

Nitwara Wikan

PROFILE

Name : Nitwara Wikan

Academic Position : Associate Professor

Degree : Ph.D. (Molecular Genetics and Genetic Engineering)

Office : Department of Pharmacology, Faculty of Medicine,
Chiang Mai University 50200, THAILAND

Tel : 053-934687

Email : nitwara.wik@cmu.ac.th

EDUCATION

Year	degree	university
2014-2015	Postdoctoral Associate	Mahidol University, Institute of Molecular Biosciences, Thailand
2009-2014	Doctor of Philosophy (Molecular Genetics and Genetic Engineering)	Mahidol University, Institute of Molecular Biosciences, Thailand
2007-2009	Master of Science (Molecular Genetics and Genetic Engineering) (Dean's List)	Mahidol University, Institute of Molecular Biosciences, Thailand
2001-2005	Bachelor of Science (Medical Technology)	Chiang Mai University, Faculty of Associated Medical Sciences, Thailand

WORK EXPERIENCES

Year	position	place
2024–current	Associate Professor	Department of Pharmacology, Faculty of Medicine, Chiang Mai University, Thailand
2021 – 2024	Assistant Professor	Department of Pharmacology, Faculty of Medicine, Chiang Mai University, Thailand
2019–2021	Assistant Professor	Institute of Molecular Biosciences, Mahidol University, Thailand
2015–2019	Lecturer	Institute of Molecular Biosciences, Mahidol University, Thailand
2012–2013	Research trainee	Department of Molecular Medicine, Mayo Clinic, Rochester, Minnesota, USA
2005–2007	Research assistant	Department of Clinical immunology, Faculty of Associated Medical Sciences, Chiang Mai University, Thailand

PUBLICATION

1. Budluang, P., Potikanond, S., **Wikan, N.**, Nimlamool, W. Pinostrobin Inhibits Nuclear Factor- κ B Signaling and Production of Inflammatory Cytokines and Chemokines in Human Macrophages. *Nutrients*, 17(22), 3589, 2025.
2. Kiatsoonthon, K., Phimthong, N., Potikanond, S., **Wikan, N.**, Nimlamool, W. Panduratin A Inhibits TNF Alpha-Stimulated Endothelial Cell Activation Through Suppressing the NF- κ B Pathway. *Biomolecules*. 15(1):34, 2024.
3. Thaklaewphan, P., **Wikan, N.**, Potikanond, S., Nimlamool, W. Oxyresveratrol Enhances the Anti-Cancer Effect of Cisplatin against Epithelial Ovarian Cancer Cells through Suppressing the Activation of Protein Kinase B (AKT). *Biomolecules*. 14(9):1140, 2024.

4. Sornjai, W., Promma, P., Priewkhiew, S., Ramphan, S., Jaratsittisin, J., Jinagool, P., **Wikan, N.**, Greenwood M., Murphy, D., Smith, D.R. The interaction of GRP78 and Zika virus E and NS1 proteins occurs in a chaperone–client manner. *Scientific reports*. 14(1):10407, 2024.
5. Sookkhee, S., Khamnoi, P., Sastraruji, T., Boonkum, S., **Wikan, N.**, Nimlamool, W. Synergistic Inhibition of Synbiotic Cultures among Lactobacilli and Plant Extracts against Vaginal Discharge Causing *Candida albicans*. *Nutrients*. 16(9):1372, 2024.
6. Tan, B., **Wikan. N.**, Lin, S., Thaklaewphan, P., Potikanond, S., Nimlamool, W. Inhibitory actions of oxyresveratrol on the PI3K/AKT signaling cascade in cervical cancer cells. *Biomedicine & pharmacotherapy*. 170:115982, 2024.
7. Ruttanapattanakul, J., **Wikan, N.**, Potikanond, S., Nimlamool, W. Combination of Pinocembrin and Epidermal Growth Factor Enhances the Proliferation and Survival of Human Keratinocytes. *International journal of molecular sciences*. 24(15):12450, 2023.
8. Hankittichai, P., Thaklaewphan, P., **Wikan, N.**, Ruttanapattanakul, J., Potikanond, S., Smith, D.R., Nimlamool, W. Resveratrol Enhances Cytotoxic Effects of Cisplatin by Inducing Cell Cycle Arrest and Apoptosis in Ovarian Adenocarcinoma SKOV–3 Cells through Activating the p38 MAPK and Suppressing AKT. *Pharmaceuticals*. 16(5):755, 2023.
9. Sawadpongpan, S., Jaratsittisin, J., Hitakarun, A., Roytrakul, S., **Wikan, N.**, Smith, D.R. Investigation of the activity of baicalein towards Zika virus. *BMC Complementary Medicine and Therapies*.23(1): 43, 2023.
10. **Wikan, N.**, Potikanond, S., Hankittichai, P., Thaklaewphan. P., Monkaew. S., Smith, D.R., Nimlamool, W. Alpinetin Suppresses Zika Virus–Induced Interleukin–1 β Production and Secretion in Human Macrophages. *Pharmaceutics*. 14(12):2800, 2022.
11. Hitakarun, A., Williamson, M. K., Yimpring, N., Sornjai, W., **Wikan, N.**, Arthur, C. J., Pompon, J., Davidson, A. D., Smith, D. R. Cell Type Variability in the Incorporation of Lipids in the Dengue Virus Virion. *Viruses*. 14(11):2566, 2022.
12. Sookkhee, S., Sakonwasun, C., Mungkornasawakul, P., Khamnoi, P., **Wikan, N.**, Nimlamool, W. Synergistic Effects of Some Methoxyflavones Extracted from Rhizome of *Kaempferia parviflora* Combined with Gentamicin against Carbapenem–Resistant Strains of *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, and *Acinetobacter baumannii*. *Plants*. 11(22):3128, 2022.
13. **Wikan, N.**, Potikanond, S., Nimlamool, W. Alpinetin Suppresses Effects of TGF– β 1 on Stimulating the Production and Organization of Fibrotic Markers in Human Primary Dermal Fibroblasts. *Cells*. 11(17):2731, 2022.

