EDDC Experimental Drug Development Centre

ANNUAL REPORT 2024

Celebrating 5 Years
Great Science For Great Medicines

EDDC Experimental Drug Development Centre

Annual Report 2024

CONTENTS


EDDC
Experimental
Drug Development
Centre
Great Science
for
Great Medicines

ABOUT US

ABOUT US

EDDC is Singapore's national platform for drug discovery and development, hosted by the Agency for Science, Technology and Research (A*STAR). We champion the translation of great science into great medicines to galvanise the growth of Singapore's biopharma ecosystem.

A National Centre with Dual Missions

Bridge the drug development gap in Singapore

- Engage local entities to translate biomedical research projects into drugs for commercialisation
- Bridge the drug development gap with expert know-how and innovative drug platforms

Attract research investments and catalyse the biopharma ecosystem

- Develop a pipeline of high-quality therapeutic assets that attract and sustain private investments into Singapore
- Encourage the spin-off of innovative biotech companies to enhance Singapore's biotech ecosystem

Chief Executive Officer
Damian O'CONNELL

A LETTER FROM OUR CEO

Dear Colleagues and Friends of EDDC,

As we celebrate five years since the inception of EDDC, I am filled with immense pride. Serving as EDDC's CEO has given me the privilege of collaborating with remarkable individuals and witnessing the significant impact of our work on the drug discovery landscape in Singapore. Our success is anchored in three core pillars: ***Projects, Partners, and People***.

Projects and Partners: Driving Innovation in Drug Discovery

Our journey over the past five years has been defined by our ability to translate cutting-edge science into tangible healthcare solutions. During the COVID-19 pandemic, we rapidly developed one of the first COVID-19 detection kits in collaboration with A*STAR's Bioinformatics Institute, the Diagnostics Development Hub, and Tan Tock Seng Hospital. We also designed novel small-molecule broad-spectrum coronavirus inhibitors tested at NUS, and worked with DSO National Laboratories, NUS, and Hummingbird Biosciences to swiftly advance neutralising antibodies to the clinic. These efforts highlighted our critical role in enabling Singapore to respond to global health crises. Our collaborations have also led to successful out licensing deals with partners such as Everest Medicines, Boehringer Ingelheim, and Neuro-Horizon Pharma, underscoring our capabilities.

This year, we have made remarkable progress with two key pipeline projects: EBC-129 and ETC-159. EBC-129, Singapore's first antibody-drug conjugate co-developed with the National Cancer Centre Singapore and BII, continues to advance through Phase 1B. We are encouraged by the trial progress and will keep working on its development with our partners. ETC-159, a small-molecule cancer drug co-developed with Duke-NUS, has completed Phase 1B trials, showing promising outcomes for patients with platinum-resistant ovarian cancer. This success has led to an investigator-initiated trial, led by A/Prof David Tan, Senior Consultant, Department of Haematology-Oncology National University Cancer Institute, Singapore (NCIS), and Principal Investigator at the Cancer Science Institute of Singapore, NUS, which began in December 2024.

Our work as a national platform is made possible by the many partners who collaborate with us. We are fortunate to work alongside the best minds in the industry—from local biotech startups and academic researchers to clinicians and global biopharmaceutical companies. These collaborations have not only accelerated our projects but also positioned Singapore as a global hub for biopharmaceutical innovation.

People: The Core of Our Success

None of these achievements would be possible without the dedication, expertise, and passion of our people. The multidisciplinary teams working on our projects have been instrumental to our progress; it is their tireless efforts that drive our success and will continue to propel us forward. I want to extend a heartfelt thank you to everyone who has been part of EDDC, past and present.

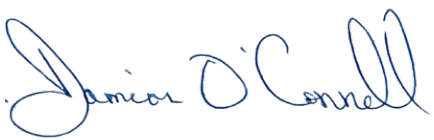
Building for the Future

In the past two years, we have embraced computational and AI approaches to enhance our wet-lab efforts in discovering novel targets and designing small and large molecules. Our ongoing project to identify novel tumour surface antigens (TSAs) through "TRIDENT" (TSA Reveal towards Identification and Evaluation of Novel Targets) has generated multiple new projects, the most advanced of which is at the stage of antibody hit optimisation.

Looking ahead to 2025 and beyond, we will continue to lead in drug discovery and development, focusing on projects that address significant unmet needs in the region. Our partnerships will remain key to this vision, and we will continue to invest in our people, ensuring that EDDC remains at the forefront of translating Great Science into Great Medicines.

