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1

A human monoclonal antibody isolated from the IgA repertoire of a chronically exposed, asymptomatic individual mediates protection against *Mycobacterium tuberculosis*

*Shivankar Krishnamurthy, ²Hao Li, ³Rania Bouayeh, ⁴Kiren Parasharam, ¹Bhavneetwar, Shaanmuganah,
⁵Habib Zaid and ⁶Paul A MacAry

¹Department of Microbiology & Immunology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, ²College of Veterinary Medicine, China Agricultural University, Beijing, China, ³Center for Infectious Disease Research, School of Medicine, Tsinghua University, Beijing, China, ⁴Division of Experimental Medicine, University of California, San Francisco, USA

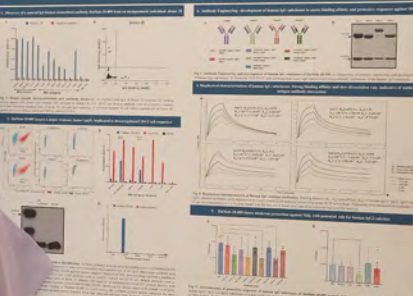
Introduction & Objectives

Mycobacterium tuberculosis (Mtb) is the most common cause of infectious disease worldwide. The emergence of antibiotic resistance and the progression from asymptomatic infection to active disease represent a major public health burden. The development of a vaccine to prevent Mtb infection is a high priority. A human monoclonal antibody (mAb) isolated from the IgA repertoire of a chronically exposed, asymptomatic individual mediates protection against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice.

Methodology



Results & Discussion



Conclusion & Future Direction

The human monoclonal antibody isolated from the IgA repertoire of a chronically exposed, asymptomatic individual mediates protection against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice. This mAb is highly specific for Mtb and is protective against Mtb infection in mice.

Acknowledgement

We thank Dr. [Name] for providing the Mtb strain used in this study. We also thank Dr. [Name] for providing the mAb used in this study. We thank Dr. [Name] for providing the mAb used in this study. We thank Dr. [Name] for providing the mAb used in this study.

References

1. [Reference 1]
2. [Reference 2]
3. [Reference 3]



Substrate specificity of capsule flippase *Streptococcus pneumoniae*

Chua W¹, and Sham L¹
¹ Infectious Diseases Translational Research Programme, Department of Microbiology and Immunology
National University of Singapore



BACKGROUND

- Streptococcus pneumoniae
 - Major respiratory pathogen
 - Kills ~100,000 children worldwide annually
 - Leading cause of pneumonia in healthy children
 - Capsule polysaccharide (CPS) is a major virulence factor
 - Assembly of outer coat of over 90 capsules
 - Requires an enzyme to flip CPS outwards



Research aim

To investigate the substrate specificity of the pneumococcal capsule flippase through molecular factors governing the act and mechanism

METHODOLOGY

A. Isolation of gene-encoding CPS flippase transport genes



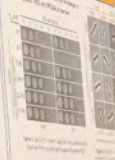
B. High-throughput library screening



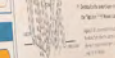
CONCLUSION

RESULTS

1. Identification of functional transport genes



2. Deletion of the CPS flippase



3. Identification of CPS flippase mutants



4. Identification of CPS flippase mutants



5. Identification of CPS flippase mutants



















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Mute



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Genome-Wide CRISPR screen identifies an NF2-Adherens Junction mechanistic dependency for Cardiac Lineage

10th Annual Biomedical Scientific Congress
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Mick Lee

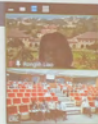
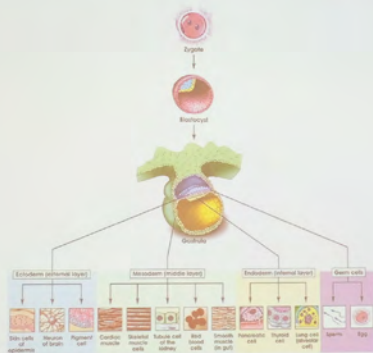
Research Fellow
Roger Foo's Laboratory
Yong Loo Lin School of Medicine
Cardiovascular Research Institute (CVD TRP)
Genome Institute of Singapore (A*STAR)



1



Cell Development and Differentiation











to heart function and disease

genetic factors

heart
conditions

- atrial fibrillation
- congenital heart disease
- dilated cardiomyopathy
- heart failure
- QT interval
- ...

