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in Post Pandemic Recovery



ABSTRACT BOOK



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FOREWORD

Honorable Dean of Faculty of Pharmacy, Universitas Padjadjaran,
Distinguished speakers, including keynote and invited speaker, and all the participants of the The 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST) and 3rd International Seminar and Expo on Jamu (ISEJ) 2022 embedded 13rd Annual Meeting ISCC.

First of all, please allow me to extend my warmest welcome you at the The 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST) and 3rd International Seminar and Expo on Jamu (ISEJ) 2022 embedded 13rd Annual Meeting ISCC in this morning at online zoom.

The 5th ISPST and 3rd ISEJ are a continuation of the 4th ISPST 2020 and 2nd ISEJ 2017. At the 5th ISPST 2022 and 3rd seminars ISEJ collaborated with the Indonesian Society for Cancer and Chemotherapy (ISCC), an Indonesian-Asian cancer research organization that provides a dynamic network for the exchange of scientific information among academics and practitioners who focus on cancer research.

Distinguished guests, ladies, and gentlemen,

On behalf of the committee of this seminar, we reported that this event involved 27 Speakers including 9 keynotes, and 18 invited speakers from 9 countries, The Netherlands, USA, Japan, South Korea, Australia, Malaysia, India, Thailand, and also Indonesia.

The registered participants were 300 participants with details, 73 participants as oral presenters, 79 participants as poster presenters, and 150 participants as regular participants.

We hope that you will gain a lot of benefits from fruitful discussions during this program. We would like to thank to sponsors that help the funding: rector Universitas Padjadjaran, Director General of Higher Education, Research, and Technology, Ministry of Education, Culture, Research and Technology, and Cendo Pharmaceuticals Industry, also support by Product: Paragon Technology and Innovation and Bintang Tujuh. Of course, I would like to express my expression to the organizing committee of this program. I am indeed delighted and thank you for all your effort and hard working in making this program happened.

For all distinguished guests from abroad and from other cities in Indonesia, enjoy this seminar so that you gain insight into pharmaceutical science and make the best use of your time to discuss with the experts.

Thank you very much.

Wassalamu'alaikum Wr Wb.

Chairman of The 5th ISPST – The 3rd ISEJ – The 13th ISCC

Prof. apt. Muchtaridi, Ph.D

WELCOME SPEECH FROM CHAIRMAN OF INDONESIAN SOCIETY FOR CANCER CHEMOPREVENTION (ISCC)

Dear colleagues,

We are now slowly but surely moving to the new era after the pandemic. The pandemic undoubtedly opens new ways in disseminating science and technology. Instead of an on-site seminar, we are now flexible in having the hybrid system. Thus, following the success of the last two virtual and hybrid events in 2020 and 2021, this year Indonesian Society for Cancer Chemoprevention (ISCC) in partnership with the Faculty of Pharmacy, Universitas Padjajaran re organizing an international seminar and meeting. On behalf of ISCC, I am honored to welcome all participants to the 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST), the 3rd International Seminar on Expo of Jamu (ISEJ), and 13th Annual Indonesian Society for Cancer Chemoprevention Conference (ISCC 2022). ISCC continuously accelerates the annual scientific forum to disseminate information and update the latest scientific advances in the field of cancer chemoprevention, and facilitate the exchange of ideas and technology and develop networking and communication among participants. Drug discovery and development is the main topic that the Faculty of Pharmacy Universitas Padjajaran keen on and it is an indispensable area from cancer chemoprevention. Moreover, “jamu” or herbal medicine is also a big topic that is important in pharmaceutical sciences. In collaboration, this year's event with the theme of “Pharmaceutical Technology on Natural Medicines in Post Pandemic Recovery” is being promoted as a communication forum between academicians and researchers in the fields of pharmaceutical sciences, pharmaceutical technology, and integrated research on Jamu or herbal medicine.

As I mentioned earlier, the hybrid system makes this event much more efficient and accessible globally without reducing its quality. We could not thank enough to our distinguishable invited speakers from all over the world, not only Indonesia, but also from Malaysia, Japan, India, Netherland, USA, and Australia – in total 29 speakers –, for accepting our invitation. We also warmly welcome 133 oral and poster presenters and all the participants. We wish that all of the updated knowledge presented in this seminar would be useful as a comprehensive understanding to improve our academic, research, and professional activities. We encourage all participants to take as much as benefit through this scientific meeting.