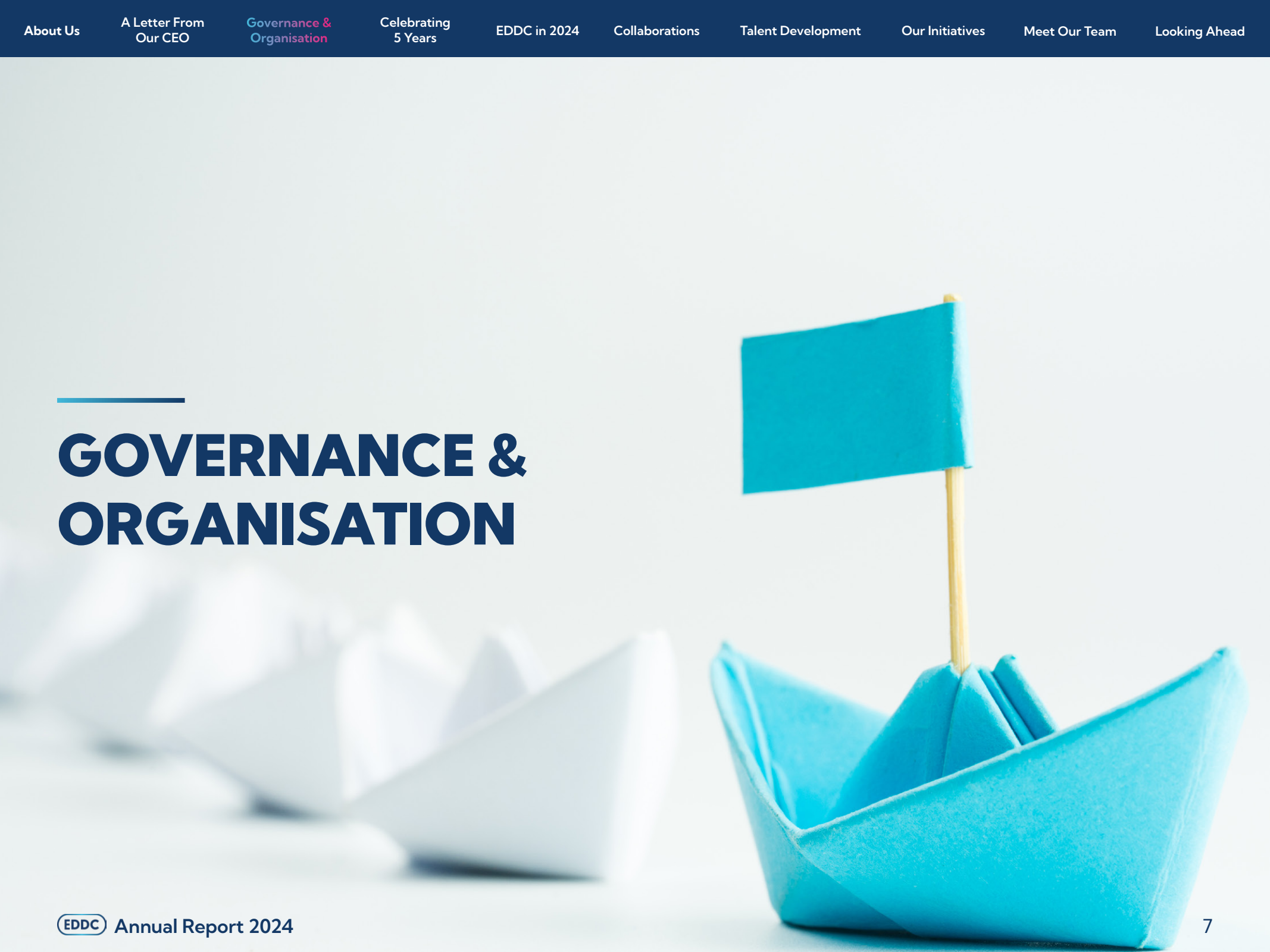
Together, let us push boundaries and create life-changing therapies for patients in Singapore and beyond.

Prof Damian O'Connell
Chief Executive Officer



> "We will continue to invest in our people, ensuring that EDDC remains at the forefront of translating Great Science into Great Medicines.

GOVERNANCE & ORGANISATION



5 YEARS OF GREAT PROGRESS

Prof William CHIN
Co-Chairman

Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School
Former SVP Discovery Research, Eli Lilly

As EDDC marks its fifth anniversary, I am struck by the strides made by the team. EDDC has proven its strength as a national centre in developing innovative therapies directly, and catalysing others indirectly, that can address critical unmet needs in diseases ranging from COVID to cancers to Singapore and the world, and the team continues to bring pioneering treatments closer to patients.

I am also excited by EDDC's vision to embrace the potential of new computational approaches and AI, which promise to further accelerate EDDC's mission. These advances, backed by a dedicated team and strong partnerships, signal a bright future for drug discovery in Singapore and beyond.

DEEPENING IMPACT ACROSS THE ECOSYSTEM

Prof Benjamin SEET
Co-Chairman

Group Chief Research Officer
National Healthcare Group

EDDC has evolved with the changing healthcare and biomedical sciences landscape in Singapore. Reflecting on its achievements over the past five years, it has not only grown in relevance, but also deepened its contributions and impact across the ecosystem.

It gives me a great sense of achievement to be part of this journey.

OUR GOVERNING BOARD

as of 31 December 2024

Co-Chairs

Prof William CHIN

Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School

Former SVP Discovery Research, Eli Lilly

Prof Benjamin SEET

Group Chief Research Officer National Healthcare Group

We would like to thank Mr BEH Kian Teik and Dr YEO Yee Chia for having served as our Governing Board members.

