

C30 Turnitin L. R. Telly Savalas

by Lalu Rudyat Telly Savalas C30

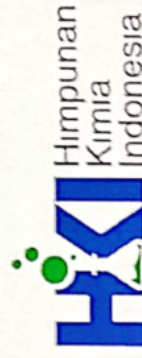
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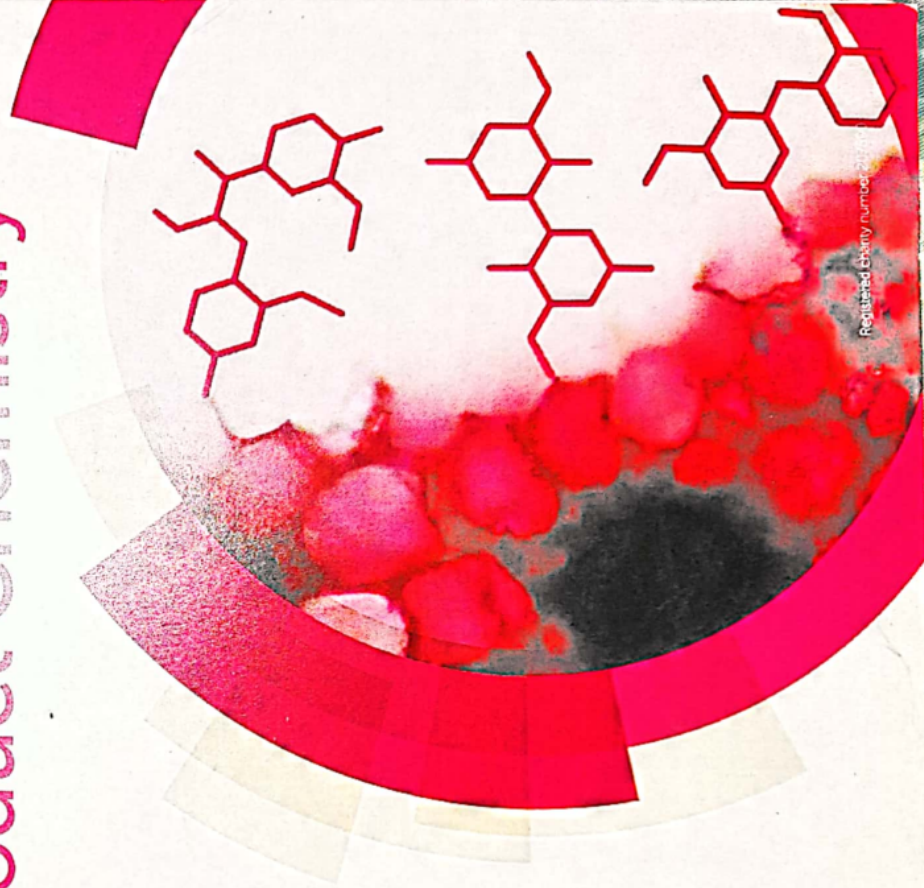
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10-11 December 2014, Universitas Gadjah Mada

Joint Indonesia-UK Conferance on Organic and Natural Product Chemistry



Programme Book

Joint indonesia-UK conference on organic and natural product chemistry

Venue: Auditorium of the Faculty of Mathematics and Natural Sciences,
Universitas Gadjah Mada, Yogyakarta, Indonesia

Day 1 – Wednesday 10 December 2014

Time	Event	Chair
07.30 – 08.30	Registration	
08.30 – 09.00	Opening remarks: Welcoming speech from Head of Chemistry Department/ Dean Universitas Gadjah Mada Welcoming speech from Himpunan Kimia Indonesia Welcoming speech from Royal Society of Chemistry	
09.00 – 09.30	Synthesis inspired through biosynthetic speculation John Moses, <i>University of Nottingham, UK</i>	Dr. Chairil Anwar
09.30 – 10.00	Synthesis and activity test of novel calix[4]resorcinarene aryl ketones and esters as UV radiation protector Jumina, <i>Universitas Gadjah Mada, Indonesia</i>	Prof. J. Stephen Clark
10.00 – 10.30	Coffee break	
10.30 – 11.00	Total synthesis of bioactive marine diterpene natural products J. Stephen Clark, <i>University of Glasgow, UK</i>	Prof. Harno Dwi Pranowo
11.00 – 11.45	Representative of Chemistry Study Program	Prof. Mudasir
11.45 – 12.00	Introduction to Royal Society of Chemistry membership Katie Dryden-Holt, <i>Royal Society of Chemistry, UK</i>	
12.00 – 13.00	Lunch	
13.00 – 14.40	Flash poster	
14.40 – 15.15	Poster session	
15.15 – 15.30	Coffee break	
15.30 – 16.50	Parallel seminar session I 1. Organic (natural product, synthetic) chemistry 2. Analytical and environmental chemistry 3. Physical and computational chemistry 4. Inorganic and material chemistry	

Joint Indonesia-UK conference on organic and natural product chemistry

Venue: Auditorium of the Faculty of Mathematics and Natural Sciences,
Universitas Gadjah Mada, Yogyakarta, Indonesia

Day 2 – Thursday 11 December 2014

Time	Event	Chair
08.30 – 09.00	Exploiting microbial genomes for the discovery of novel antibiotics Christophe Corre, <i>University of Warwick, UK</i>	Dr. Tri Joko Raharjo
09.00 – 09.30	Phytochemical of Indonesian Macaranga and their cytotoxic and antibacterial properties Yana Maolana Syah, <i>Institut Teknologi Bandung, Indonesia</i>	Prof. Marcel Jaspars
09.30 – 09.45	Coffee break	
09.45 – 10.15	Natural chemical diversity to combat infectious diseases Marcel Jaspars, <i>University of Aberdeen, UK</i>	Dr. Respati Tri Swasono
10.15 – 10.45	Representative of Chemistry Study Program	Dr. Bambang Purwono
10.45 – 12.25	Flash poster	
12.25 – 13.00	Lunch	
13.00 – 13.30	Poster session	
13.30 – 15.15	Parallel seminar session II 1. Organic (natural product, synthetic) chemistry 2. Analytical and environmental chemistry 3. Physical and computational chemistry 4. Inorganic and material chemistry	
15.15 – 15.30	Coffee break	
15.30 – 16.00	Presentation of poster prizes and closing remarks	



