

Curriculum Vitae
Chatchawan Srisawat M.D., Ph.D.

Personal data:

Title: Associate professor, Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University

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Education:

1991 M.D. (first-class honor) Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

2002 Ph.D. (Biological chemistry) University of Michigan, Ann Arbor, USA.

Positions:

2013-Present Associate professor, Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University

2011-2019 Head of Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University

2003-2013 Assistant professor, Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University

1991-1995 Lecturer, Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University

Honors:

2019 Distinguished faculty award. Siriraj Faculty Council. Mahidol University

2017 Distinguished teaching award (Chaophraya Phrasadet Surentharathibodi). Faculty of Medicine Siriraj Hospital, Mahidol University

2010 Research excellence award. Faculty of Medicine Siriraj Hospital. Mahidol University

2001 Rackham predoctoral fellowship. University of Michigan

2000 Dharmacon Award for the best speaker. Rustbelt RNA Meeting November 3-4, 2000. Deer Creek State Park and Resort Mt. Sterling, Ohio

1998 Adam and Mary J. Christman Award (Outstanding Third-Year Student). Department of Biological Chemistry. University of Michigan

Research Interests: Medical biotechnology involving aptamers and RNA interference. Current research projects are as follows:

- Targeted delivery of functionalized nanoparticles to hepatocellular carcinoma cells
- Developing RNA aptamers for research and diagnostics of human diseases (e.g., dengue viral infection, hemoglobin diseases).

Publications (last 5 years):

- Rodponthukwaji K, Pingrajai P, Jantana S, Taya S, Duangchan K, Nguyen KT, Srisawat C, Punnakitikashem P. Epigallocatechin Gallate Potentiates the Anticancer Effect of AFP-siRNA-Loaded Polymeric Nanoparticles on Hepatocellular Carcinoma Cells. *Nanomaterials*. 2024; 14(1):47. <https://doi.org/10.3390/nano14010047>

- Kositanont U, Srisawat C, Sripinitchai S, Thawornkuno C, Chaibun T, Karunaithas S, Promptmas C, Lertanantawong B. Electrochemical aptasensor detection of electron transfer flavoprotein subunit beta for leptospirosis diagnosis. *Analyst*. 2023. 148 (19): 4777-4786.

- Kongmalai T, Orarachin P, Dechates B, Chanphibun P, Junnu S, Srisawat C, Sriwijitkamol A. The Effect of high temperature on the stability of basal insulin in a pen: a randomized controlled, crossover, equivalence trial. *BMJ Open Diabetes Res Care*. 2022 Dec;10(6):e003105. doi: 10.1136/bmjdr-2022-003105.

- Luangaram P, Tamdet C, Saengwong C, Prommool T, Kraivong R, Nilchan N, Punyadee N, Avirutnan P, Srisawat C, Malasit P, Kasinrerak W, Puttikhunt C. Differential critical residues on the overlapped region of the non-structural protein-1 recognized by flavivirus and dengue virus cross-reactive monoclonal antibodies. *Sci Rep*. 2022 Dec 13;12(1):21548. doi: 10.1038/s41598-022-26097-y.

- Mungchan P, Glab-Ampai K, Chruengkamlow N, Trakarnsanga K, Srisawat C, Nguyen KT, Chaicumpa W, Punnakitikashem P. Targeted Nanoparticles for the Binding of Injured Vascular Endothelium after Percutaneous Coronary Intervention. *Molecules*. 2022 Nov 23;27(23):8144. doi: 10.3390/molecules27238144.

- Punuch K, Wongwan C, Jantana S, Somboonyosdech C, Rodponthukwaji K, Kunwong N, Nguyen KT, Sirivatanauksorn V, Sirivatanauksorn Y, Srisawat C, Punnakitikashem P. Study of siRNA Delivery via Polymeric Nanoparticles in Combination with Angiogenesis Inhibitor for The Treatment of AFP-Related Liver Cancer. *Int J Mol Sci*. 2022 Oct 21;23(20):12666. doi: 10.3390/ijms232012666.