Members

Mr John LIM

Chief Executive Officer, National Research Foundation (NRF)

Prof TAN Sze Wee

*Assistant Chief Executive, Biomedical Research Council (BMRC), A*STAR*

Ms Irene CHEONG

*Assistant Chief Executive, Innovation & Enterprise (I&E), A*STAR*

A/Prof Danny SOON

Chief Executive Officer, Consortium for Clinical Research & Innovation Singapore (CRIS)

Ms GOH Wan Yee

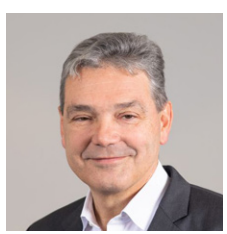
Senior Vice President and Head, Healthcare and Wellness, Economic Development Board (EDB)

Dr Clarice CHEN

Director, Healthcare & Biomedical, Enterprise Singapore (ESG)

Prof TAN Say Beng

Executive Director, National Medical Research Council (NMRC)



Dr Andreas WALLNÖFER

Managing Director Life Sciences Consulting Ltd, Board director, Executive Advisor and Entrepreneur, Chair of EDDC Portfolio Review Committee

Prof Damian O'CONNELL

Chief Executive Officer, EDDC (ex-officio)

OUR LEADERSHIP TEAM

as of 31 December 2024

Damian O'CONNELL
Chief Executive Officer

ANG Hwee Ching
Deputy CEO

HAO Weidong
Chief Scientific Officer

HO Soo Yei
Chief Of Staff

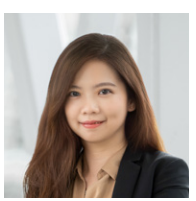
Kantharaj ETHIRAJULU
Asset Development Leader

Veronica DIERMAYR
Asset Development Leader

Venkateshan SRIRANGAM
Medical Director

Christophe BODENREIDER
Director, External Innovation

Hannes HENTZE
Associate Director, Translational Sciences



Snow LEE
Associate Director, Discovery Biology

Hsin-Ee CHIA
Associate Director, BD & Alliance Mgmt.

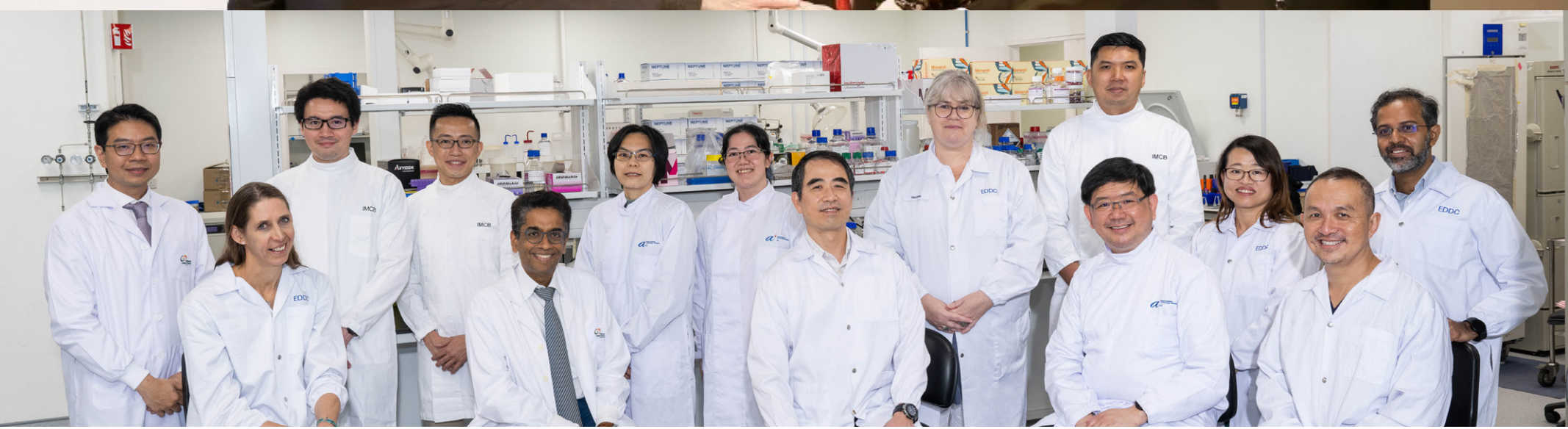
Hsiang Ling TEO
Associate Director, EARO

Klement FOO
Head, Discovery Chemistry

Kah Fei WAN
Head, Antibody Technology

Kunal SHAH
Head, Project Management

CELEBRATING 5 YEARS



OF DRUG DISCOVERY AND DEVELOPMENT

2019–2024

Defining Moments in our Drug Discovery and Development Journey so far

2019

LAUNCH OF EDDC

LAUNCH OF EARO

EARO
Experimental Drug Development Centre
Academic Research Organization

2020

Ligature Therapeutics spins out

LAUNCH OF TTC

TARGET TRANSLATION CONSORTIUM

Out-licensing of Small Molecule SARS Coronavirus Protease Inhibitors to Everest Medicines

2021

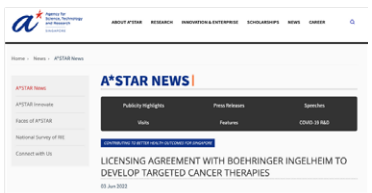
ETC-159 ENTERS PHASE 1B CLINICAL DEVELOPMENT

EDDC discovers small molecule inhibitors for COVID-19 and other coronavirus infections

2022

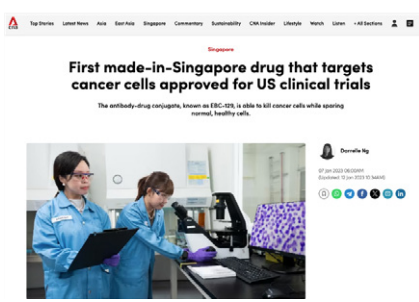
Out-licensing of Small Molecule ATP Synthase inhibitors to Neuro Horizon Pharma