(Tam *et al.*, Nat. Rev. Genet., 2019)



n and disease

Taking OAC

al fibrillation
genital heart disease
ted cardiomyopathy
rt failure
nterval

m et al., Nat. Rev. Genet., 2019)



is a known eQTL in heart tissue

MYO19 (Myosin XIX)
Enables actin binding activity
Regulation of cytokinesis and mitochondrial fission

DHRS11 (Dehydrogenase/Reductase 11)
Enables NADP⁺ activity
Enables 3-keto sterol reductase activity
Steroid biosynthetic process



STOP MISUSE OF
TEACHING FACILITIES







FOYER 1A



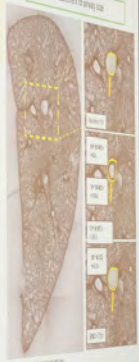
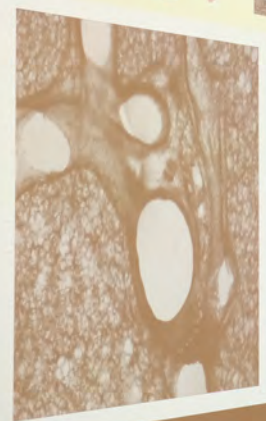
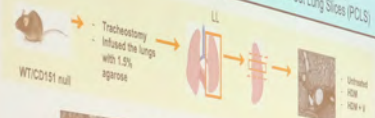


IAE ex vivo model – Precision Cut Lung Slices (↑ airway contraction)

IAE model (in vivo)
> Lung function (AHR)

IAE model (ex vivo)
> Precision Cut Lung Slices (PCLS)

IAE model (in vitro)
> CD151 protein



STOP HARASSMENT OF TEACHING FACULTIES



KIT

ough and wheezing

ness of breath

t tightness

thing difficulty



Asthma In Singapore



10.5%
DIAGNOSED
WITH LIFETIME
ASTHMA



5%

ADULTS
HAVE ASTHMA



20%

CHILDREN
HAVE ASTHMA

1 in 3



PEOPLE WITH ASTHMA
REPORTED ASTHMA ATTACKS
IN THE PAST YEAR



1 in 2

PEOPLE WITH ASTHMA
REPORTED MISSING SCHOOL
OR WORK IN THE PAST YEAR

26% OF PEOPLE WITH
ASTHMA USED
PREVENTER
INHALERS IN THE
PAST MONTH



17.1%

NO REGULAR ASTHMA
FOLLOW-UP

SGD **2.09** BILLION
ESTIMATED
ANNUAL COSTS
OF ASTHMA

USING PREVENTER INHALER DAILY
LOWERS RISK OF ASTHMA ATTACK

Source: Singapore Asthma Survey 2017. Singapore Asthma Society. www.asthma.org.sg
 © Singapore Asthma Society 2017. All rights reserved. Singapore Asthma Society is a registered charity under the Charities Act, Chapter 353A.
 Singapore Asthma Society is a member of the Singapore Council of Social Service (SCSS).
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 Singapore Asthma Society is a member of the Singapore Council of Social Service (SCSS).

9)

ABSC conference – 21st September 2022



Role of CD151 in influenza-induced asthma exacerbation (IAE)

ChihSheng New
Supervisor: A/Prof Thai Tran





Adapted from Yi et al (2017)

Genetic glycoengineering in bacteria

SHAM Lok To, Chris

Infectious Diseases Translational Research Programme

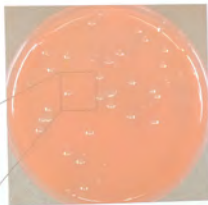
Department of Microbiology and Immunology

National University of Singapore



Infectious Diseases Translational
Research Programme
Yang Loo Lin School of Medicine

Department of Microbiology and Immunology
Yang Loo Lin School of Medicine



agar-coated



Biorender: Menon AK



Investigating the role of Rab11a during Enterovirus A71 infection

Ng Qing Yong

21 Sep 2022



Red blood cell-derived extracellular vesicles display endogenous anti-viral properties and serve as effective oligonucleotide carriers against COVID-19

Migara Jayasinghe (Jay)

PhD Student

Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore

Thesis Advisor: LE Thi Nguyet Minh

21st September 2022

✉ migarakj@u.nus.edu





Influence of glycan structure on colonization of *Streptococcus pneumoniae* on human respiratory epithelial cells




Key Words: Streptococcus pneumoniae, glycan, human respiratory epithelial cells, colonization, glycan structure, polysaccharide capsule

Introduction

Streptococcus pneumoniae is a Gram-positive, facultative anaerobic, catalase-negative, beta-hemolytic bacterium. It is a major cause of pneumonia, meningitis, and other infections. The polysaccharide capsule is a critical virulence factor. Capsule Polysaccharide (CPS) is a key virulence factor.