14. Ruttanapattanakul, J., **Wikan, N.**, Potikanond, S., Nimlamool W. Molecular Targets of Pinocembrin Underlying Its Regenerative Activities in Human Keratinocytes. *Pharmaceutics*. 15(8):954, 2022.
15. Nimlamool, W., Chansakaow, S., Potikanond, S., **Wikan, N.**, Hankittichai, P., Ruttanapattanakul J., Thaklaewphan, P. The Leaf Extract of *Mitrephora chulabhorniana* Suppresses Migration and Invasion and Induces Human Cervical Cancer Cell Apoptosis through Caspase-Dependent Pathway. *BioMed research international*. 12, 2022: 2028082, 2022.
16. Ratanakomol, T., Roytrakul, S., **Wikan, N.**, Smith, D.R. Oroxylin A shows limited antiviral activity towards dengue virus. *BMC Research Notes*. 15(1): 154, 2022.
17. **Wikan, N.**, Hankittichai, P., Thaklaewphan, P., Potikanond, S., Nimlamool, W. Oxyresveratrol Inhibits TNF- α -Stimulated Cell Proliferation in Human Immortalized Keratinocytes (HaCaT) by Suppressing AKT Activation. *Pharmaceutics*. 14(1):63, 2022.
18. Takuathung, M. N., Potikanond, S., Sookkhee, S., Mungkornasawakul, P., Jearanaikulvanich, T., Chinda, K., **Wikan, N.**, Nimlamool, W. Anti-psoriatic and anti-inflammatory effects of *Kaempferia parviflora* in keratinocytes and macrophage cells. *Biomedicine & pharmacotherapy*. 143:112229, 2021.
19. Ratanakomol, T., Roytrakul, S., **Wikan, N.**, Smith, D. R. Berberine Inhibits Dengue Virus through Dual Mechanisms. *Molecules*. 26(18):5501, 2021.
20. Ruttanapattanakul, J., **Wikan, N.**, Chinda, K., Jearanaikulvanich, T., Krisanuruks, N., Muangcha, M., Okonogi, S., Potikanond, S., Nimlamool, W. Essential Oil from *Zingiber ottensii* Induces Human Cervical Cancer Cell Apoptosis and Inhibits MAPK and PI3K/AKT Signaling Cascades. *Plants (Basel)*. 10(7):1419, 2021.
21. Nimlamool, W., Potikanond, S., Ruttanapattanakul, J., **Wikan, N.**, Okonogi, S., Jantrapirom, S., Pitchakarn, P., Karinchai, J. Curcuma amarissima Extract Activates Growth and Survival Signal Transduction Networks to Stimulate Proliferation of Human Keratinocyte. *Biology (Basel)*. 10(4):289, 2021.
22. Khongwichit, S., Sornjai, W., Jitobaom, K., Greenwood, M., Greenwood, M. P., Hitakarun, A., **Wikan, N.**, Murphy, D., Smith, D.R. A functional interaction between GRP78 and Zika virus E protein. *Scientific Reports*. 11(1):393, 2021.
23. Ruttanapattanakul, J., **Wikan, N.**, Okonogi, S., Na Takuathung, M., Buacheen, P., Pitchakarn, P., Potikanond, S., Nimlamool, W. Boesenbergia rotunda extract accelerates human keratinocyte proliferation through activating ERK1/2 and PI3K/Akt kinases. *Biomedicine and Pharmacotherapy*. 133:111002, 2021.
24. Hitakarun, A., Ramphan, S., **Wikan, N.**, Smith, D.R. Analysis of the virus propagation profile of 14 dengue virus isolates in *Aedes albopictus* C6/36 cells. *BMC Research Notes*. 13(1): 481, 2020.
25. Kuadkitkan, A., Ramphan, S., Worawichawong, S., Sornjai, W., **Wikan, N.**, Smith, D.R. Production of Zika Virus Virus-Like Particles. *Methods in Molecular Biology*. 2183:183–203, 2021.
26. Wongtrakul, J., Thongtan, T., Pannengetch, S., **Wikan, N.**, Kantamala, D., Kumrapich, B., Suwan, W., Smith, D.R. Phosphoproteomic analysis of dengue virus infected U937 cells and identification of pyruvate kinase M2 as a differentially phosphorylated phosphoprotein. *Scientific reports*. 10(1):14493, 2020.