Lastly, I would like to deliver our gratitude to the committee and Faculty of Pharmacy, Universitas Padjajaran for working together to make this event possible and facilitating the ISCC annual meeting.

**Indonesian Society for Cancer Chemoprevention
Chairman,**

Prof. Dr. apt. Edy Meiyanto, M.Si

OPENING REMARKS FROM DEAN OF FACULTY OF PHARMACY UNIVERSITAS PADJADJARAN

First of all, I would like to convey my greetings and appreciations to all of the invited speakers especially :

Ir. Budi Gunadi Sadikin, CHFC, CLU. (Ministry of Health)

Prof. Tomoya Uehara, Ph.D. (Chiba University, Japan)

Prof. Edi Meiyanto (President of ISCC/UGM)

Prof. Dr. Sanjay Jachak (NIPER India)

Prof. dr. Maria Yazdanbakhsh (Universiteit Leiden, The Netherlands)

Prof. Taifo Mahmud (Oregon State University, USA)

Prof. Jun-Ya Kato (NAIST-Japan)

Prof. Habibah A. Wahab (President of CADD Asia/Universiti Sains Malaysia)

Prof. Tao Liu (UNSW Australia.)

Thank you for your participation in our event.

Greetings from Universitas Padjadjaran,

Ladies and gentlemen,

It is a great pleasure to welcome you to the joint seminars of the 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST) and the 3rd International Seminar on Expo of Jamu (ISEJ), as a continuation from our previous bi-annual ISPST and ISEJ seminars which are organized by the Faculty of Pharmacy Universitas Padjadjaran and now is also in collaboration with the Indonesian Society for Cancer Chemoprevention (ISCC) which will hold their annual meeting. Similar with our 4th ISPST two years ago, this seminar is also held online. Although now we begin to slowly recover from the COVID-19 pandemic, we realise that we still need to be aware of the spread of the virus.

I would like to start by wishing you and your families for your good health. It's a great opportunity that all of us could gather here on the event which serves as a venue for researcher, professional, and students to build many collaborations for their research project and will also enrich collaborations activity in education, research and community service.

The theme of 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST) this year which is held as join seminar with the 3rd International Seminar on Expo of Jamu (ISEJ) is ***Pharmaceutical Technology on Natural Medicines in post pandemic recovery***. I hope the this theme will explore the opportunities for us to start afresh and positive transformations to improve health and wellbeing.

Moreover, I hope this seminar will accomplish all its aims and earnestly desire that all participants will be able to benefit from the presentations and discussions and this seminar will enrich the development of science, not only in Indonesia but also worldwide. I would like to thank the organizing committee for their tremendous efforts to realize this program.

Once again, I am honored to welcome you at this seminar. I wish all of the speakers and participants will gain many benefits and insightful experience.

With Bismillahirrohmanirrahim. I officially open the 5th International Seminar on Pharmaceutical Sciences and Technology (ISPST) and the 3rd International Seminar on Expo of Jamu (ISEJ) embedded with ISCC annual meeting.

Best Regards

Prof. Dr. Ajeng Diantini, M.Si., Apt.

OPENING REMARKS FROM MINISTER OF HEALTH OF THE REPUBLIC INDONESIA

Excellencies ladies and gentlemen,

In the covid-19 pandemic situation, there was an extreme increase in demand for covid 19 related products. We experience difficulties in obtaining pharmaceutical and medical devices needed for disease control and treatment. Since the pharmaceutical and medical device sectors are still significantly dependent on imports. We realize that Indonesia must build its resilience ensuring that all medicines and medical devices can be produced domestically.

We have developed strategies to build pharmaceutical and medical device resilience. Briefly, the targets are stated in the timeline as shown in the slide. It has indicated the types of raw materials for drugs, vaccines, and medical devices that can be produced domestically. The achievement of these targets is carried out by fixing fundamentals and called processes involving API's stakeholders.

Distinguished guest,

Indonesia is an archipelago country with millions of hectares of tropical forests which consists thousands of species of plants and is home to 80% of the world's medicinal plants.

