia coli*. **Gordon Research Conference on Magnesium in Biochemical Processes & Medicine** at California, USA. 2002.
7. Production and epitope characterization of phage-displayed leukocyte surface molecule: CD147. **6th FIMSA Advance Course and Conference** at Ayutthaya, Thailand 2002.
8. Displaying and epitope mapping of CD147 on VCSM13 phages: influence of *Escherichia coli* strains. **12th. International Congress of Immunology** in Montreal, Canada 2004.
9. Automatic HIV/AIDS drug measurement system for Nevirapine strip test. **The 1st Symposium on Thai Biomedical Engineering (ThaiBME'07)**, Rangsit University, Bangkok, Thailand, pp. 311-314, December 18-19, 2007.

Experience

1997: Training course in Phage Display of Combinatorial Antibody Libraries, Cold Spring Harbor Laboratory, USA.

1999: Training course in Yeast Molecular Genetics, International Centre for Genetic Engineering and Biotechnology, Italy.

2003: Training course in Innovative Technologies in Multi-disciplinary Health Research Training, University of Manitoba, Canada.

2003: Training course in Intellectual Property Right, Japan Patent Office, Japan.

External research grant reviewer

1. The Thailand Research Fund
2. National Science and Technology Development Agency
3. Commission of Higher Education, Ministry of Education
4. Khonkaen University, Naresuan University, Songkhla Nakarin University and Mahidol University

Journal reviewer

2004-present: Reviewer for Biotechnology Progress

2007-present Reviewer for Maejo International Journal of Science and Technology

2008-present Reviewer for Applied Microbiology and Biotechnology

2008-present Reviewer for TALANTA

2009-present Reviewer for International Journal of Environmental Analytical Chemistry

2009-present Reviewer for Recent Patents on Biotechnology

International workshop coordinator

2005 CIHR-TRF training program in "FISH & SKY in Cancer Research I" at Chiang Mai University, Thailand

2008 CIHR-TRF training program in "FISH & SKY in Cancer Research II" at Naresuan University, Thailand

Research interests

1. Phage display of leukocyte surface molecule for ligand tracing
2. Improvement of phage display technique for immune cell surface molecule studies
3. Intrabodies for therapeutic means of viral infections and cancers
4. Development of point of care immunological assays