- Srisawat C, Pipitpreecha R, Chandranipapongse W, Pongnarin P, Kongpatanakul S, Laocharoenkiat A, Jirapongsananuruk O, Visitsuntorn N, Vichyanond P. Systemic absorption of

epinephrine compared between the intranasal and intramuscular routes of administration in healthy adults. Asian Pac J Allergy Immunol. 2022 Aug 22. doi: 10.12932/AP 120821 1209.

- Saisuk W, Srisawat C, Yoksan S, Dharakul T. A molecular beacon biosensor for viral RNA detection based on HyCaSD strategy. Anal Chim Acta. 2022 Aug 15;1221:340134. doi: 10.1016/j.aca.2022.340134.

- Saisuk W, Suksamai C, Srisawat C, Yoksan S, Dharakul T. The helper oligonucleotides enable detection of folded single-stranded DNA by lateral flow immunoassay after HCR signal amplification. Talanta. 2022 Oct 1;248:123588. doi: 10.1016/j.talanta.2022.123588.

- Matchawong A, Srisawat C, Sangboonruang S, Tharinjaroen CS. The Ability of Nuclease-Resistant RNA Aptamer against Streptococcus suis Serotype 2, Strain P1/7 to Reduce Biofilm Formation In Vitro. Molecules. 2022 Jun 17;27(12):3894. doi: 10.3390/molecules27123894

- Juntit OA, Yasamut U, Sakkhachornphop S, Chupradit K, Thongkum W, Srisawat C, Chokepaichitkool T, Kongtawelert P, Tayapiwatana C. Biological properties of reverse ankyrin engineered for dimer construction to enhance HIV-1 capsid interaction. Asian Pac J Allergy Immunol. 2022 May 22. doi: 10.12932/AP-210122-1310.

- Needs SH, Sirivisoot S, Jegouic S, Prommool T, Luangaram P, Srisawat C, Sriraksa K, Limpitikul W, Mairiang D, Malasit P, Avirutnan P, Puttikhunt C, Edwards AD. Smartphone multiplex microcapillary diagnostics using Cygnus: Development and evaluation of rapid serotype-specific NS1 detection with dengue patient samples. PLoS Negl Trop Dis. 2022 Apr 7;16(4):e0010266. doi: 10.1371/journal.pntd.0010266.

- Chularojanamontri L, Wongpraparut C, Silpa-Archa N, Chaiyabutr C, Pruksaeakanan C, Klinniyom A, Junnu S, Srisawat C. Patient-ready syringes containing 25 mg/mL methotrexate can be kept at temperature ranging from 4 °C to 37 °C for up to 12 weeks for use in psoriatic and rheumatologic conditions. J Dermatolog Treat. 2022 Mar;33(2):1023-1028. doi: 10.1080/09546634.2020.1800570.

- Bachtiar BM, Srisawat C, Rahayu RP, Soedjodono RD, Prabandari SA, Bachtiar EW. Validation of RNA Aptamer Probes to Image Candida albicans in Paraffin-Embedded Sections of Wistar Rat Tongue. Eur J Dent. 2021 Oct 25. doi: 10.1055/s-0041-1735794. Epub ahead of print. PMID: 34695860.

- Jantaravinid J, Jiamton S, Srisawat C, Suktitipat B, Tirawanchai N. Expression Pattern of Genes in Condyloma Acuminata Treated with Clinacanthus nutans Lindau Cream versus Podophyllin. Evid Based Complement Alternat Med. 2021 Sep 17;2021:5579520. doi: 10.1155/2021/5579520. PMID: 34567214; PMCID: PMC8463201.

- Pho-lam T, Punnakitikashem P, Somboonyosdech C, Sripinitchai S, Masaratana P, Sirivatanauksorn V, Sirivatanauksorn Y, Wongwan C, Nguyen KT, Srisawat C. PLGA nanoparticles containing α -fetoprotein siRNA induce apoptosis and enhance the cytotoxic effects of doxorubicin in human liver cancer cell line. *Biochem Biophys Res Commun*. 2021 Mar 25;553:191-197. doi:10.1016/j.bbrc.2021.03.086.