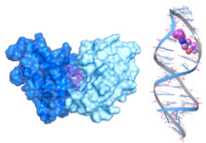
Panel of innovative, tumour-specific antibodies out-licensed to Boehringer Ingelheim



2023

EBC-129 ENTERS CLINICAL DEVELOPMENT





Development of small molecule degradation and RNA targeting approaches

2024

EDDC SYMPOSIUM COMMEMORATES OUR 5TH ANNIVERSARY

EDDC IN 2024

KEY ACHIEVEMENTS IN CY2024

as of 31 December 2024

Bridging the drug development gap

Development of People

12 Fellows in-training
Under the NRF Innovation & Enterprise Fellowship Programme

407 Record attendance at our Annual Drug Discovery & Development Symposium

5 Workshops & seminars conducted

12 STDR[1] Pre-Pilot stream 1 teams
trained on the development of single assets

Development of Projects and Knowledge

4 Proposals Awarded through STDR*
and mentored by EDDC

11 Grant-funded Collaborations
Including ETC-159 Investigator-Initiated Trial

9 Scientific Publications

2 World's Top 2% Scientists 2024 by Stanford University

Advancing Projects

EBC-129 Phase 1 Trial

- 1A Dose Escalation: Completed in 12 months
- 1B Dose Expansion: Completed recruitment for pancreatic adenocarcinoma (PDAC) arm
- 3 Partial Responses (PR) in PDAC, 2 PRs in gastric-oesopheageal carcinoma

3 Lead Compounds Declared

Entered in 2024

6 Pre-portfolio projects

4 Portfolio projects

2 Platforms[2]

2 Technology Disclosures Filed

1 Priority Patent Filed

Engaging & Enabling Industry

8 Local Biotech & Pharma Engaged
100% Client Satisfaction

5 Industry Collaborations
Committed Industry Research Spending for new collaborations in FY24 exceeds $650K[3]

Ongoing BD&L Engagements with 130 companies including

12 of the top 20[4] Pharma companies

28 Venture funds

78 Biotechs (including 45 at C-suite level)

[1] *Singapore Therapeutics Development Review*
[2] *Platform: proprietary technology, method or approach that enables the discovery and development of therapeutics*
[3] *Includes only R&D spending in Singapore committed by companies*
[4] *Based on total sales revenue in 2024*

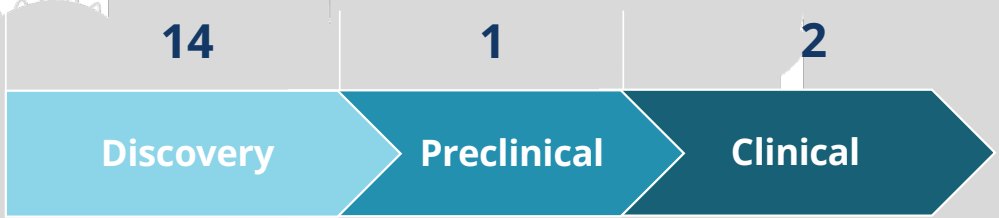
EDDC'S PIPELINE

as of 31 December 2024

17 Ongoing Pipeline Projects

9 Small Molecules
8 Large Molecules

11 in Oncology
2 in Infectious Diseases
1 in Ophthalmology
3 in Autoimmune Diseases



16 Public Collaborations

5 Industry Collaborations

Addressing diseases relevant to Singapore & Asia

- *Targeting **4 of the top 10** cancers in Singapore*
- *Addressing conditions with unmet needs and/or in aging populations e.g. glaucoma, fibrotic diseases*