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OF CHEMISTRY

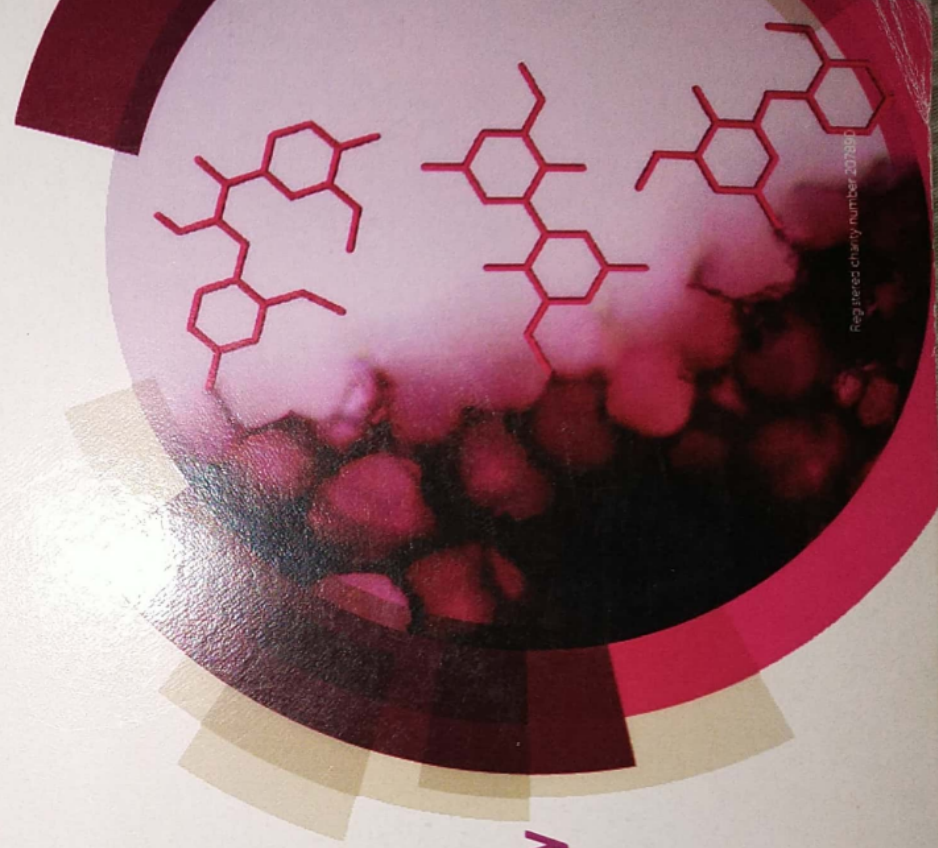


Himpunan
Kimia
Indonesia

10-11 December 2014, Universitas Gadjah Mada

Joint Indonesia-UK Conference on Organic and Natural Product Chemistry

Supplementary
Programme
Book



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WELCOME ADDRESS

BY DOMESTIC CHAIR

Distinguished guests, ladies and gentlemen,

It is a great pleasure for me to welcome you to the Joint Indonesia-UK Conference on Organic and Natural Product Chemistry. This conference is continued from last year Symposium which was held on December 3, 2013 in Institute Teknologi Bandung (ITB) Bandung with the topic of Inorganic chemistry.

Actually the format of the scientific meeting between RSC and HKI is symposium. However, due to the high demand of participant and to increase the communication between chemists, we then set up this meeting as a joint Conference. At this conference, we also invite representatives of organic expert from Universities with the hope that the organic division of HKI can be initiated and more collaboration could be set up for a better Indonesia.

Today, there are 75 abstracts submitted to the committee and they come from any part of Indonesia, even from Manado. Oral presentation will be delivered by 35 participants and the rest will present their research by flash oral poster.

Thank you to Sarah and Katie from RSC, who helped us a lot to organize this conference. In addition, I would like to give thanks to all members of the local organizers from Chemistry Department Universitas Gadjah Mada, who has all made this conference happen. I believe that this conference will be successful due to your great efforts.

I wish that all of you will have a truly enjoyable time in Yogyakarta.

Thank You for your kind participation on Joint Indonesia –UK Conference.

Dr. Tutik Dwi Wahyuningsih



Joint Indonesia-UK
Conference on Organic and Natural Product Chemistry

WELCOME ADDRESS

FROM THE DEAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES UNIVERSITAS GADJAH MADA

Dear symposium participants,

On behalf of the Faculty of Mathematics and Natural Sciences Universitas Gadjah Mada (UGM) Yogyakarta Indonesia, I am pleased to welcome you to UGM and to this Conference organized by the department of chemistry UGM, *Himpunan Kimia Indonesia* (HKI) and the Royal Society of Chemistry (RSC). This event provides a fantastic opportunity for researchers from Great Britain and Indonesia to present their latest research findings in chemistry. I think this kind of event is very important to us since we can only advance science by doing research and sharing the finding through such a scientific meeting.

In this opportunity, I wish to congratulate to my colleagues at the department of chemistry UGM on achieving international accreditation for their undergraduate chemistry courses by the RSC. In fact, this symposium is held as our commitment to the RSC accreditation to advance chemistry.

I also want to use this occasion to congratulate the chemistry department chair and staff, each individual of local and international organizing committees for working very hard to make this conference a reality.

I thank each of international guests from Great Britain and Indonesian partners with a wide range of backgrounds and expertise for giving input, enlightening others and inspiring fruitful discussions during this 2-days-conference. This is a good chance for you all to stimulate fresh thinking and creative ideas in your field of study in an intimate and comfortable environment. Have a great conference.