More than 30 thousand of traditional medicine formulas have been widely used in the community. Indonesia with over 217 million population is a potential market for traditional medicine.

This should be a great opportunity for us to develop an investment in local phytopharmaceuticals manufacturing and contribute to strengthening the resilience of pharmaceuticals.

Excellencies ladies and gentlemen,

I wish you all to have a fruitful discussion during the seminar and it has been a pleasure being with all of you today.

Thank you.

Best Regard

Ir. Budi Gunadi Sadikin, CHFC, CLU

COMMITTEE

Position	Name
Steering Committee	<ol style="list-style-type: none"> 1. Prof. Dr. Ajeng Diantini, Apt. 2. Prof. Dr. Aliya Nur Hasanah, S.Si., Apt., M.Si. 3. Auliya Abdurrohimi Suwantika, S.Si., Apt., MBA.,PhD
Advisory Board	<ol style="list-style-type: none"> 1. Prof. Dr. Apt. Moelyono MW. 2. Prof. Dr. Resmi Mustarichie 3. Prof. Dr. Apt. Marline Abdassah 4. Dr. Apt. Tiana Milanda, M.Si. 5. Dr. apt. Sriwidodo
Chairman	Prof. apt. Muchtaridi, Ph.D
Vice Chairman	Prof. Dr. rer. nat. Muhaimin, M.Si
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Tresurer	<ol style="list-style-type: none"> 1. Dr. apt. Nyi Mekar Saptarini, M.Si 2. Dr. apt. Ade Zuhrotun, M.Si
Scientific Committee	<ol style="list-style-type: none"> 1. Dr. apt. Yasmiwar Susilawati, M.Si 2. Prof. Dr. rer. nat. Anis Yohana Choirunisaa, M.Si 3. Dr. apt. Rd. Maya febriyanti 4. Dr. Sri Agung Fitri Kusuma, M.Si 5. Apt. Ferry Ferdiansyah, M.Si 6. Dr. Apt. Iyan Sopyan, M.Si 7. Apt. Gofarana Wilar, M.Si., PhD 8. Apt. Holis A. Holik, Ph.D 9. Dr. apt. Ida Musfiroh, M.Si
Program Activity	<ol style="list-style-type: none"> 1. Dr. apt. Rimadani Pratiwi, M.Si 2. Intan Timur Maisyarah, Ph.D 3. Apt. Miski Aghnia, M.Farm., PhD
Expo	<ol style="list-style-type: none"> 1. Dr. med. Apt. Melisa Intan Barliana 2. Dr. Apt. Sriwidodo, M.Si
Publication and Documentation	<ol style="list-style-type: none"> 1. Apt. Zelika Mega Rhamadania, M.Si 2. Apt. Agus Rusdin, M.Farm.
IT, Multimedia, and Zoom	<ol style="list-style-type: none"> 1. Prof. Apt.,Nasrul Wathoni Ph.D 2. Dr. apt. Sandra Megantara
Consumption Section	Dr. Apt.Ellin Febrina, M.Si
Logistic and Supporting Team	<ol style="list-style-type: none"> 1. Apt. Imam Adi Wicaksono, M.Si 2. Apt. Arif Satria W, M.Si 3. BEM KEMAFAR 4. Himpunan Mahasiswa Pasca Sarjana Fakultas Farmasi Unpad

