

CURRICULUM VITAE

Narumol Bhummaphan

Miss Narumol Bhummaphan, Ph.D.

Official address College of Public Health Sciences,
Chulalongkorn University (CPHS)
10th floor Institute Building 3,
Soi Chulalongkorn 62, Phayathai Road,
Pathumwan, Bangkok 10330, Thailand
Phone: +66 22188198



E-mail: narumol.b@chula.ac.th, molly_narumol@yahoo.com

Tel. +66 86-207-2075

Education:

-
- **2015 – 2018** Doctor of Philosophy degree in Biomedical Sciences (International Program), Inter-department of Biomedical Sciences, Graduate School, Chulalongkorn University, Bangkok, Thailand (Date of completion degree July 22, 2019),
One year PhD internship (under the Royal Golden Jubilee Ph.D. Program: Scholarships) at Faculty of Medicine of the Friedrich-Alexander University Erlangen-Nürnberg (FAU), Erlangen, Germany
Thesis title: Suppressive effect of crepidatin on stemness of lung cancer cells
 - **2009 - 2012** Master of Science (Toxicology) (International Program), Faculty of Science, Mahidol University, Bangkok, Thailand
Thesis title: The role of L-type amino acid transporter on cholangiocarcinoma
 - **2004 - 2008** Bachelor of Science (Medical Technology), Thammasat University, Pathumthani, Thailand
Project title: The investigation for appropriate conditions of the expression in caspase 9 gene and p130 gene in SW620 cell lines which were treated by extracted Carthamus tinctorius Linn

Work experience:

- **2022 – Present** Research Lecturer, College of Public Health Sciences, Chulalongkorn University, (CPHS)
- **2019 – 2022** Postdoctoral Scientist, Center of Excellence in Molecular Genetic of Cancer and Human Disease, Department of Anatomy, Faculty of Medicine, Chulalongkorn University, King Chulalongkorn Memorial Hospital
- **2014** Research Assistant, Department of Physiology, University of Regensburg, Regensburg, Germany
- **2013** Research Assistant, Siriraj Hospital, Thailand National Science and Technology Development Agency, National Center for Genetic Engineering and Biotechnology, Bangkok, Thailand
- **2012** Medical Technician
Smitivej International Hospital,
Bangkok, Thailand

Memberships:

- Member of The Medical Technology Council of Thailand
- Member of Center of Excellent on Environmental Health, Toxicology and Management of Chemicals
- Member of The Interdisciplinary Center for Clinical Research (IZKF), Faculty of Medicine of the Friedrich-Alexander University Erlangen-Nürnberg (FAU), Erlangen, Germany

Scholarship:

In 2019 - 2021

- The second Century Fund (C2F) for High Potential Postdoctoral Fellowship Approval, Chulalongkorn University

In 2015 - 2019

- The Royal Golden Jubilee Scholarship under Thailand Research Fund, National Research Council of Thailand (NRCT)

In 2015

- The 100th Anniversary of Chulalongkorn University Scholarship, Chulalongkorn University

In 2009 - 2011

- Center for Environmental Health, Toxicology and Management of Chemicals under Science & Technology Postgraduate Education and Research Development Office (PERDO) of the Ministry of Education

Awards and Extracurricular Activities:

- **2019**
 - **Award of Excellent prize outstanding Oral Presentation: Suppressive effect of crepidatin on stemness of lung cancer cells**
Thailand Science Research and Innovation (TSRI) congress Award 2019, Thailand
 - **Award of Excellent prize outstanding Poster Presentation: Suppressive effect of crepidatin on stemness of lung cancer cells**
Thailand Science Research and Innovation (TSRI) congress Award 2019, Thailand
- **2018**
 - Attended The Interdisciplinary Center for Clinical Research (IZKF) retreat of Ph.D. student oral presentation 2018, Faculty of Medicine of the Friedrich-Alexander University Erlangen-Nürnberg (FAU), Erlangen, Germany
- **2015**
 - **Award of Excellent prize outstanding Oral Presentation: Gigantol suppresses cancer stem cell-like phenotypes in lung cancer cells**
The Honorable Mention of Merck Young Scientist Award 2015, Thailand
- **2012**
 - **Award of Excellent prize outstanding Poster Presentation: Induction of cholangiocarcinoma cells apoptosis by an andrographolide analog**
The 4th Science Research Conference, Faculty of Science, Naresuan University, Phitsanuloke, Thailand
 - **Poster Presentation: Inhibition of L-type amino acid transporter1 (LAT1) suppresses cholangiocarcinoma cell growth**
National researches universities summit (Thai NRU), Faculty of Science, Mahidol University, Bangkok, Thailand
 - **Attended the ETM International Conference 2012**
CRI Convention Center, Chulabhorn Research Institute, Bangkok, Thailand