Results and Discussion

Structural features of CPS modulate binding to human cells.



Objective

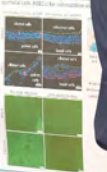
Investigate whether colonization and host cell attachment is influenced by the structure of the CPS.

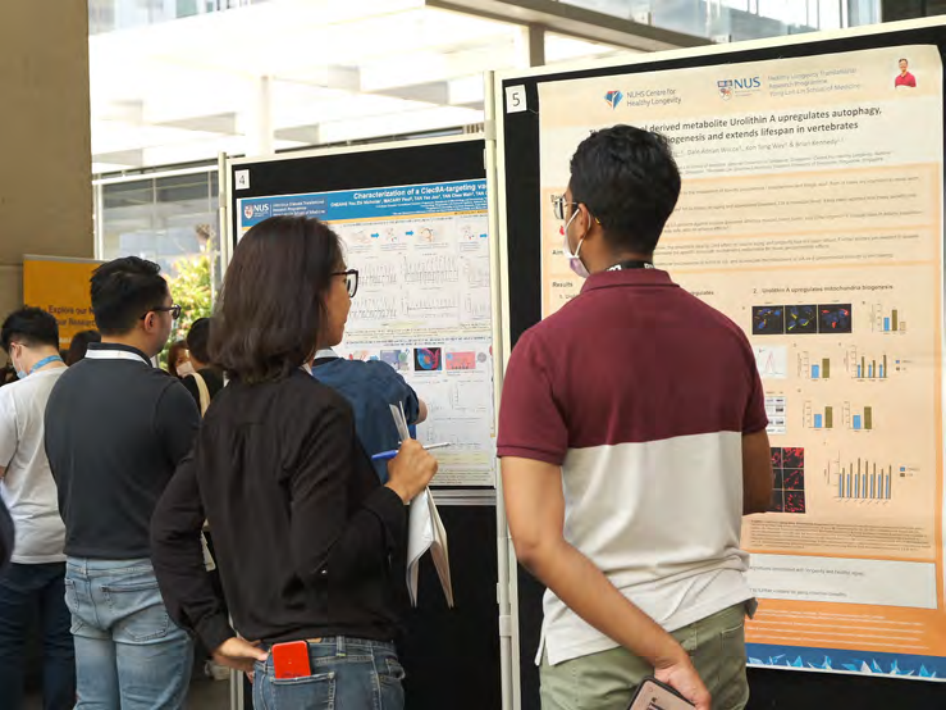
Materials and Methods

Used strains of various CPS structures.



Monitor the human respiratory epithelial cells (HRECs) for attachment.



5

NUS Centre for Healthy Longevity



Healthy Longevity Translational Research Programme
Yong-Lee Lin Institute of Medicine



Mitochondria-derived metabolite Urolithin A upregulates autophagy, mitochondrial biogenesis and extends lifespan in vertebrates

Yong-Lee Lin¹, Daniel Han Wu^{1,2}, Jun Yong Woo¹ & Brian Kennedy^{1,3}

¹Department of Medicine, ²Department of Life Sciences, ³Department of Health, Behavior and Society, Harvard University, Boston, MA, USA; ⁴Department of Life Sciences, ⁵Department of Health, Behavior and Society, Harvard University, Boston, MA, USA; ⁶Department of Life Sciences, ⁷Department of Health, Behavior and Society, Harvard University, Boston, MA, USA

Abstract
Mitochondria-derived metabolite Urolithin A (Urolithin A) is a natural polyphenol that has been shown to upregulate autophagy and mitochondrial biogenesis in vertebrates. Here, we show that Urolithin A extends lifespan in vertebrates. We found that Urolithin A treatment in mice leads to increased autophagy and mitochondrial biogenesis, which in turn extends lifespan. These findings suggest that Urolithin A may be a potential therapeutic target for extending lifespan in vertebrates.