SCIENTIFIC PROGRAM AND SCHEDULE

Tuesday, 18 October 2022	
Time	Event
07.30 - 08.00	Registration
08.00 - 08.30	Opening Ceremony : Welcome speech of chairman of 5 th ISPST and 3 rd ISEJ Welcome speech of President of ISCC Welcome speech of Dean of Faculty of Pharmacy, Universitas Padjadjaran Welcome speech of Rector of Universitas Padjadjaran, opening of seminar and expo
08.30 - 09.15	Keynote Speaker I: Ir. Budi Gunadi Sadikin, CHFC, CLU. (Ministry of Health)*
09.15 - 09.45	Keynote Speaker II: Prof. Tomoya Uehara, Ph.D. (Chiba University, Japan)
09.45 - 10.00	QnA Speaker II
10.00 – 10.45	Keynote Speaker III: Prof. Edi Meiyanto (President of ISCC/UGM)
10.45 - 11.00	QnA Speakr III
11.00 – 11.45	Keynote Speaker IV: Prof. Dr. Sanjay Jachak (NIPER India)
11.45 - 12.00	QnA Speaker IV
12.00 - 13.00	Lunch Break, Poster Session
13.00 – 15.00	BREAKROOM 1: Plenary session I: Scientific Jamu Assoc. Prof Mohd Razip, Asaruddin (Univesity Malaysia Sarawak) DR (cand.) dr. Ingrid Tania, M.Si. (UI) Assoc. Prof. apt. Dr. Yasmiwar (Unpad) BREAKROOM II: Plenary session II: Drug delivery Assoc. Prof. Rathapon Asasutjarit, Ph.D (Thammasat University, Thailand) Dr. apt. Iyan Sopyan (Unpad) Khaled M. Elamin, Ph.D (Kumamoto University)
15.00 – 15.30	Break
15.30 – 16.00	Keynote Speaker V: Prof. dr. Maria Yazdanbakhsh (Universiteit Leiden, Belanda)
16.00 - 16.15	QnA Speaker V
16.15 – 17.00	Parallel session (Oral Presentation)

Wednesday, 19 October 2022	
Time	Event
08.00 - 08.45	Keynote Speaker VI: Prof. Taifo Mahmud (Oregon State University, Amerika)
08.45 - 09.00	QnA Speaker VI
09.00 - 09.45	Keynote Speaker VII : Prof. Jun-Ya Kato (NAIST-Jepang)*
09.45 - 10.00	QnA Speaker VII
10.00 - 11.00	Paralel Session (Pharmaceutical Technology of Cancer and Microbiology and Biotechnology)
11.00 – 12.00	Parallel Session
12.00 – 13.00	Lunch Break, Poster Session
13.00 - 15.00	<p>BREAKROOM 1: Plenary Session III : Pharmaceutical Technology of Cancer Prof. Nasrul Wathoni (Unpad) Thavasyappan Thambi, Ph.D. (Kyung Hee University, South Korea) Dr. apt. Riris Istighfari Jennie (UGM)</p> <p>BREAKROOM II: Plenary Session IV : Microbiology and Biotechnology Dr. apt. Tiana Milanda (Unpad) Prof. Marlia Singgih (ITB) Dr. Endang Purwantini (Virginia Polytechnic Institute and State University, Amerika)</p>
15.00 – 15.30	Break
15.30 – 16.30	Keynote Speaker VIII: Prof. Habibah A. Wahab (President of CADD Asia/Universiti Sains Malaysia)

Thursday, 20 October 2022	
Time	Event
08.00 - 09.00	Keynote Speaker IX : Dirjen Farmasi dan Alat Kesehatan (Dr. Dra. Lucia Rizka Andalusia, Apt, M.Pharm, MARS)*
09.00 - 09.45	Keynote Speaker X : Prof. Tao Liu (UNSW Australia.)
09.45 – 10.00	QnA Speaker X
10.00 – 12.00	BREAKROOM 1: Plenary Session V : Pharmaceutical Analysis Breakroom 1 : Dr. apt. Ida Musfiroh (Unpad) Dr. Mohamad Rafi, MSi (IPB) Dr. Ezatul Ezleen Kamrulzaman (USM) BREAKROOM 2: Plenary Session VI: CADD Prof. Daryono Hadi Tjahyono (ITB) Dr. Sandra Megantara (UNPAD) Dr Suman Sinha (Tata Institute of Fundamental Research, Hyderabad, India)
12.00-13.00	Lunch Break dan preparation workshop dan annual meeting
13.00 - 17.00	Workshop dan annual meeting secara luring di Lab Workshop 1: Natural Ingredients for Make-up and Skin Care Hybrid Workshop 2: Microwave Syntesis (Maja Bintang) Workshop 3: Encapsulation process technology