11 ongoing collaborative grant-funded projects

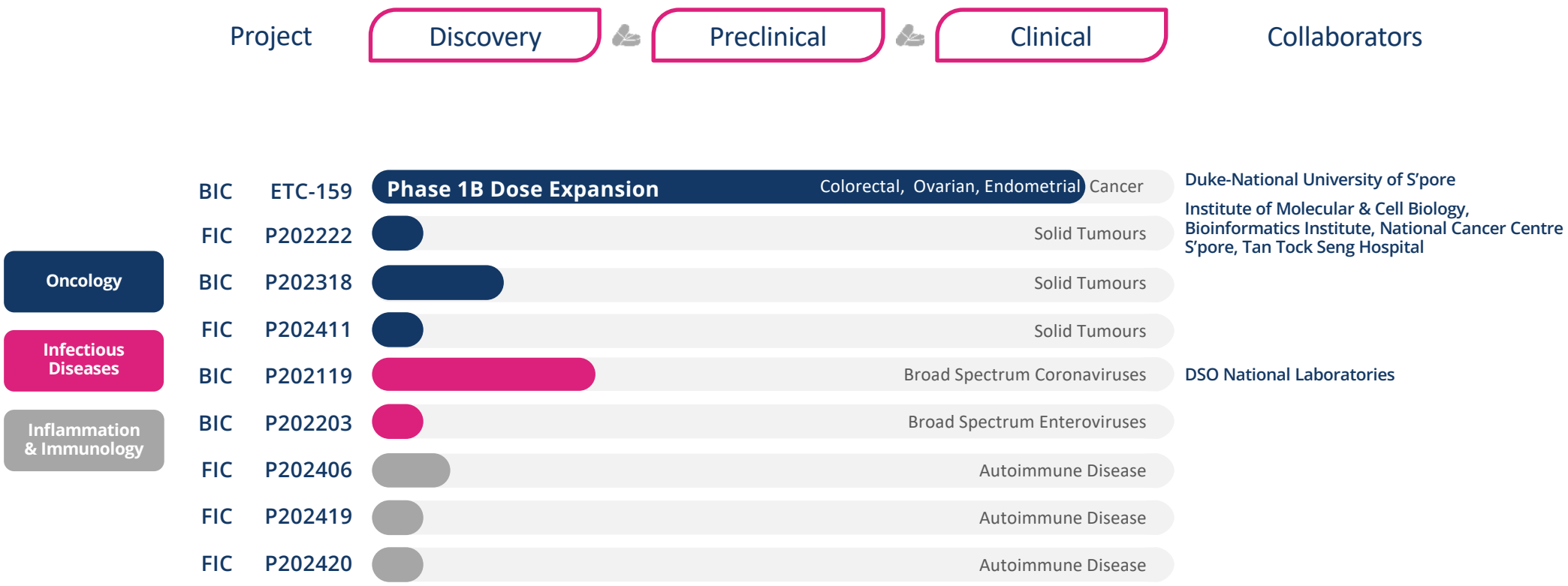
Contributing drug development expertise

Global alliances

- *BioCurate*
- *Cancer Research Horizons*
- *University of British Columbia*

SMALL MOLECULE PIPELINE

as of 31 December 2024

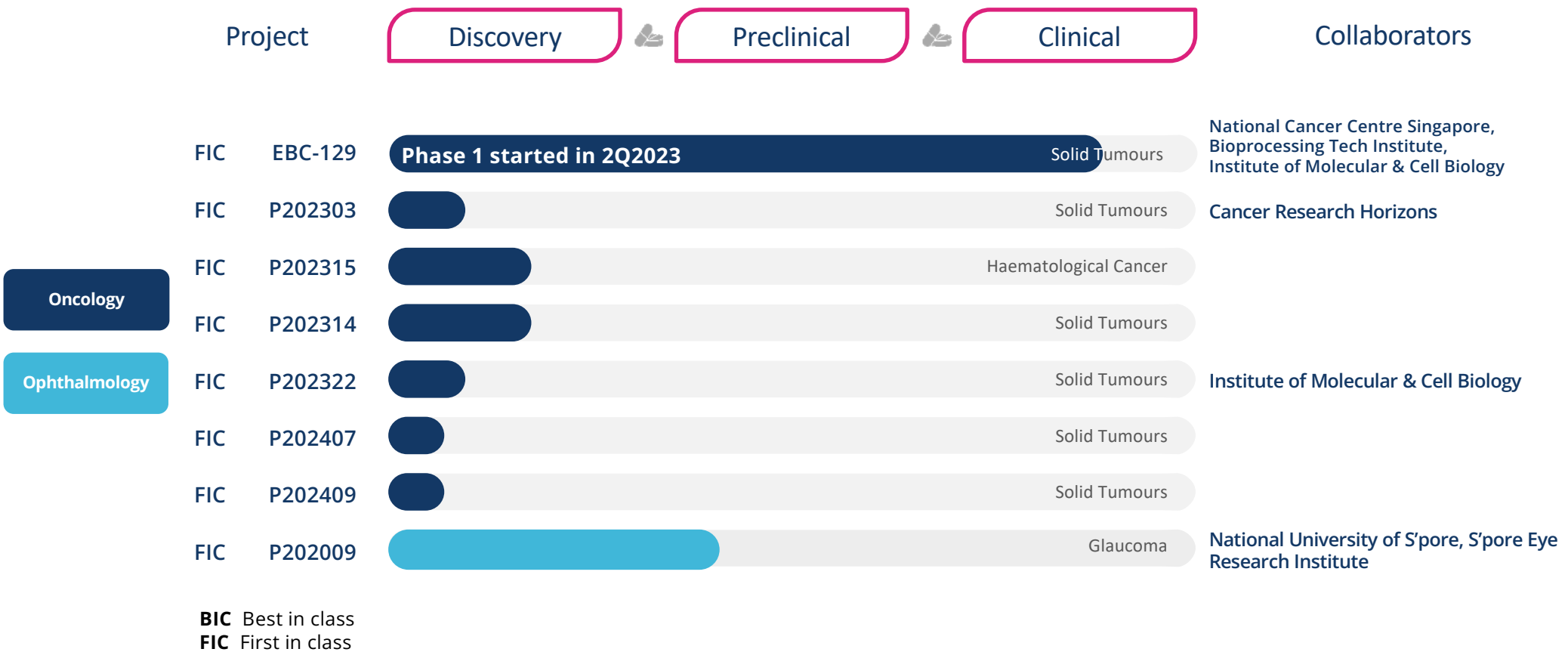


BIC Best in class
FIC First in class

**Does not include projects driven by partners*

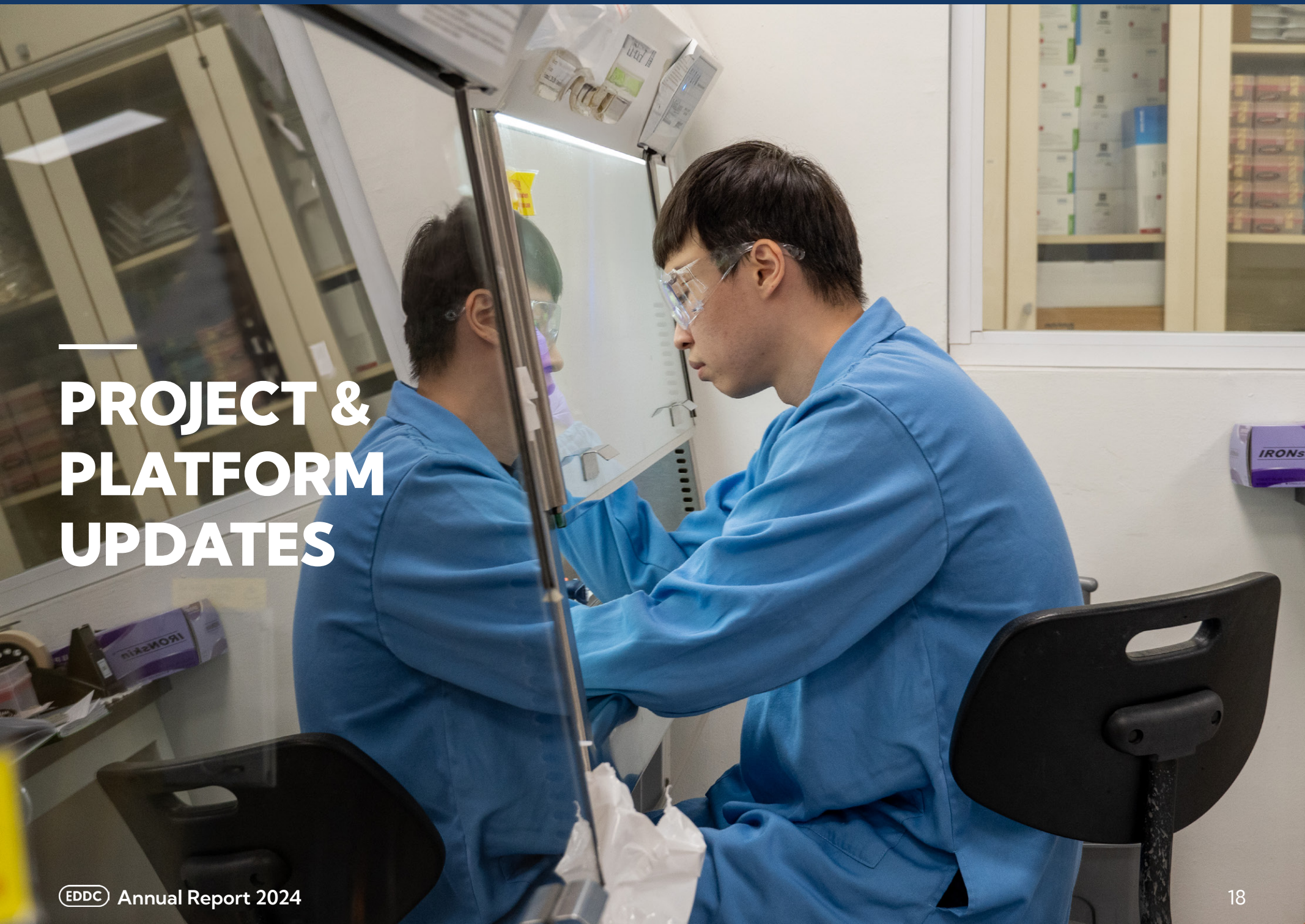
LARGE MOLECULE PIPELINE

as of 31 December 2024



BIC Best in class
FIC First in class

**Does not include projects driven by partners*



PROJECT & PLATFORM UPDATES

EBC-129 PHASE 1B DOSE EXPANSION AND ENROLMENT UPDATES

EBC-129 is the first made-in-Singapore antibody-drug conjugate (ADC) to enter clinical development. This ADC and the immunohistochemistry (IHC)-based test used for patient selection were developed collaboratively by National Cancer Centre Singapore (NCCS), A*STAR's Bioprocessing Technology Institute (BTI), the Institute for Molecular and Cell Biology (IMCB), as well as EDDC.

The US FDA and Singapore HSA approved the initiation of first-in-human studies for EBC-129 in December 2022 and January 2023, respectively. The first patient was dosed in the Phase 1 dose escalation study at NCCS in May 2023. EBC-129 is also being tested at the National University Cancer Institute, Singapore (NCIS), at MD Anderson Cancer Center and the University of Colorado Cancer Center in the United States.

The enrolment of 18 patients for the dose escalation study was completed in 12 months, at a pace comparable to industry standards. EBC-129 was shown to be well-tolerated by patients with three partial responses observed, two in oesophageal cancer and one in pancreatic cancer. Results from this dose escalation study were presented at the European Society for Medical Oncology (ESMO) Congress in September 2024.

"It is impressive that EDDC was able to complete the dose escalation study and initiate the dose expansion study for EBC-129 in 12 months, i.e. at industry standards. EDDC does an exceptional job balancing the role as national platform while aiming to operate similarly as a commercial biotech. This is a testament to the dedication, expertise, and efficiency of the EDDC team and I want to extend my congratulations for this outstanding accomplishment. I look forward to seeing the results of EDDC's continued efforts to progress its portfolio projects and its commercial sharpness."