Results



Conclusions
Urolithin A upregulates autophagy and mitochondrial biogenesis, which in turn extends lifespan in vertebrates. These findings suggest that Urolithin A may be a potential therapeutic target for extending lifespan in vertebrates.

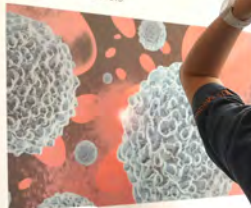


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Immunology Research



The Parasite *Blastocystis* and the Gut-Brain Axis

Saverio Servino Lennardt¹, Feng-Jun Li¹, John Anthony Yassin¹, John Yu-Shen Chen¹, Cynthia Ying-Xin He¹, Kevin Shyong Wei Tan¹
¹Department of Biological Sciences, Faculty of Science, National University of Singapore

Blastocystis, the gut parasite

Blastocystis is a eukaryotic parasite of the human gut. It is highly prevalent worldwide, estimated to infect one out of three humans. Absorption of the parasite from contaminated food and water is the likely leading pathway. Quantification of oral and faecal carriage of the parasite and disease has revealed the influence of the parasite and disease but not yet the mechanism.

The genus *Blastocystis* is reported into over 20 subtypes (STs), with 14 subtypes due to genetic divergence of ST1 through ST14 (ST1-14). The subtypes are the genetic markers for *Blastocystis* STs. However, little is known about the genetic diversity of other subtypes and in most subtypes their genetic relationships and in most subtypes their genetic relationships from other human carriage subtypes.



Figure 1: Diagram illustrating the human gut and the location of Blastocystis infection. The diagram shows the digestive tract with a red area indicating the site of infection in the small intestine.

Substrate affinity

Figure 2: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Figure 3: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Figure 4: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Figure 5: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

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Figure 7: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Figure 8: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Figure 9: Diagram illustrating the substrate affinity of Blastocystis. The diagram shows the parasite interacting with a substrate, with arrows indicating the direction of movement and the resulting products.

Blastocystis and serotonin

We demonstrated in Fig. 2 that ST14 subtypes were highly associated with various (intestinal) symptoms when cultured with various (intestinal) substrates. The expression of ST14 (Fig. 2) shows that subtypes from individuals (ST14) of various symptoms from individuals (ST14) all cells, as an indicator of subtypes. It shows that the same subtypes from individuals (ST14) increased serotonin secretion in culture. It shows that the same subtypes from individuals (ST14) increased serotonin secretion in culture. It shows that the same subtypes from individuals (ST14) increased serotonin secretion in culture.

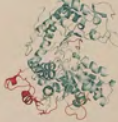
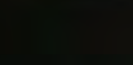
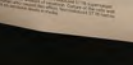
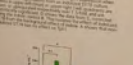
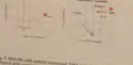
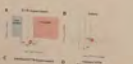
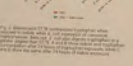
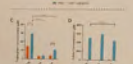
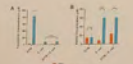


Figure 1: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Methods

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Figure 10: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 11: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 12: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 13: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 14: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 15: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 16: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 17: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 18: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 19: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.

Figure 20: 3D ribbon diagram of the protein structure of 5HT2A, showing the binding site for serotonin.



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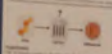
The Role of Glucocorticoids on CD151 Expression in Influenza A Virus Replication

Shen Yong^{1,2*}, Vincent T.K. Cheng^{1,2*}, Ting Zhou^{1,2}

¹Department of Microbiology, ²Department of Cell Biology and Biophysics, National University of Singapore, Singapore

Introduction

Influenza A virus (IAV) replication is dependent on the expression of CD151, a transmembrane protein that is essential for viral RNA transport and replication. Glucocorticoids (GCs) are known to modulate the expression of CD151 and have been shown to enhance IAV replication in cells.



GCs were added to cells at various concentrations and time points. IAV infection was performed at different time points relative to GC treatment. Viral replication was measured by quantifying viral RNA levels and viral titers. CD151 expression was analyzed by Western blot and immunofluorescence.