ORAL AND POSTER PRESENTATION SCHEDULE

ORAL PRESENTATION

Day 1		
Breakout Room	Number	Presenter
D1-BR1	OP-039	Untung Gunawan
	OP-024	Riska Prasetiawati
	OP-047	Muthi Ikawati
	OP-029	Aiyi Asnawi
D1-BR2	OP-004	Indah Hairunisa
	OP-006	Nasri
	OP-007	Dhiya Ulhaq Salsabila
	OP-013	Vera Estefania Kaban
	OP-015	Ainun Rohmawati Baretta
D1-BR3	OP-017	Dr. apt. Yuliet, S.Si.M.Si.
	OP-018	NOVYANANDA SALMASFATTAH
	OP-021	Endah Puji Septisetyani
	OP-067	apt.Uce Lestari, S.Farm, M.Farm
D1-BR4	OP-002	Marissa Angelina
	OP-008	Ratih Kurnia Wardani
	OP-009	Nisa UI Hasanah
	OP-011	Ahmad Syauby Tafrihani
	OP-045	risna agustina
D1-BR5	OP-016	Nadzifa Nugraheni
	OP-027	Ummi Maryam Zulfin
	OP-042	Hanaan Emilia Adi Hastuti
	OP-043	Dewi Rahmawati
D1-BR6	OP-077	Tri Budi Julianti
	OP-078	Insan Sunan Kurniawansyah
	OP-061	Midori Rahmadhany Putri Adisusilo
	OP-066	Inggita Hasi Rahmah
	OP-068	Dyaningtyas Dewi Pamungkas Putri
D1-BR7	OP-001	Fitriani Jati Rahmania
	OP-003	Ayu Shabrina
	OP-037	Novriyanti Lubis
	OP-082	Tiwuk Susantiningasih
	OP-083	Marko Jeremia Kalalo

Day 2		
Breakout Room	Number	Presenter
D2-BR1	OP-031	Eva Susanty Simaremare
	OP-028	Yeni
	OP-036	Isti Daruwati
	OP-049	Desty Restia Rahmawati
D2-BR2	OP-034	Hesti Riasari
	OP-035	Afifah Kusuma Vardhani
	OP-040	SANTI PERAWATI
	OP-044	Christopher Filando Santoso
D2-BR3	OP-073	Dr. apt. Dewi Astriany, M.Si.
	OP-054	Satriyo Krisna Palguno
	OP-055	Wisnu Cahyo Prabowo
	OP-056	Rina Fajri Nuwarda

	OP-075	Rahma Ziska
D2-BR4	OP-046	Yuni Andriani
	OP-050	Yulia Ratna Dewi
	OP-051	Putri Anggreini
	OP-048	Erlia ANggrainy Sianipar
D2-BR5	OP-058	Emni Purwoningsih
	OP-012	Fathnur Sani K
	OP-041	rizky yulion putra
	OP-085	Husnawati
D2-BR6	OP-052	Siti Hairiah
	OP-053	Tasya
	OP-064	Andi Tenri Kawareng
	OP-079	Vina Maulidya
D2-BR7	OP-084	Andi Khomeini Takdir
	OP-071	Sukmawati. S
	OP-072	Assyifa Cindykia
	OP-074	Purwaniati
	OP-080	Teuku Baihaqi Septiady
	OP-081	Hanggara Arifian

POSTER PRESENTATION

Day 1		
Room	Number	Presenter
1	PP-001	apt. Nining, M.Si.
	PP-002	Anisa Amalia
	PP-003	Garnadi Jafar
	PP-004	I Gusti Ngurah Jemmy Anton Prasetya
	PP-005	Vera Nurviana
	PP-006	Stella Natalia
	PP-007	TUBAGUS AKMAL
	PP-008	Lusi Nurdianti
	PP-009	Novia Permata Hapsari
	PP-010	rahmah elfiyani
	PP-011	Trian Nur'aripin
	PP-012	Ira Rahmiyani
	PP-013	Ade Yeni Aprillia
	PP-014	Deny Puriyani Azhary
	PP-015	Yenni Puspita Tanjung
	PP-016	Nyi Mekar Saptarini
	PP-017	Fith Khaira Nursal
2	PP-018	Fahrauk Faramayuda
	PP-019	Norisca Aliza Putriana
	PP-020	Gofarana Wilar
	PP-021	Norisca Aliza Putriana
	PP-022	Resmi Mustarichie
	PP-024	Sri Agung Fitri Kusuma
	PP-025	Rimadani Pratiwi
	PP-026	Rimadani Pratiwi
	PP-027	Winasih Rachmawati
	PP-028	Apt. Dr. Tina Rostinawati M.Si
	PP-029	Apt. Dr. Tina Rostinawati M.Si