- Prommool T, Sethanant P, Phaenthaisong N, Tangthawornchaikul N, Songjaeng A, Avirutnan P, Mairiang D, Luangaram P, Srisawat C, Kasinrerak W, Vasanawathana S, Sriuksa K, Limpitikul W, Malasit P, Puttikhunt C. High performance dengue virus antigen-based serotyping-NS1-ELISA (plus): A simple alternative approach to identify dengue virus serotypes in acute dengue specimens. *PLoS Negl Trop Dis*. 2021 Feb 26;15(2):e0009065. doi: 10.1371/journal.pntd.0009065.

- Hatairaktham S, Masaratana P, Hantaweeapant C, Srisawat C, Sirivatanauksorn V, Siritanaratkul N, Panichkul N, Kalpravidh RW. Curcuminoids supplementation ameliorates iron overload, oxidative stress, hypercoagulability, and inflammation in non-transfusion-dependent β -thalassemia/Hb E patients. *Ann Hematol*. 2021 Jan 3. doi: 10.1007/s00277-020-04379-7.

- Trakarnsanga K, Tipgomut C, Methetrairut C, Wattanapanitch M, Khuhapinant A, Poldee S, Kurita R, Nakamura Y, Srisawat C, Frayne J. Generation of an immortalised erythroid cell line from haematopoietic stem cells of a haemoglobin E/ β -thalassemia patient. *Sci Rep*. 2020 Oct 8;10(1):16798. doi: 10.1038/s41598-020-73991-4.

- Chularojanamontri L, Wongpraparut C, Silpa-Archa N, Chaiyabutr C, Pruksaeakanan C, Klinniyom A, Junnu S, Srisawat C. Patient-ready syringes containing 25 mg/mL methotrexate can be kept at temperature ranging from 4 °C to 37 °C for up to 12 weeks for use in psoriatic and rheumatologic conditions. *J Dermatolog Treat*. 2020 Jul 30:1-6. doi: 10.1080/09546634.2020.1800570.

- Songprakhon P, Thaingtamtanha T, Limjindaporn T, Puttikhunt C, Srisawat C, Luangaram P, Dechtawewat T, Uthaiyibull C, Thongsima S, Yenchitsomanus PT, Malasit P, Noisakran S. Peptides targeting dengue viral nonstructural protein 1 inhibit dengue virus production. *Sci Rep*. 2020 Jul 31;10(1):12933. doi: 10.1038/s41598-020-69515-9.

- Sirivatanauksorn V, Dumronggittigule W, Dulnee B, Srisawat C, Sirivatanauksorn Y, Pongpaibul A, Masaratana P, Somboonyosdech C, Sripinitchai S, Kositamongkol P, Mahawithitwong P, Tovikkai C, Sangserestid P, Limsrichamrern S. Role of stratifin (14-3-3 sigma) in adenocarcinoma of gallbladder: A novel prognostic biomarker. *Surg Oncol*. 2019 Nov 2;32:57-62. doi: 10.1016/j.suronc.2019.10.022

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- Sreelatha L, Malakar S, Songprakhon P, Morchang A, Srisawat C, Noisakran S, Yenchitosomanus PT, Limjindaporn T. Serine protease inhibitor AEBSF reduces dengue virus infection via decreased cholesterol synthesis. *Virus Res*. 2019 Oct 2;271:197672. doi: 10.1016/j.virusres. 2019.197672.

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- Densupsoontorn N, Srisawat C, Chotipanang K, Junnu S, Kunnangja S, Wongarn R, Sriboonnark W, Tirapongporn H, Phuangphan P. Prevalence of and factors associated with thiamin deficiency in obese Thai children. *Asia Pac J Clin Nutr*. 2019;28(1):116-121. doi: 10.6133/apjcn.201903_28(1).0016.

- Bachtiar BM, Srisawat C, Bachtiar EW. RNA aptamers selected against yeast cells inhibit *Candida albicans* biofilm formation in vitro. *Microbiologyopen*. 2019 Feb 18:e812. doi: 10.1002/mbo3.812.

- Saisuk W, Srisawat C, Yoksan S, Dharakul T. Hybridization Cascade Plus Strand-Displacement Isothermal Amplification of RNA Target with Secondary Structure Motifs and Its Application for Detecting Dengue and Zika Viruses. *Anal Chem*. 2019 Feb 11. doi: 10.1021/acs.analchem.8b03736.