GC treatment significantly increased CD151 expression and viral replication in cells. This effect was dependent on the concentration and duration of GC treatment. The effect of GCs on CD151 expression and viral replication was blocked by the CD151 inhibitor, anti-CD151 antibody.

GC treatment also increased the expression of viral proteins, including NP, M1, M2, HA, and NA. This suggests that GCs enhance viral replication by increasing the expression of viral proteins.

GC treatment did not affect the expression of CD151 in cells that were not infected with IAV. This indicates that the effect of GCs on CD151 expression is specific to IAV infection.

GC treatment also increased the expression of CD151 in cells that were infected with IAV. This suggests that GCs enhance viral replication by increasing the expression of CD151.

GC treatment did not affect the expression of CD151 in cells that were infected with IAV and treated with the CD151 inhibitor, anti-CD151 antibody. This indicates that the effect of GCs on CD151 expression is dependent on the presence of CD151.

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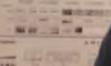
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Results

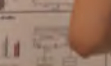
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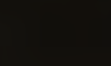
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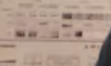
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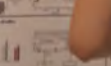
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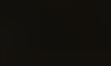
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DukeNUS
Medical School

Downstream Regulation of Wnt Signaling: Biology and Therapy

21 September 2022
ABSC Scientific Congress

David Virshup
david.virshup@duke-nus.edu.sg





Upstream Regulation of Wnt Signaling: Biology and Therapy

21 September 2022
ABSC Scientific Congress

David Virshup
david.virshup@duke-nus.edu.sg





A Balancing Act of the RNA Editing Enzyme ADAR1 in the Liver: Immune Sensing and Suppression

ABSC Presentation

Gan Wei Liang

Supervisor: A/P Polly Chen Leilei





ISG: Interferon stimulated

TT2 AND THE RESPONSE TO BCG IMMUNOTHERAPY

Mugdha Patwardhan

Department of Surgery, YLL School of Medicine





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- Playing music
- Bringing weapons
- Any other inappropriate activities.





Chairperson
A/Prof Gan Yun Haen
Associate Professor, Department of Biochemistry,
Co-Director, Infectious Diseases Translational Research Program,
NUS Medicine
Moderator: Tay Hai Si

2:20 - 2:35 **Oral presentation 5: Investigating the Role of Rab11a During**

Enterovirus 71 Infection

Speaker: Ng Qing Yong

2:35 - 2:50

**Oral presentation 6: Real Time Monitoring of Respiratory Viruses
Display Endogenous Anti-viral Responses as Effective
Oligonucleotide Censors for SARS-CoV-2**

Speaker: Migena Fesilika Iyemba

2:50 - 3:05

**Oral presentation 7: Role of CD136 in Severe Asthma
Exacerbation (IAE)** **Speaker: Naveen**



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Chairperson
A/Prof Gan Yunn Hwen
Associate Professor, Department of Immunology
Co-Director, Infectious Diseases, Translational Immunology
NUS Medicine
Moderator: Tan Phooi

- 2:20-2:45 Oral presentation-5: *Investigating the Blood-Bone Marrow*
Topic: us 11 Infection
Speaker: Ng Qing Hong
- 2:45-3:15 Oral presentation-6: *Red Blood Cell-derived Extracellular vesicles*
Topic: Polymorphonuclear Leukocytes and Neutrophils in HIV-1
Oligonucleotide Carriers for Targeted Drug Delivery
Speaker: Mijang Kang
- 3:15-3:45 Oral presentation-7: *Impact of Influenza-induced Asthma*
Topic: Exacerbation (AE) of Asthma
Speaker: Tan Phooi



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Longevity Medicine



VU  Prof. Andrea Maier



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Bioscience Solutions

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Announcing...
Highly Characterized Hepatocytes



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Genetic and
Cell Products



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Singleron Single Cell Platform

END-TO-END SOLUTION



Tissue preservation and dissociation

Preserve thousands up to 72 hours
Automated dissociation of cells
In as little as 30 minutes

Single cell isolation

Collect up to 30,000 cells per run
Reduce noise by sample multi
Process large cells with our
large well chips

Automate cell and RNA capture
Matrix platform to reduce hands-on

Library preparation

Capture whole transcriptomes
- both TCR and BCR sequences
- Targeted detection of immune
genes, micro RNA, and non-poly
A RNA