	PP-031	Diah Lia Aulifa
	PP-032	Sri Agung Fitri Kusuma
	PP-033	Sri Agung Fitri Kusuma
	PP-034	Arif Budiman
	PP-035	Arif Budiman
	PP-036	apt. Nur Rahayuningsih, M.Si
	PP-037	Himaniarwati
3	PP-038	Irma Erika Herawati
	PP-040	Raden Bayu Indradi
	PP-041	Lauren Pangestu
	PP-042	Aulia Nur Septiani
	PP-043	Nadiyah Adira Hanun
	PP-044	Ami Tjitraresmi
	PP-045	Ike Susanti
	PP-046	Endah Kartikawati
	PP-047	Marisa Dwi Ariani
	PP-048	Muhammad Ryan Radix Rahardhian
	PP-049	Danni Ramdhani
	PP-051	Intan Timur Maisyarah
	PP-052	Klarissa Nabila
	PP-053	Citra Rosyidah
	PP-054	Faaza Aulia Rahman
	PP-055	Gofarana Wilar
	PP-056	Ratna Asmah Susidarti
4	PP-057	Rohmanika
	PP-058	Ellin Febrina
	PP-059	Silviana Hasanuddin
	PP-060	Silviana Hasanuddin
	PP-061	Raden Maya Febriyanti
	PP-062	Ferry Ferdiansyah Sofian
	PP-063	Andhara Marsha Belinda
	PP-064	Khalisha Qintara Khairunnisa
	PP-065	Hasna Raihan Veninda
	PP-066	Driyanti Rahayu
	PP-067	Resmi Mustarichie
	PP-068	Trisnawati
	PP-070	Yoppi Iskandar
	PP-071	Tita Nofianti
PP-072	Rini Hendriani	
PP-073	Ade Zuhrotun	
PP-074	Yoga Windu Wardhana	
PP-079	Soraya Mita	
PP-080	Muhamad Adam Mustapa	

KEYNOTE AND INVITED SPEAKER

Ir. Budi Gunadi Sadikin, CHFC, CLU. (Ministry of Health, Indonesia)



Ir. Budi Gunadi Sadikin, CHFC, CLU is an Indonesian politician. As of 23 December 2020, he serves as Minister of Health in the Onward Indonesia Cabinet of President Joko Widodo. Ir. Budi Gunadi Sadikin, CHFC, CLU is only the second Health Minister not to graduate from a medical school. He previously served as President Director at Bank Mandiri. He served as President Director of PT Inalum (Persero), then in 2019, he was appointed Deputy Minister of Badan Usaha Milik Negara (BUMN) by President Joko Widodo.

Prof. Tomoya Uehara, Ph.D. (Chiba University, Japan)



Prof. Tomoya Uehara, Ph.D is a professor at the Laboratory of Molecular Imaging and Radiotherapy, Graduate School of Pharmaceutical Sciences, Chiba University. Research field Prof. Tomoya Uehara, Ph.D as follows: (1) Development of radio-metal labeling agents for peptides that reduce non-specific accumulation; (2) Development of radiolabeled agents using alpha-emitting radionuclides; (3) Development of radiometal labeling chelates. Prof. Tomoya Uehara, Ph.D has made more than 60 extraordinary papers during his academic service.

Prof. Dr. apt. Edy Meiyanto, M.Si (President of ISCC/Universitas Gadjah Mada)



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Prof. dr. Maria Yazdanbakhsh (Universiteit Leiden, Netherland)



Prof. dr. Maria Yazdanbakhsh heads the department of Parasitology which engages in basic and clinical research and employs an interdisciplinary group of basic and clinical scientists who focus on understanding host-parasite interactions at the molecular, cellular and population level. The knowledge gained is being applied to contribute to 1) development of effective vaccines against parasitic diseases and 2) identification of parasite-derived immune modulatory molecules to control hyper-inflammatory diseases. Her specific research has been focused on the interaction of helminths along with other coinfections with their human host, immune modulation and vaccine development.