Dr. Pekik Nurwantoro



Joint Indonesia-UK
Conference on Organic and Natural Product Chemistry

ORGANIZING COMMITTEE

Honorary Chair

Dr. Pekik Nurwantoro (Dean of FMIPA Universitas Gadjah Mada)

Dr. Muhammad A. Martoprawiro (Head of HKI)

Prof. Dr. Sri Juari, M.Eng (Head of HKI chapter Yogyakarta)

Prof. Dr. Triyono (Head of Chemistry Department Universitas Gadjah Mada)

Chair and Co-chair :

Dr. Sarah Thomas (RSC) and Tutik Dwi Wahyuningsih, M.Si., Ph.D

Vice Chair:

Dr. Roto, M. Eng.

Secretary I:

Respati Tri Swasono, S.Si, M.Phil, Ph.D.

Secretary II:

Taufik Abdillah Natsir, S.Si., M,Sc.

Treasurer I:

Dr. rer.nat. Adhitasari Suratman, S.Si, M.Si.

Treasurer II:

Warakustarti Listyariwangi A.Md

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Dr. Dwi Siswanta, M.Eng.

Drs. Bambang Purwono, M.Sc, Ph.D

Indriana Kartini, S.Si., M.Si., Ph.D

Technical Staff:

Deni Pranowo, S.Si, M.Si

Dr. Winarto Haryadi, M.Si.

Sugeng Triono, S.Si, M.Si.



Joint Indonesia-UK

Conference on Organic and Natural Product Chemistry

SEMINAR SCHEDULE

Time		Chair	
Day 1, Dec 10, 2014			
7:30 - 8:30	Registration		
8:30 - 9:00	Opening :		
	1. Welcoming speech from Head of Chemistry Department/ Dean		
	2. Speech from HKI -		
	3. Speech from RSC – Dr Sarah Thomas (Royal Society of Chemistry)		
9:00 - 9:30	Invited speaker: Dr. John Moses (University of Nottingham)		Dr. Chairil Anwar RSC (Organic Synthesis)
9:30 - 10:00	Invited Speaker: Prof. Dr. Jumina (UniversitasGadjahMada)		
10:00 - 10:30	Coffee Break		
10:30 - 11:00	Invited speaker: Prof. Stephen Clark (University of Glasgow)		Prof. Dr. Harno Dwi Pranowo
11:00 - 11:45	Representative of Chem. Study Program (3)		Prof. Dr. Mudasir
11:45 - 12:00	RSC Program – Katie Dryden-Holt (Royal Society of Chemistry)		
12:00 - 13:00	LUNCH BREAK		
13:00 - 14:40	Flash Poster (@ 5menit for max 20 presenters)		
	AE-P1 to AE-P6; CE-P1 to CE-P3; IP-P1 to AE-P6; ON-P1 to ON-P5		
14:45 - 15:15	Poster		
15:15 - 15:30	Coffee break		
15:30 - 17:00	Parallel Seminar – I (18 presenters)		
		Room 1	Room 2
15:30 - 15:45	ON-O1	AE-O1	IP-O1
15:45 - 16:00	ON-O2	AE-O2	IP-O2
16:00 - 16:15	ON-O3	AE-O3	IP-O3
16:15 - 16:30	ON-O4	AE-O4	IP-O4
16:30 - 16:45	ON-O5	AE-O5	IP-O5
16:45 - 17:00	ON-O6	AE-O6	IP-O6



Joint Indonesia-UK
Conference on Organic and Natural Product Chemistry

Dipindai dengan CamScanner

Time	Day 2, Dec 11, 2014		Chair
8:30 - 9:00	Invited Speaker: Dr. Christhope Corre (University of Warwick)		Dr. Tri JokoRaharjo
9:00 - 9:30	Invited speaker: Prof. Dr. Yana Maolana Syah (Institut Teknologi Bandung)		RSC (Natural Products)
9:30 - 9:45	Coffee break		
9:45 - 10:15	Invited speaker: Prof. Marcel Jaspars (University of Aberdeen)		Dr. Respati Tri Swasono
10:15 - 10:45	Representative of Chem. Study Program (3)		Dr. BambangPurwono
10:45 - 12:20	Poster Session (Flash)		
AE-P7 to AE-P12; IP-P7 to AE-P12; ON-P6 to ON-P16			
12:25 - 13:00	LUNCH BREAK		
13:00 - 13:30	Poster		
13:30 - 15:00	Parallel Seminar – II (18 presenters)		
	Room 1	Room 2	Room 3
13:30 - 13:45	ON-07	ON-015	ON-O19
13:45 - 14:00	ON-08	ON-O14	ON-O20
14:00 - 14:15	ON-09	ON-O13	ON-O21
14:15 - 14:30	ON-O10	ON-O16	IP-07
14:30 - 14:45	ON-O11	ON-O17	IP-08
14:45 - 15:00	ON-O12	ON-O18	IP-09
15:00 - 15:30	Coffee Break		
15:30 - 16:00	Poster Prize Presentation and Closing		

ON-014

SCREENING OF HUMAN PROTEIN INTERACTING WITH
Mycobacterium tuberculosis PROTEIN PHOSPHATASE PtpA

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Successful infection of *Mycobacterium tuberculosis* is known to stem from interaction between molecules secreted by the bacterium and its host proteins. Among Mtb proteins known responsible for latent infection are PtpA, PtpB, PknG, PknF, etc. Although their involvements in latent infection have been established, the details of interactions between these bacterial proteins with host proteins are yet to be determined. In the present study, we have investigated Mtb proteins PtpA. We expressed PtpA in *Escherichia coli* and currently work with biochemistry characterization of PtpA protein. Expression of PtpA in *Escherichia coli* under T7 promoter as IPTG induction showed that the protein was overexpressed. The result of heterologous expression Mtb's gene in *E. coli* provided a way to next task to investigate the unknown mammalian protein interacting with PtpA, namely in a pull-down experiment. PtpA gene is had further expressed in yeast and is currently investigated by using yeast two hybrid screening in our attempt to reveal human proteins that interact with PtpA.