- **2011**
 - **Award of Excellent prize outstanding Poster Presentation: Inhibition of L-type amino acid transporter1 (LAT1) suppresses cholangiocarcinoma cell growth**
The 40th Annual Meeting of the Physiological Society of Thailand, International Conference, KHON KAEN, Thailand
 - **Outstanding Poster Presentation: Role of L-type amino acid transporter1 (LAT1) on cholangiocarcinoma cell growth**
The 37th Congress on Science and Technology of Thailand (STT37), Bangkok, Thailand
 - **Attended the ETM International Conference 2011**
CRI Convention Center, Chulabhorn Research Institute, Bangkok, Thailand
 - **Certificate of Attendance Class of the 1st Mahidol Radioactive Safety Training**
Faculty of Science, Mahidol University, Bangkok, Thailand
- **2010**
 - **Attended the ETM International Conference 2010**
CRI Convention Center, Chulabhorn Research Institute, Bangkok, Thailand
 - **Attended Training Program in “Ethic in human research”** on October 1st, 2010 at Faculty of Sciences, Mahidol
- **2009**
 - **Poster Presentation: The role of L-type amino acid transporter on cholangiocarcinoma cell growth**
MUSC Graduate Research Exposition 2009, Faculty of Sciences, Mahidol University, Thailand
- **2008**
 - **Poster Presentation: The investigation for appropriate conditions of the expression in caspase 9 gene and p130 gene in SW620 cell lines which were treated by extracted Carthamus tinctorius Linn**
TU-CU Medical Technology Conference 2008, Faculty of Allied Health Sciences, Chulalongkorn University, Thailand

Proceeding & Abstract

1. **Bhummaphan N**, Nateewattana J, Suksen K, Saeeng R, Chairoungdua A. Induction of cholangiocarcinoma cells apoptosis by an andrographolide analog. Proceeding and abstract for the 4th Science Research Conference, Faculty of Science, Naresuan University, 2012
2. **Bhummaphan N**, Suksen K, Chairoungdua A. Inhibition of L-type amino acid transporter 1 (LAT1) suppresses cholangiocarcinoma cell growth. Abstract for the national research's universities summit (Thai-NRU), 2012
3. **Bhummaphan N**, Suksen K, Chairoungdua A. Inhibition of L-type amino acid transporter 1 (LAT1) suppresses cholangiocarcinoma cell growth. Abstract for the 40th Annual Meeting of the Physiological Society of Thailand, Faculty of Science, KHON KEAN University, 2011
4. **Bhummaphan N**, Suksen K, Chairoungdua A. Role of L-type amino acid transporter 1 on cholangiocarcinoma cell growth. Abstract for the 37th Congress on Science and Technology of Thailand (STT37), Bangkok, Thailand, 2011
5. Jewrasumnuay T, **Bhummaphan N**, Supanan P, Chairoungdua A. Roles of amino acid transporter system L on cholangiocarcinoma cell proliferation. Abstract for the 19th International Conference of young scientists, Radboud University, Nijmegen, Netherland, 2012
6. Chairoungdua A, **Bhummaphan N**, Yoshikatsu K, The role of L-type amino acid transporter 1 on cholangiocarcinoma cell. Abstract for the 4th Asian Pacific Regional ISSX Meeting Poster Presentation, Tainan, Taiwan, 2011

Publication

1. Buranapraditkun S, Mahattanasakul P, Arayataweegool A, **Bhummaphan N**, Siriwattanakankul C, Bin-Alee F, Tangjaturonrasme N, Mutirangura A, Kitkumthorn N. Evaluation of Immune-Associated Plasma Proteins in Patients with Oral and Oropharyngeal Cancer. 2022, DOI: 10.1016/j.heliyon.2022.e10753.
2. Yasom S*, Watcharanurak P*, **Bhummaphan N***, Thongsroy J, Puttipanyalears C, Settayanon S, Chalertpet K, Khumsri W, Kongkaew A, Patchsung M, Siriwattanakankul C, Pongpanich M, Pin-on P, Jindatio D, Wanotayan R, Odton M, Supasai S, Thura Tun Oo, Arunsak B, Pratchayasakul W, Chattipakorn N, Chattipakorn S, Mutirangura A. Rejuvenation by DNA protection of HMGB1-produced DNA gaps. Faseb Bioadv, 2022 DOI: 10.1096/fba.2021-00131.
3. **Bhummaphan N**, Pin-on P, Phiboonchaiyanan P, Siriluksana1 J, Apornthewan C, Chanvorachote P, Mutirangura A. Targeting multiple genes containing long mononucleotide A-T repeats in lung cancer stem cells. Journal of translational medicine, 2021 DOI:10.1186/s12967-021-02902-6.