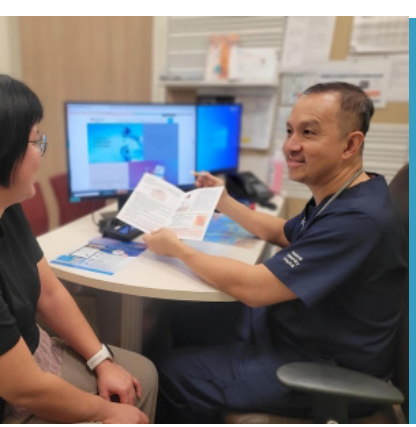
Prof Andreas WALLNÖFER
Managing Director of Life Sciences Consulting Ltd and Chair of EDDC's Portfolio Review Committee

(Continued from previous page)

EBC-129 PHASE 1B DOSE EXPANSION AND ENROLMENT UPDATES

The Phase 1 trial has now progressed into a three-cohort dose expansion study, with the first patient for this part of the study dosed in May 2024. As of September 2024, enrolment of the pancreatic ductal adenocarcinoma (PDAC) cohort has been completed (15 patients), while enrolment in cohorts with gastroesophageal adenocarcinomas and the cohort with other IHC positive solid tumours is still ongoing. Two more partial responses have already been seen in the early stages of this dose expansion in PDAC patients with more patients trending towards a response and majority of patients showing disease control.

Separately, in collaboration with EDDC, Dr Joe Yeong from IMCB has initiated the development of a next generation AI-based methodology to potentially replace the IHC assay for patient selection.



"I am excited to delve deeper into EBC-129's promise as a therapeutic option for pancreatic and gastroesophageal cancers through the dose expansion study. The demand for safe and effective treatments in these cancer types remains substantial, and we are dedicated to addressing these unmet needs."

Dr YONG Wei Peng
Senior Consultant, Department of Haematology-Oncology, NCIS

ETC-159 COMPLETED PHASE 1B TRIALS

ETC-159, a small molecule Wnt-porcupine inhibitor developed in collaboration with Duke-NUS, has completed Phase 1B trials and showed promising outcomes for patients with platinum-resistant ovarian cancer (PROC).

One such patient, Iren, has shared her journey and how she found renewed life through the ETC-159 clinical trial. As we explore her story of resilience, we also hear from various individuals who contributed to making the drug possible. See how their tireless work on a small but powerful drug is transforming lives and offering new hope to patients like Iren who face limited options.

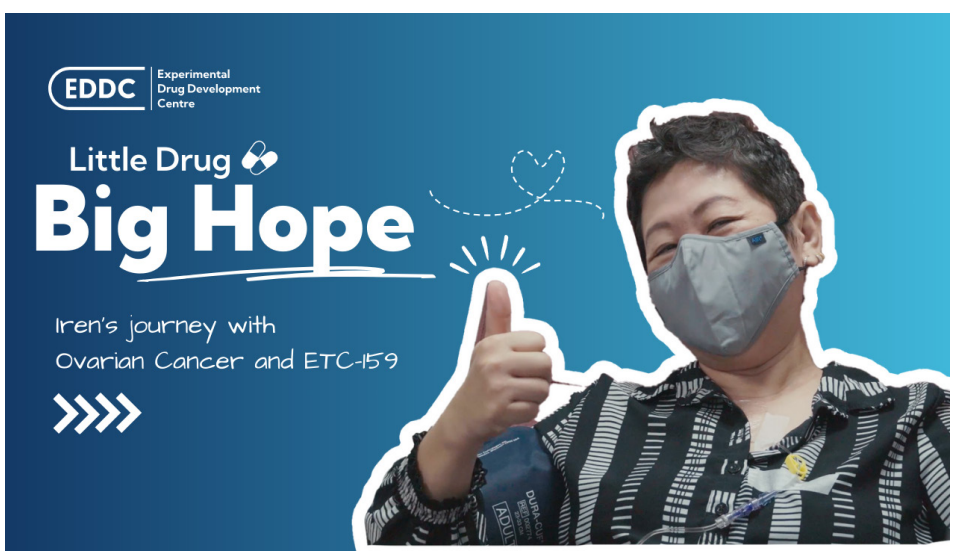
EDDC will continue to support an investigator-initiated trial led by A/Prof David Tan, Senior Consultant, Department of Haematology-Oncology, National University Cancer Institute, Singapore (NCIS), and Principal Investigator at the Cancer Science Institute of Singapore, NUS, focused on PROC patients.

Please refer to the clinical trials page for more information.

"To see her do well, to see her respond, to see her demeanor improve every time she gets a positive result from a CT scan is highly rewarding as a physician. It is also a sense that there could be a new approach to treating this cancer that is really exciting, as a scientist and as an investigator."

A/Prof David TAN
(Quote taken from "Little Drug, Big Hope")

The EDDC Development and Biomarker Team meeting Iren and her husband Kevin. ***(From left to right)****: Veronica Diermayr, Claudia Koh, Iren Lau, Kevin, Sylvia Gan, Nurul Nazihah Rozaini*