Keywords: *Mycobacterium tuberculosis*, latent infection, PtpA, yeast two hybrid screening



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10-11 December 2014
Universitas Gadjah Mada, Yogyakarta, Indonesia

This is to certify that
Lalu Rudyat Telly Savalas

attended the above meeting as an oral presenter

Dr Sarah Thomas, FRSC
Royal Society of Chemistry

Prof. Dr. Triyono
Head of Chemistry Department
Universitas Gadjah Mada



**SCREENING OF HUMAN PROTEIN
INTERACTING WITH *Mycobacterium tuberculosis*
PROTEIN PHOSPHATASE PtpA**

Dr. rer. nat. Lalu Rudyat Telly Savalas^{1,2}

Annurun Nisa²

Prapti Sedijani, Ph.D^{1,2}

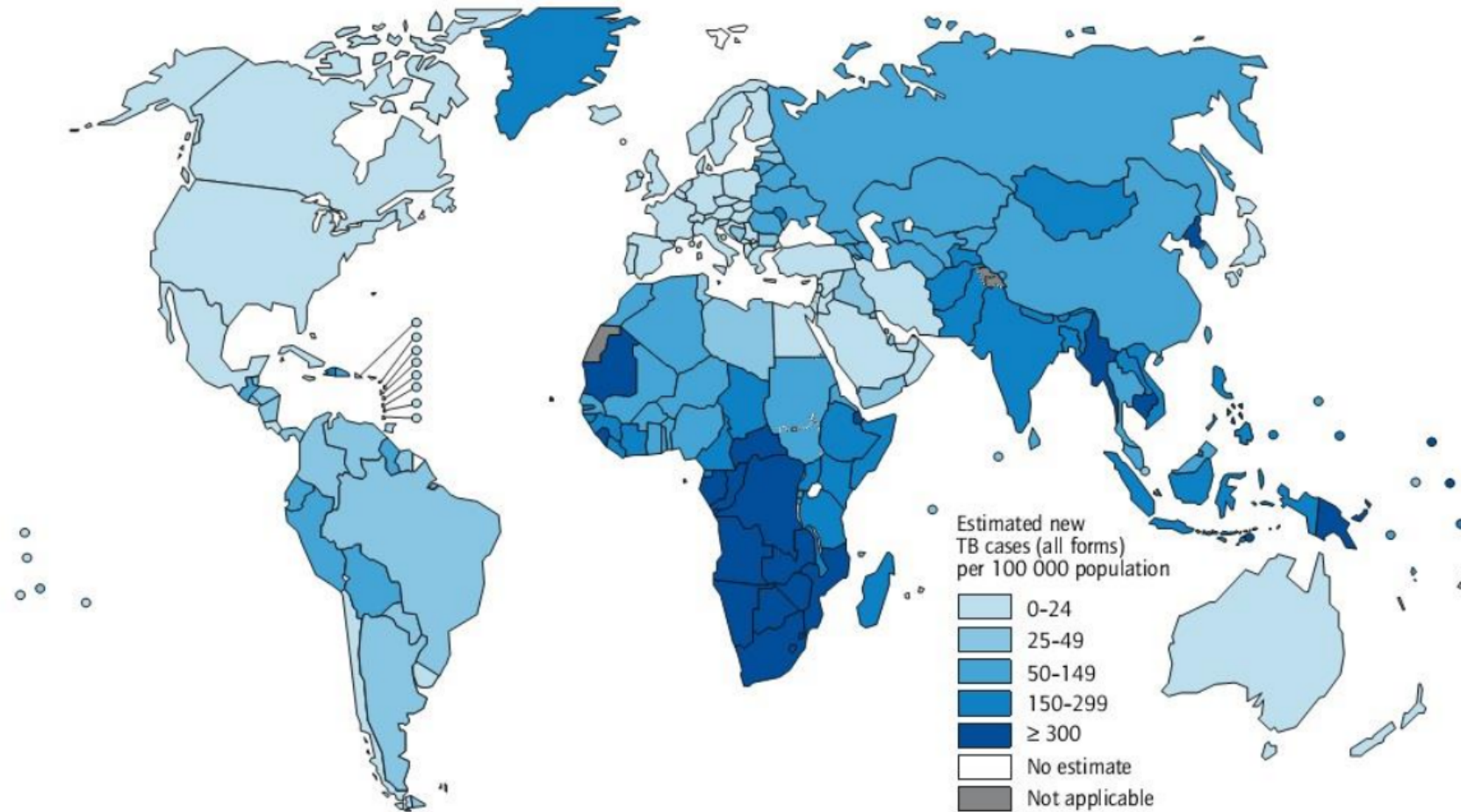
1. Faculty of Teacher Training and Education, University of Mataram