27. Hankittichai, P., Lou, H. J., **Wikan, N.**, Smith, D. R., Potikanond, S., Nimlamool, W. Oxyresveratrol Inhibits IL-1 β -Induced Inflammation via Suppressing AKT and ERK1/2 Activation in Human Microglia, HMC3. *International journal of molecular sciences*. 21(17):6054, 2020.
28. Jitsatja, A., Ramphan, S., Promma, P., Kuadkitkan, A., **Wikan, N.**, Uiprasertkul, M., Phatihattakorn, C., Smith, D. R. Comparative analysis of a Thai congenital-Zika-syndrome-associated virus with a Thai Zika-fever-associated virus. *Arch Virol*. 165(8):1791-1801, 2020.
29. Care, C., Sornjai, W., Jaratsittisin, J., Hitakarun, A., **Wikan, N.**, Triwitayakorn, K., Smith, D. R. Discordant Activity of Kaempferol Towards Dengue Virus and Japanese Encephalitis Virus. *Molecules: a journal of synthetic chemistry and natural product chemistry*. 10;25(5): E1246, 2020.
30. Hankittichai, P., Buacheen, P., Pitchakarn, P., Na, Takuathung, M., **Wikan, N.**, Smith, D. R., Potikanond, S., Nimlamool, W. *Artocarpus lakoocha* Extract Inhibits LPS-Induced Inflammatory Response in RAW 264.7 Macrophage Cells. *International journal of molecular sciences*. 21(4): E1355, 2020.
31. Hitakarun, A., Khongwichit, S., **Wikan, N.**, Roytrakul, S., Yoksan, S., Rajakam, S., Davidson, A. D., Smith D. R. Evaluation of the antiviral activity of orlistat (tetrahydrolipstatin) against dengue virus, Japanese encephalitis virus, Zika virus and chikungunya virus. *Scientific reports*. 10(1):1499, 2020.
32. Kuadkitkan, A., **Wikan, N.**, Sornjai, W., Smith, D. R. Zika virus and microcephaly in Southeast Asia: A cause for concern? *Journal of infection and public health*. S1876-0341(19)30312-0, 2019.
33. Sornjai, W., Ramphan, S., **Wikan, N.**, Auewarakul, P., Smith, D. R. High correlation between Zika virus NS1 antibodies and neutralizing antibodies in selected serum samples from normal healthy Thais. *Scientific reports*. 9(1):13498, 2019.
34. Suradej, B., Sookkhee, S., Panyakaew, J., Mungkornasawakul, P., **Wikan, N.**, Smith, D. R., Potikanond, S., Nimlamool, W. *Kaempferia parviflora* Extract Inhibits STAT3 Activation and Interleukin-6 Production in HeLa Cervical Cancer Cells. *International journal of molecular sciences*. 20(17): E4226, 2019.
35. Khongwichit, S., **Wikan, N.**, Auewarakul, P., Smith, D. R. Zika virus in Thailand. *Microbes and infection*. 2018. pii: S1286-4579(18)30040-6.
36. Sornjai, W., Jaratsittisin, J., Auewarakul, P., **Wikan, N.**, & Smith, D. R. Analysis of Zika virus neutralizing antibodies in normal healthy Thais. *Scientific reports*. 8(1):17193, 2018.
37. Ramphan, S., Suksathan, S., **Wikan, N.**, Ounjai, P., Boonthaworn, K., Rimthong, P., Kanjanapruthipong, T., Worawichawong, S., Jongkaewwattana, A., Wongsiriroj, N., Smith, D. R. Oleic acid enhances dengue virus but not dengue virus-like particle production from mammalian cells. *Molecular biotechnology*. 59 (9-10): 385-393, 2017.
38. Potikanond, S., Sookkhee, S., Na Takuathung, M., Mungkornasawakul, P., **Wikan, N.**, Smith, D. R., Nimlamool, W. *Kaempferia parviflora* extract exhibits anti-cancer activity against HeLa cervical cancer cells. *Frontiers in pharmacology*. 8:630, 2017.
39. Kanokudom, S., Vilaivan, T., **Wikan, N.**, Thepparit, C., Smith, D. R., Assavalapsakul, W. miR-21 promotes dengue virus serotype 2 replication in HepG2 cells. *Antiviral research*. 142:169-177, 2017.