RNA dynamics

Bioinformatics

Analyse single cell data with our
platform. No coding required
- Automated cell annotation
- Publication-ready graphics
- Compare data across hundreds
of related datasets

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10TH ANNUAL
ABCS MEDICAL SCIENTIFIC SYMPOSIUM
2022

**BUILDING SCIENCE FOUNDATIONS
FOR TRANSLATIONAL MEDICINE**

21 SEP 2022
CONFERENCE DAY
&
22 SEP 2022
CAREER DAY
MD11, CRC
A*STAR, NUS

Plenary Speaker
Prof. Sir Konstantin Novoselov
@konstantin.novoselov

Keynote Speaker
Prof. Sengul Kalkan
@sengul.kalkan

Invited Speakers
Conal Research
Prof. David Vlahopoulos
Healthy Longevity
Prof. Andrew Miller
Infectious Diseases
Dr. Chai-Shan

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Announcement of Winners

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Announcement of winners



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ANNUAL MEETING
ONCOLOGICAL
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Building Science Foundation
for Translational Medicine

21 SEP 2022
CONFERENCE DAY

& 22 SEP 2022
CAREER DAY
@ MD11, CRC
Auditorium, NUS

Plenary Speaker



Prof. Sr Konstantin Novoselov

Graphene Centre, NUS
Imperial College London
UK

Keynote Speaker



Prof. Rongliu Li

Imperial College London
UK

Invited Speakers:

Cancer Research
Prof. David Wishup
Healthy Longevity
Prof. Andrea Moller
Infectious Diseases
Dr. Chris Shum

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21 SEP 2022

CONFERENCE DAY

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@

MD11, CRC
Auditorium, NUS

Plenary Speaker



Prof. Sr Konstantin Novoselov

Moscow Science & Engineering

Real Laborga of Design and Engineering

Research Institute

Keynote Speaker



Prof. Ronglih Uao

Department of Molecular Biology

Yong Loo Lin School of Medicine

Invited Speakers:

Cancer Research

Prof. David Vinhup

Healthy Ageing

Prof. ...

Infectious Disease

Dr. C...

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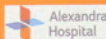
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Prof. Andrea Maier



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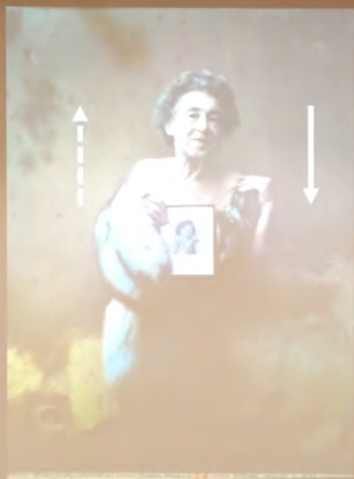
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AVOIDANCE OF
SINGAPORE





Department of Biochemistry
Yong Loo Lin School of Medicine

Narciclasine Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice

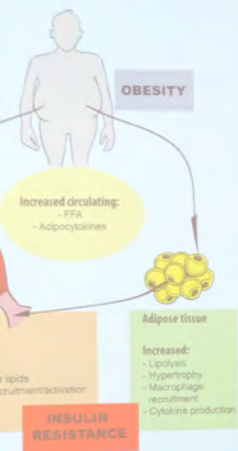
Belinda X. ONG

Supervisor: Dr. Feng XU
Co-supervisor: A/Prof CHEN Ee Sin

Institute of Molecular and Cell Biology (IMCB), A*STAR
Department of Biochemistry, Yong Loo Lin School of Medicine, NUS



Obesity epidemic



3). Regulators of glucose and lipid metabolism in
um implications for obesity and type 2 diabetes.





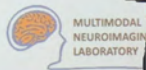
Yong Loo Lin
School of Medicine

Predicting individual brain regional atrophy progression using functional connectome

Yu Xiao

Supervisor: Assoc. Prof. Juan (Helen) Zhou

Multimodal Neuroimaging in Neuropsychiatric Disorders Laboratory
National University of Singapore



ional atrophy connectome

hou

ers Laboratory



MULTIMODAL
NEUROIMAGING
LABORATORY





Session 4

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Session 4 (3:35 - 4:55)

3:35 - 4:10

Scientific Talk: Longevity Medicine: The Path towards Prevention
Prof Andrea Maier