Prof. Taifo Mahmud (Oregon State University, USA)



Prof. Taifo Mahmud is a Professor in the Department of Pharmaceutical Science, Oregon State University, USA. He studied Ph.D in Pharmaceutical Science at Osaka University, Japan and a postdoctoral degree in Bioorganic Chemistry or Genetics at the University of Washington, Seattle. He currently serves as Managing Director, International Indonesian Scholar Association in the U.S. and Canada since 2018 and Co-Director, NIH T32 Training Program at the OSU College of Pharmacy since 2019. Programs and research areas carried out by Prof. Taifo Mahmud, among others, Natural products chemistry, biosynthesis, and drug discovery. Application of a multidisciplinary approach that utilizes cutting-edge technologies in molecular genetics, enzymology, and chemistry to produce novel pharmaceuticals, such as antibiotics, antifungals, anti-malarial, and anti-cancer drugs.

Prof. Jun-Ya Kato (NAIST-Japan)



Prof. Jun-Ya Kato is a professor at the Nara Institute of Science and Technology. Currently, Prof. Jun-Ya Kato serves as Advisor to the President, Nara Institute of Science and Technology since 2017. He studied Ph.D in biophysics at Kyoto University. He is also a member of the Molecular Biology Society of Japan and the Japanese Cancer Association. Research field Prof. Jun-Ya Kato includes cell cycle control and carcinogenesis, hematopoiesis and blood cell differentiation, proliferation, carcinogenesis, cell carcinogenesis, cancer metabolism, and analysis using mouse models.

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Thavasyappan Thambi, Ph.D. (Kyung Hee University, South Korea)



Thavasyappan Thambi, Ph.D memiliki pengalaman di bidang nanomedicine, hydrogels, and tissue engineering. Thavasyappan Thambi, Ph.D current research is mainly focused on the development stimuli-responsive polymeric nanomaterials for the targeted delivery of anticancer therapeutics including chemotherapeutic drugs and oncolytic adenoviruses to cancer cells. Thavasyappan Thambi, Ph.D also develop in situ forming injectable hydrogels for the sustained release of proteins and growth factors for tissue engineering applications. Thavasyappan Thambi, Ph.D research interest includes stimuli-responsive polymers for cancer therapy, therapeutic and diagnostic nanomedicine (theranostics), oncolytic adenovirus for cancer therapy, polymeric biomaterials for cancer immunotherapy, injectable hydrogels for sustained delivery of therapeutic proteins, and hydrogels for tissue engineering.

Dr. apt. Riris Istighfari Jennie (Universitas Gadjah Mada, Indonesia)



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CONSTRUCTION OF SINGLE-CHAIN FRAGMENT VARIABLE (SCFV) ANTI NSI DENGUE VIRUS PCR PRIMERS FOR PHAGE DISPLAY LIBRARY PREPARATION

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ABSTRACT

Dengue is an infectious disease that continues to be a public health problem worldwide. The clinical manifestations of dengue infection are difficult to distinguish from other infectious diseases. Rapid and accurate diagnostic tests for dengue virus infection are needed to confirm the disease and treat the patient appropriately. NS1 is the most immunogenic and conserved glycoprotein secreted into the bloodstream¹. Therefore, the dengue virus NS1 antigen assay has been identified as one of the specific markers in laboratory diagnostic tests that can be used to detect primary or secondary dengue infection at an early stage. In this study, we designed PCR primers for amplification of VH and VL domains coding for scFv anti NS1. A primary design of scFv anti NS1 dengue virus has been carried out from available genomic databases using bioinformatics analysis which can be used to create a phage display scFv library^{2,3}. The ScFv gene sequence was amplified by PCR with specific primers incorporating NcoI and XhoI restriction sites for directional cloning into a phagemid vector pComb3d-F expression vector⁴. Cultures of *E. coli* DH5 were transformed with the pComb3d-F derivatives and were then induced with 0.1 mM isopropyl-d-thiogalactopyranoside (IPTG). The phage display technique was used to generate a panel of the single-chain variable fragment (scFv) antibodies specific for the NS1 protein of the dengue virus. This primer pair has been successfully tested and can be used to produce an scFv phage library, characterize antibodies, and/or design recombinant antibodies for the model.

Keywords: Dengue Virus, NS1, scFv; phage display library; Single-chain Fragment variable

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