2. Bioscience and Biotechnology Research Group, University of Mataram

BAKGROUND



FIGURE 2.5 Estimated TB incidence rates, 2011



M. tuberculosis



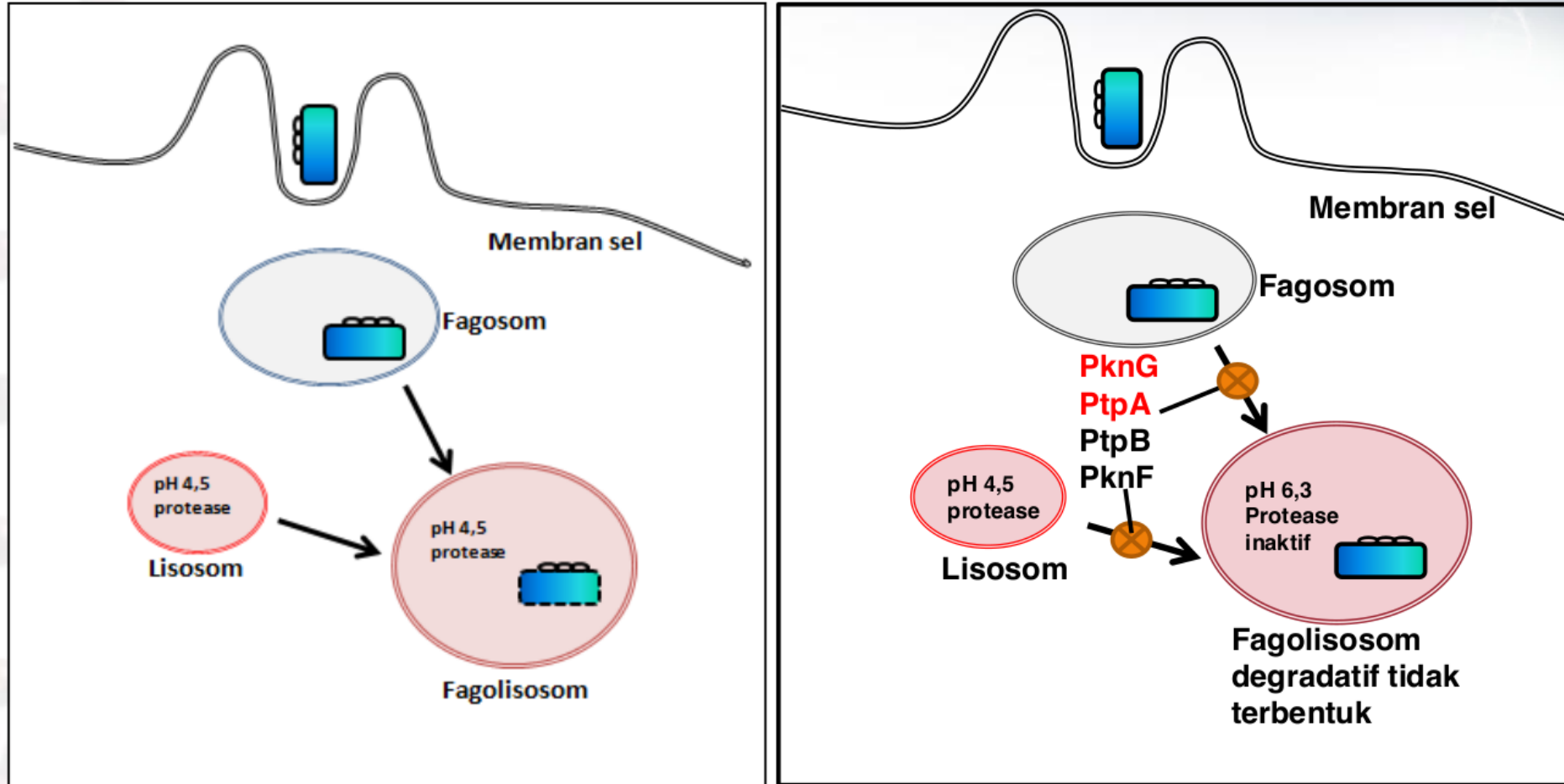
Gram positive, 2–4-micron x 0.2 – 0.5 micron
www.news-medical.net.

LATENT TB DEVELOPMENT



Fagositosis

Latency



PtpA dan PknG berperan penting dalam mekanisme survival Mtb

PROBLEM



1. Which human protein interacting with PtpA and PknG of *M. tuberculosis*?
2. What are the role of PtpA and PknG?
3. How to inhibit PtpA and PknG