40. Tongluan, N., Ramphan, S., Wintachai, P., Jaresitthikunchai, J., Khongwichit, S., **Wikan, N.**, Rajakam, S., Yoksan, S., Wongsiriroj, N., Roytrakul, S., Smith, D. R. Involvement of fatty acid synthase in dengue virus infection. *Virology journal*. 14(1):28, 2017.
41. **Wikan, N.**, Smith, D. R. Zika virus from a Southeast Asian perspective. *Asian Pacific journal of tropical medicine*. 10(1):1–5, 2017.
42. **Wikan, N.**, Smith, D. R. First published report of Zika virus infection in people: Simpson, not MacNamara. *The Lancet. Infectious diseases*. 17(1):15–17, 2017.
43. Khongwichit, S., **Wikan, N.**, Abere, B., Thepparit, .C, Kuadkitkan, A., Ubol, S., Smith, D. R. Cell-type specific variation in the induction of ER stress and downstream events in chikungunya virus infection. *Microbial pathogenesis*. 101:104–118, 2016.
44. Kuadkitkan, A., **Wikan, N.**, Smith, D. R. Induced pluripotent stem cells: A new addition to the virologists armamentarium. *Virol Methods*. 235:191–5, 2016.
45. **Wikan, N.**, Smith, D. R. Zika virus: history of a newly emerging arbovirus. *The Lancet. Infectious diseases*. 16(7): e119–e126, 2016.
46. **Wikan, N.**, Suputtamongkol, Y., Yoksan, S., Smith, D. R., Auewarakul, P. Immunological evidence of Zika virus transmission in Thailand. *Asian Pacific Journal of Tropical Medicine* 9;2 141–144, 2016.
47. Paemanee, A., **Wikan, N.**, Roytrakul, S., Smith, D.R. Application of GelC–MS/MS to Proteomic Profiling of Chikungunya Virus Infection: Preparation of Peptides for Analysis. *Methods in molecular biology*. 1426: 179–193, 2016.
48. Wintachai, P., Kaur, P., Lee, R. C., Ramphan, S., Kuadkitkan, A., **Wikan, N.**, Ubol, S., Roytrakul, S., Chu, J. J., Smith, D. R. Activity of andrographolide against chikungunya virus infection. *Scientific reports* 18;5:14179, 2015.
49. **Wikan, N.**, Libsittikul, S., Yoksan, S., Auewarakul, P., Smith, D. R. Delayed antibody dependent enhancement of low passage dengue virus 4 isolates. *BMC Research Notes* 8(1):399, 2015.
50. Rungruengphol, C., Jaresitthikunchai, J., **Wikan, N.**, Phaonakrop, N., Keadsanti, S., Yoksan, S., Roytrakul, S., Smith, D. R. Evidence of plasticity in the dengue virus: Host cell interaction. *Microbial Pathogenesis* 4;86: 18–25, 2015.
51. Breton, C. A., **Wikan, N.**, Abbuhl, A., Smith, D. R., Russell, S. J., Peng, K. W. Oncolytic potency of HER–2 retargeted VSV–FH hybrid viruses: the role of receptor ligand affinity. *Molecular Therapy — Oncolytics* 2: 15012, 2015.
52. Sornjai, W., Khungwanmaythawee, K., Svasti, S., Fucharoen, S., Wintachai, P., Yoksan, S., Ubol, S., **Wikan, N.** and Smith, D. R. Dengue virus infection of erythroid precursor cells is modulated by both thalassemia trait status and virus adaptation. *Virology* 471–473:61–71, 2014.
53. Fongsaran, C., Jirakanwisal, K., Kuadkitkan, A., **Wikan, N.**, Wintachai, P., Thepparit, C., Ubol, S., Phaonakrop, N., Roytrakul, S., Smith, D. R. Involvement of ATP Synthase β -subunit in chikungunya virus replication in insect cells. *Archives of Virology* 159(12): 3353–64, 2014.