Oon Chiew Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine

Chairperson

A/Prof Raymond Seet
Associate Professor, Department of Medicine, NUS Medicine

Moderator: Caroline Robert

3:10 - 4:25

Oral presentation-8: Nardoxazine Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice

Speaker: Belinda Ong

3:25 - 4:40

Oral presentation-9: Predicting Individual Brain Regional Atrophy Progression and Cognitive Decline Using Functional Connectome

Speaker: Yu Xiaojin

4:40 - 4:55

Oral presentation-10: Plasma Ergothioneine Levels are Associated with Neurodegeneration and Cerebrovascular Disease in Dementia

Speaker: Liuyun



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Session 4

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4 (8:35 - 4:55)

4:10 **Scientific Talk: Longevity Medicine: The Path towards Prevention**
Prof Andrea Maier
Qin China-Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine

Chairperson

A/Prof Raymond Seet

Associate Professor, Department of Medicine, NUS Medicine

Moderator: Caroline Robert

4:25 **Oral presentation-8: Narcicaine Promotes Lipidosis and White Fat Browning in Diet-Induced Obese Mice**

Speaker: Belinda Ong

4:40 **Oral presentation-9: Predicting Individual Brain Regional Atrophy Progression and Cognitive Decline Using Functional Connectome**

Speaker: Yu Xiao

4:55 **Oral presentation-10: Low Plasma Dopamine Levels are Associated with Neurodegeneration and Cognitive Decline in Dementia**

Speaker: Uuyun Wu



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IC **LONZA**



Singapore Science Foundation
Singapore Professional Medicine



3:35 - 4:10 **Scientific Talk: Longevity Medicine: The Path Towards Prevention**
Prof Andrea Maier
Don Chiew Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine
Chairperson
A/Prof Raymond Seet
Associate Professor, Department of Medicine, NUS Medicine
Moderator: Caroline Rubert

4:10 - 4:25 **Oral presentation-8: Niacinamide Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice**
Speaker: Belinda Ding

4:25 - 4:40 **Oral presentation-9: Predicting Individual Brain Regional Atrophy Progression and Cognitive Decline Using Structural Connectome**
Speaker: Yu Xian

4:40 - 4:55 **Oral presentation-10: Low Plasma Vitamin D Levels are Associated with Cellular Senescence and Cognitive Decline in Dementia**
Speaker: Yanyan Wu



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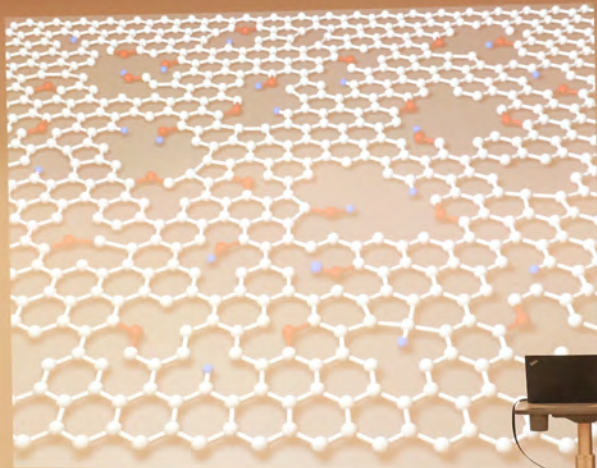


Materials for the Future

K.S. Novoselov



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lectures



...Issues

Progressive Healthcare

Adaptive Intelligent Materials

Artificial Intelligence

Telecommunication

The slide features a grid of six images. The top-left image shows a network of nodes and connections. The top-right image shows a futuristic medical setting with a person in a bed and a robot. The middle-left image shows a blue circular structure with the word 'treatment' above it. The middle-right image shows a robotic hand with the word 'Robotics' below it. The bottom-left image shows a brain with circuitry and the words 'Artificial Intelligence'. The bottom-right image shows a blue, glowing, abstract shape with the word 'Telecommunication' below it. The text 'Adaptive Intelligent Materials' is written vertically in the center of the slide.



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- Marketing Purposes
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- Other non-academic activities

EXIT

Solving World Most Important Issues

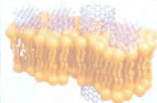
Smart Cities



Progressive Healthcare



Water treatment



Adaptive
Intelligent
Materials

Robotics



Artificial Intelligence



Telecommunication



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