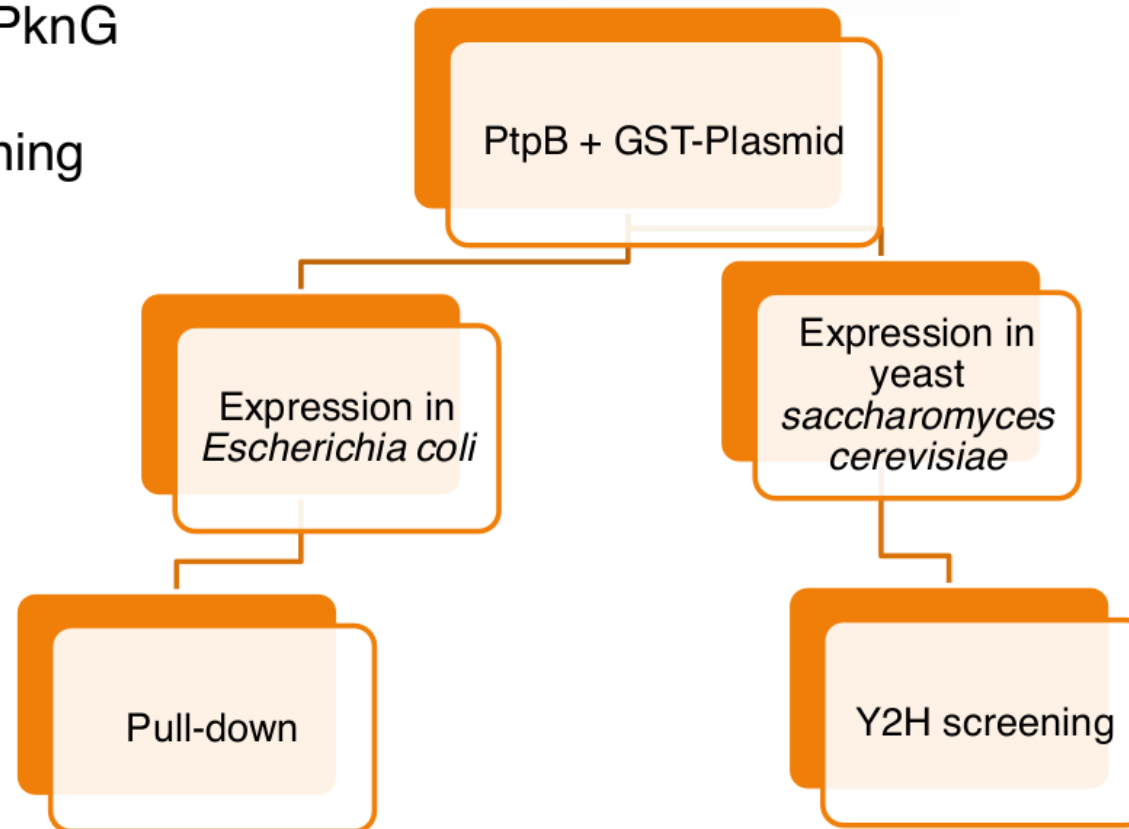
WHAT WE DO

We aim to identify which human protein interacting with Mtb PtpA and PtpB



Methods

1. Recombinant PtpA and PknG construction
2. Expression of PtpA and PknG
3. Pull-down
4. Yeast Two Hybrid Screening



THE PULL-DOWN PLAN

SDS-PAGE



GST-PtpB

GST-PtpA-protein X → MALDI-TOF



Comparison with Data base

Y2H Clontech, TaKaRa

human cDNA library



Bait

Gal4
DNA-BD



PtpA



Yeast *S. cerevisiae* cell

Prey

Gal4 AD



unknown



¹ Prey

Gal4 AD



unknown



Prey

Gal4 AD



unknown



¹ Prey

Prey

Gal4 AD



unknown



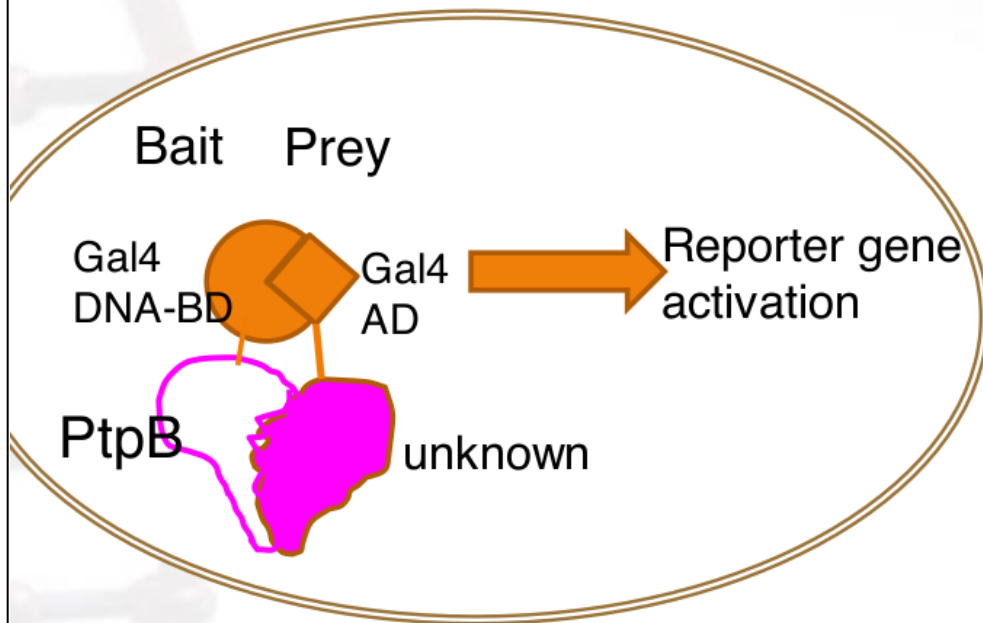
Gal4 AD



unknown

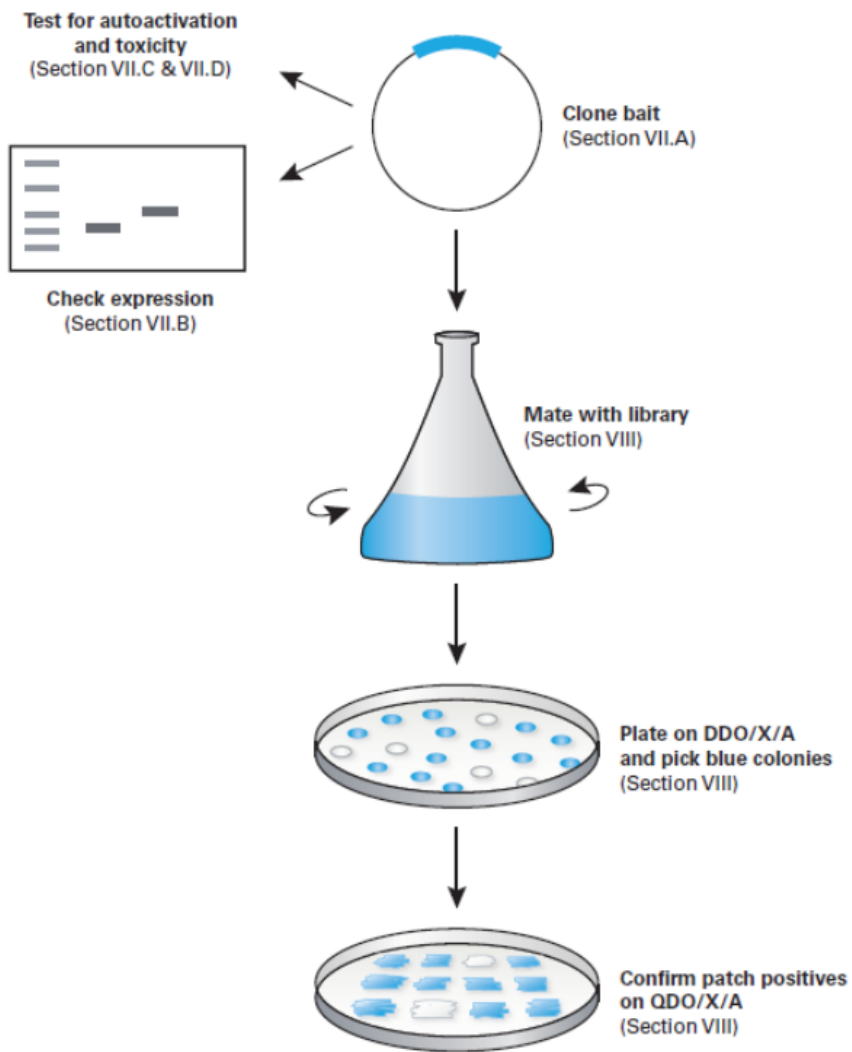


SCREENING

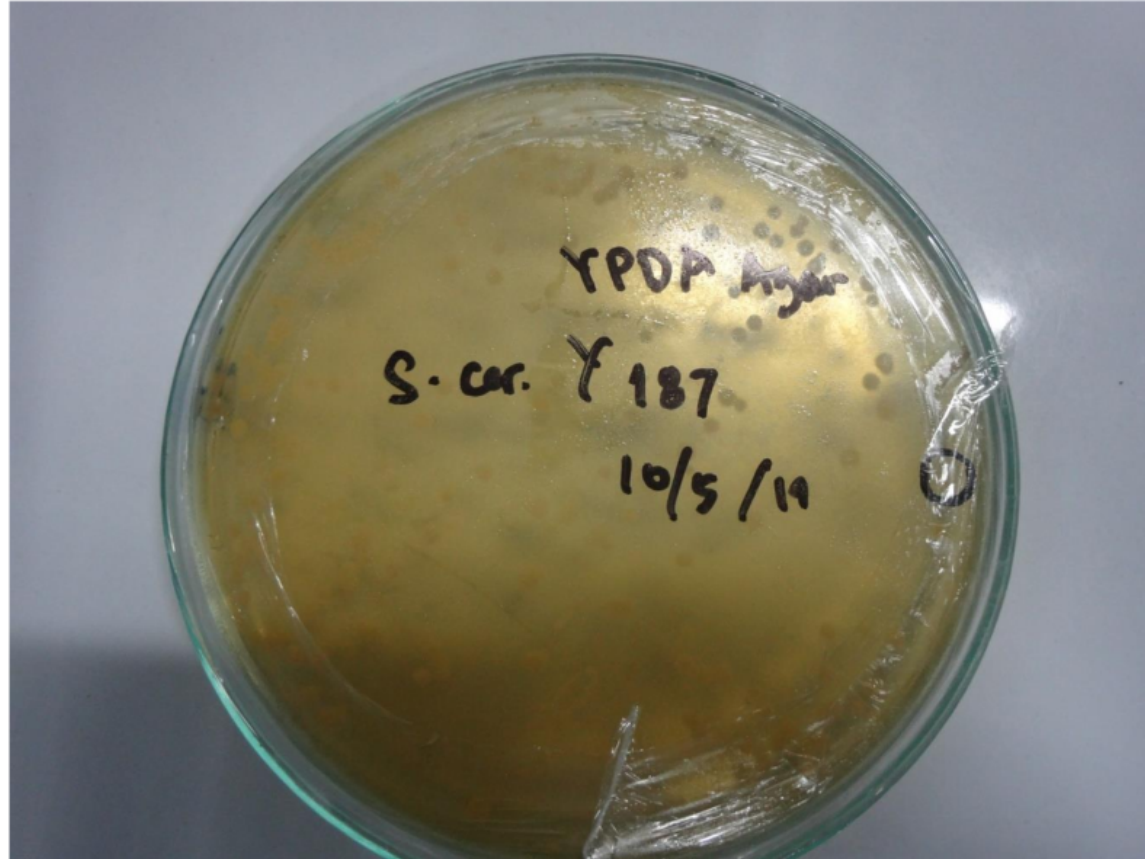


1. Plasmid DNA isolation
2. Sequencing
3. Comparison with pull-down result
4. Inhibition test

SCREENING PLATES



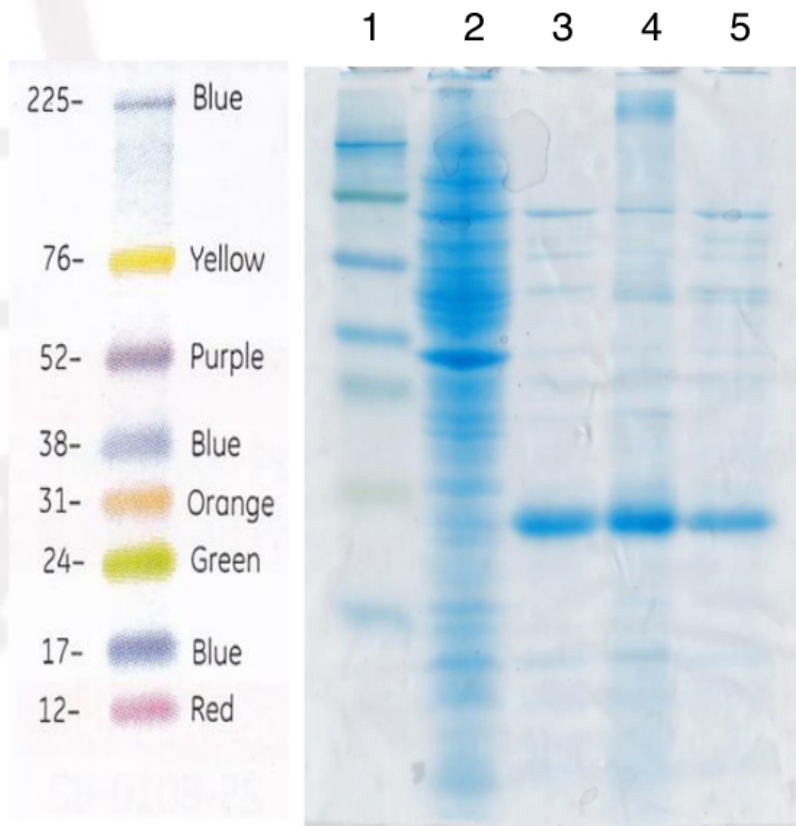
Saccharomyces cerevisiae



RESULT: PtpA Expression



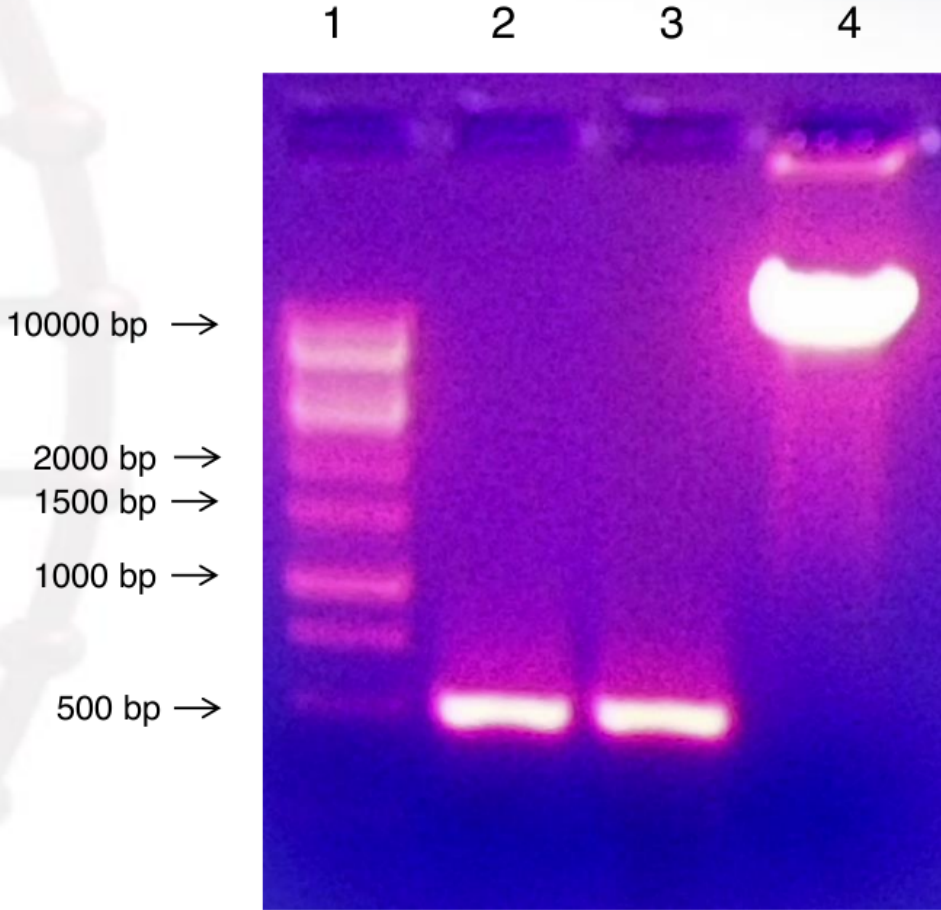
SDS-PAGE of PtpA-pET30b after sonication



1. Protein marker
2. Empty *E.coli* BL21
3. Total protein pET30b-PtpA / *E.coli* BL21