54. **Wikan, N.**, Khongwichit, S., Phuklia W., Ubol, S., Thonsakulprasert T., Thannagith M., Tanramluk D., Paemane A., Kittisenachai S., Roytrakul S. and Smith, D.R. Comprehensive proteomic analysis of white blood cells from chikungunya fever patients of different severities. *Journal of Translational Medicine* 12:96, 2014.
55. Thepparit, C., Khakpoor, A., Khongwichit, S., **Wikan, N.**, Fongsaran, C., Chingsuwanrote, P., Panraksa, P. and Smith, D. R. Dengue 2 infection of HepG2 liver cells results in endoplasmic reticulum stress and induction of multiple pathways of cell death. *BMC Research Notes* 6. 372, 2013.
56. Wintachai, P., **Wikan, N.**, Kuadkitkan, A., Jaimipuk, T., Ubol, S., Pulmanusahakul, R., Auewarakul, P., Kasinrer, W., Weng, W. Y., Panyasrivanit, M., Paemane, A., Kittisenachai, S., Roytrakul, S. and Smith, D. R. Identification of prohibitin as a Chikungunya virus receptor protein. *Journal of Medical Virology* 84: 1757–1770, 2012.
57. Thongtan, T., **Wikan, N.**, Wintachai, P., Rattananungsan, C., Srisomsap, C., Cheepsunthorn, P. and Smith, D.R. Characterization of putative Japanese encephalitis virus receptor molecules on microglial cells. *Journal of Medical Virology* 84:615–623, 2012.
58. Abere, B., **Wikan, N.**, Ubol, S., Auewarakul, P., Paemane, A., Kittisenachai, S., Roytrakul, S. and Smith, D.R. Proteomic analysis of chikungunya virus infected macrophages. *PLoS One* 7:e34800, 2012.
59. **Wikan, N.**, Sakoonwatanyoo, P., Ubol, S., Yoksan, S. and Smith, D.R. Chikungunya Virus Infection of Cell Lines: Analysis of the East, Central and South African Lineage. *PLoS One* 7: e31102, 2012.
60. Rattanachuen, W., Suksanpaisan, S., **Wikan, N.** and Smith, D.R. The contribution of host cells to dengue virus infectivity. *African Journal of Microbiology Research* 5:117–122, 2011.
61. Klomporn, P., Panyasrivanit, M., **Wikan, N.** and Smith, D.R. Dengue infection of monocytic cells activates ER stress pathways, but apoptosis is induced through both extrinsic and intrinsic pathways. *Virology* 409: 189–197, 2011.
62. Kuadkitkan, A., **Wikan, N.**, Fongsaran, C. and Smith, D.R. Identification and characterization of prohibitin as a receptor protein mediating DENV–2 entry into insect cells. *Virology* 406: 149–161, 2010.
63. Thongtan, T., Cheepsunthorn, P., Chaiworakul, V., Rattananungsan, C., **Wikan, N.** and Smith, D.R. Highly permissive infection of microglial cells by Japanese encephalitis virus: a possible role as a viral reservoir. *Microbes and Infection* 12: 37–45, 2010.
64. Khakpoor, A., Panyasrivanit, M., **Wikan, N.** and Smith, D.R. A role for autophagolysosomes in DEN–3 production in HepG2 cells. *Journal of General Virology* 90:1093–1103, 2009.
65. **Wikan, N.**, Kuadkitkan, A. and Smith, D.R. The *Aedes aegypti* cell line CCL–125 is dengue virus permissive. *Journal of Virological Methods* 157: 227–230, 2009.
66. Panyasrivanit, M., Khakpoor, A., **Wikan, N.** and Smith, D.R. Linking dengue virus entry and translation/replication through amphisomes. *Autophagy* 5: 434–435, 2009.
67. Panyasrivanit, M., Khakpoor, A., **Wikan, N.** and Smith, D.R. Co-localization of constituents of the dengue virus translation and replication machinery with amphisomes *Journal of General Virology* 90:448–456, 2009.