4. **Bhummaphan N**, Petpiroon N, Prakhongcheep O, Sritularak B, Chanvorachote P. Lusianthridin targeting of lung cancer stem cells via Src-STAT3 suppression. *Phytomedicine : international journal of phytotherapy and phytopharmacology*. 2019;62:152932.
5. Petpiroon N, **Bhummaphan N**, Tungsukruthai S, Pinkhien T, Maiuthed A, Sritularak B, et al. Chrysotobibenzyl inhibition of lung cancer cell migration through Caveolin-1-dependent mediation of the integrin switch and the sensitization of lung cancer cells to cisplatin-mediated apoptosis. *Phytomedicine : international journal of phytotherapy and phytopharmacology*. 2019;58:152888.
6. Petpiroon N, **Bhummaphan N**, Soonnarong R, Chantarawong W, Maluangnont T, Pongrakhananon V, et al. TiO₂ Nanosheets Inhibit Lung Cancer Stem Cells by Inducing Production of Superoxide Anion. *Molecular pharmacology*. 2019;95(4):418-32.
7. Pin-On P, Aporn Dewan C, Siriluksana J, **Bhummaphan N**, Chanvorachote P, Mutirangura A. Targeting high transcriptional control activity of long mononucleotide A-T repeats in cancer by Argonaute 1. *Gene*. 2019;699:54-61.
8. **Bhummaphan N**, Pongrakhananon V, Sritularak B, Chanvorachote P. Cancer Stem Cell-Suppressing Activity of Chrysotoxine, a Bibenzyl from *Dendrobium pulchellum*. *The Journal of pharmacology and experimental therapeutics*. 2018;364(2):332-46.
9. Maiuthed A, **Bhummaphan N**, Luanpitpong S, Mutirangura A, Aporn Dewan C, Meeprasert A, et al. Nitric oxide promotes cancer cell dedifferentiation by disrupting an Oct4:caveolin-1 complex: A new regulatory mechanism for cancer stem cell formation. *The Journal of biological chemistry*. 2018;293(35):13534-52.
10. **Bhummaphan N**, Chanvorachote P. Gigantol Suppresses Cancer Stem Cell-Like Phenotypes in Lung Cancer Cells. *Evidence-based complementary and alternative medicine : eCAM*. 2015;2015:836564.
11. Bhukhai K, Suksen K, **Bhummaphan N**, Janjorn K, Thongon N, Tantikanlayaporn D, et al. A phytoestrogen diarylheptanoid mediates estrogen receptor/Akt/glycogen synthase kinase 3beta protein-dependent activation of the Wnt/beta-catenin signaling pathway. *The Journal of biological chemistry*. 2012;287(43):36168-78.
12. **Bhummaphan N**, Nateewattana J, Suksen K, Saeeng R, Chairoungdua A. (2013) Induction of cholangiocarcinoma cells apoptosis by an andrographolide analog. *Scientific Research and Essays*

Technical Experiences:

Molecular Biology

Cell Culture and Primary cell culture from tissues, Transfection assay, Spheroid formation assay
Anchorage – independent growth assay, Extreme Limiting Dilution Assay (ELDA), Clonogenic assay, ChIP and DIP assay, SA- β -gal staining assay, Nanostring analysis, Immunoprecipitation assay, Proliferation assay, Fluorescent microscopy, RNA extraction, RT-PCR and Quantitative real time PCR, Immunofluorescence microscopic technique, Immunostaining, Western Blotting, Kinetic uptake experiment, Flow cytometry analysis, MTT assay, SRB assay, WST assay, DAPI staining, Enzyme-linked immunosorbent assay (ELISA), Antigen and antibody purification, The chick embryo chorioallantoic membrane assay (CAM)

Other techniques

Experimental Animal Handling, Blood analysis: Complete blood count & Differential blood morphological characteristics

Fields of interest:

- Cell and molecular biology
- Cancer stem cells
- Discovery of anti-cancer drugs and Chemotherapeutic resistance mechanism
- Cell physiology
- Cancer metastasis mechanism
- Molecular Pharmacology
- Apoptosis pathway, autophagy and necrosis cell death
- Aging and epigenetic mechanism
- Cellular senescence and mechanism
- Reactive oxygen species and anti-oxidants
- Advance cell biology

Other skills:

Linguistic Skills: Thai (native), English (fluent), German (basic)

Computing Skills: Microsoft Office (Word/Excel/Powerpoint), GraphPad Prism (for statistical analysis), Adobe Photoshop, ModFit LT, Image J program, Endnote Reference Manager, Grapher, SPSS, Chemdraw, Adobe Illustrator, Blast, Primers3