4. Protein PtpA after sonication (inclusion bodies)
5. PtpA lysate after sonication



PtpA and pGBKT7-DNA BD Restriction Analysis



- Keterangan:
- 1. Marker
 - 2-3. PtpA after restriction
 - 4. pGBKT7-DNA BD

PtpA – pGBKT7-DNABD



Sequencing Result shows agreement with data base

```
5' ① TNNNCANNGCAGACAGAGCTGATCTCAGAGGAGGACCTGCATATGATGGTGTCTGATCCGCTGCACGTACATTGTTTGTACGGGCAACATCTGCCGGTCGCCAATGGC 110
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3' ANNNGTNNCGTCTGTCTCGACTAGAGTCTCCTCCTGGACGTATACTACCACAGACTAGGCGACGTGCAAGTGAAGCAAACATGCCCGTTGTAGACGGCCAGCGGTTACCG

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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CGGCCGGGGTGTTCGAGCCACGGCTACCCTACCGACCACCGGGCCGCACAAGTCGGCACCGAACACCTGGCGGCAGACCTGTTGGTGGCCTTGGACCACAACACGCT 330
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RELATED WORKS

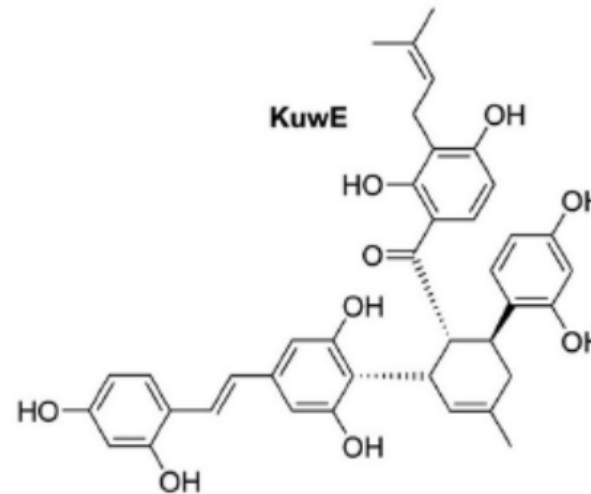
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PLOS ONE



Discovery of *Mycobacterium tuberculosis* Protein Tyrosine Phosphatase B (PtpB) Inhibitors from Natural Products

Alessandra Mascarello¹, Mattia Mori^{2,3}, Louise Domeneghini Chiaradia-Delatorre^{1,4}, Angela Camila Orbem Menegatti⁴, Franco Delle Monache², Franco Ferrari², Rosendo Augusto Yunes¹, Ricardo José Nunes¹, Hernán Terenzi⁴, Bruno Botta², Maurizio Botta^{3,5}



Kuwanol E



Peniphenones A-D from the Mangrove Fungus *Penicillium dipodomyicola* HN4-3A as Inhibitors of *Mycobacterium tuberculosis* Phosphatase MptpB

Peniphenones A-D from the Mangrove Fungus *Penicillium dipodomyicola* HN4-3A as Inhibitors of *Mycobacterium tuberculosis* Phosphatase MptpB

[Org Lett.](#) 2013 Feb 15;15(4):721-3. doi: 10.1021/ol303549c. Epub 2013 Jan 29.

Asperterpenoid A, a new sesterterpenoid as an inhibitor of *Mycobacterium tuberculosis* protein tyrosine phosphatase B from the culture of *Aspergillus* sp. 16-5c.

[Huang X¹](#), [Huang H](#), [Li H](#), [Sun X](#), [Huang H](#), [Lu Y](#), [Lin Y](#), [Long Y](#), [She Z](#).

Terima Kasih

Group Structure

Dr. rer. nat. Lalu Rudyat Telly Savalas

Prapti Sedijani, Ph.D

Siti Rosidah, S.Si (Biologi, laboran)

An-Nuurun Nisa, S.Si (RA) → pre-oversea training

Dinde Sofie, M.Si. (RA)



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