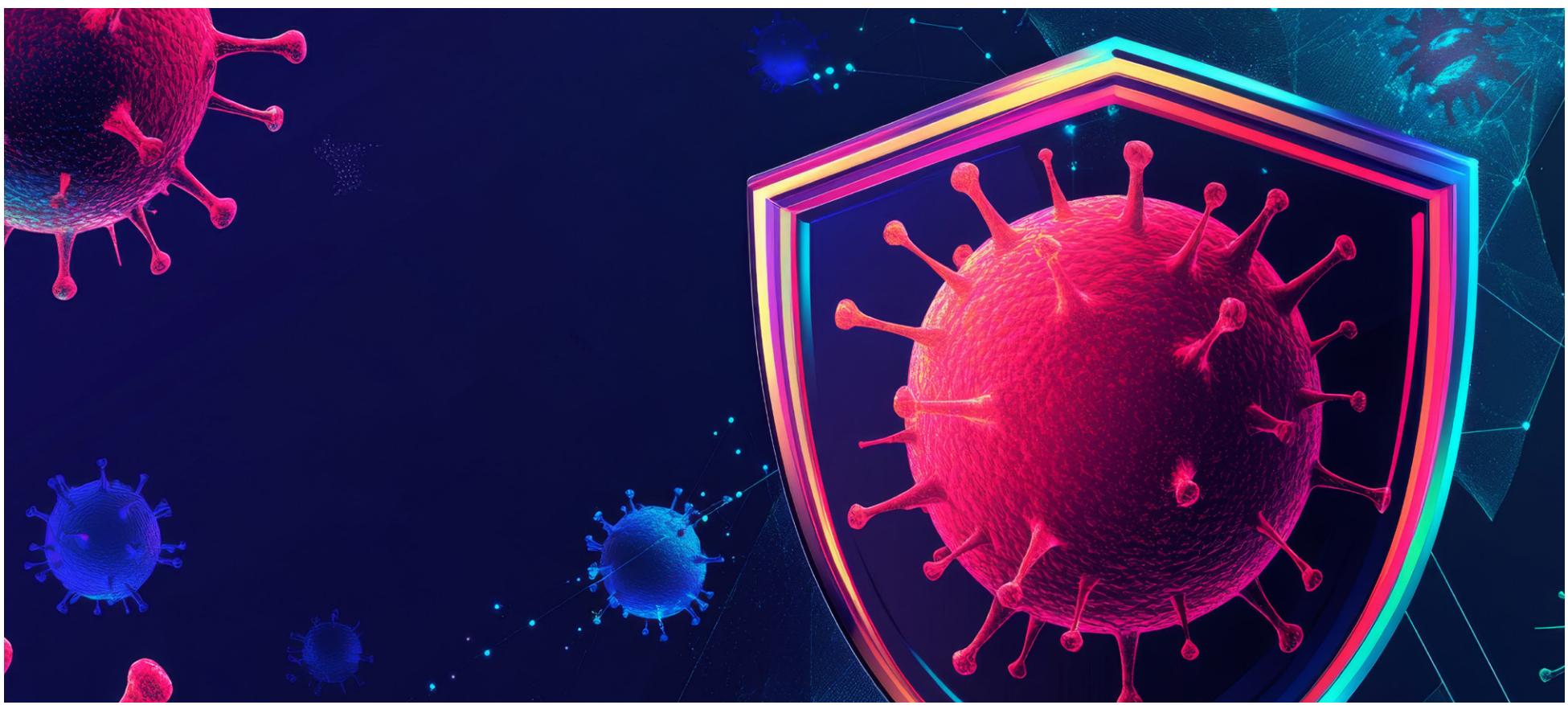
Click the thumbnail above to see our video feature of Iren titled "Little Drug, Big Hope"!

PAN-ENTEROVIRUS INHIBITOR

Enteroviruses (EVs) are known to cause diseases such as hand, foot, and mouth disease (HFMD), respiratory diseases, encephalitis, and myocarditis. Although most EV infections are mild, symptoms can be severe in very young and immunodeficient individuals.

EDDC has developed a series of small molecule inhibitors of the enterovirus' 3C protease (3Cpro); the potential Lead candidate demonstrates potent broad-spectrum antiviral activity on various EV species with sufficient in-vivo exposure to enable efficacy studies. The series also shows potential for further optimisation to deliver a best-in-class pan-EV 3Cpro inhibitor.

EDDC has been utilising the preclinical services programme offered by the US National Institute of Allergy and Infectious Diseases (NIAID) to profile the current series.



DISCOVERY OF NOVEL TUMOUR SURFACE ANTIGENS

TRIDENT (TSA Reveal towards Identification and Evaluation of Novel Targets) is EDDC's proprietary multi-modal bioinformatics discovery workflow designed for tumour surface antigen (TSA) discovery. Guided by the deep domain expertise of scientists across cross-functional teams, TRIDENT curates and integrates a diverse collection of data sources to generate in silico hypotheses that enable systematic, data-driven target identification and selection.

Ongoing developments include continuous expansion of the *TRIDENT* knowledge base, enhancements to the platform with machine learning and predictive modelling, and incorporation of wet-lab validation data back into the knowledge base and workflow. In 2024, TRIDENT has resulted in the identification of over 20 putative TSAs. While most of these are undergoing validation, two validated TSAs have entered antibody hit generation, and the most advanced project is at hit-to-lead stage.

NOVEL PAYLOAD WITH AN ENHANCED SAFETY PROFILE

EDDC has invented a synthetic molecule that is non-cytotoxic on its own and is shown to be safe at very high dose levels in mice. However, when chemically conjugated to an antibody to yield an Antibody-Drug Conjugate (ADC), the complex efficiently seeks out specific proteins found on the surfaces of cancerous cells. After binding and internalisation, it releases the molecule, killing the cancer cell. In vivo studies revealed equivalent efficacy to a marketed ADC comparator in an in vivo mouse lymphoma model.

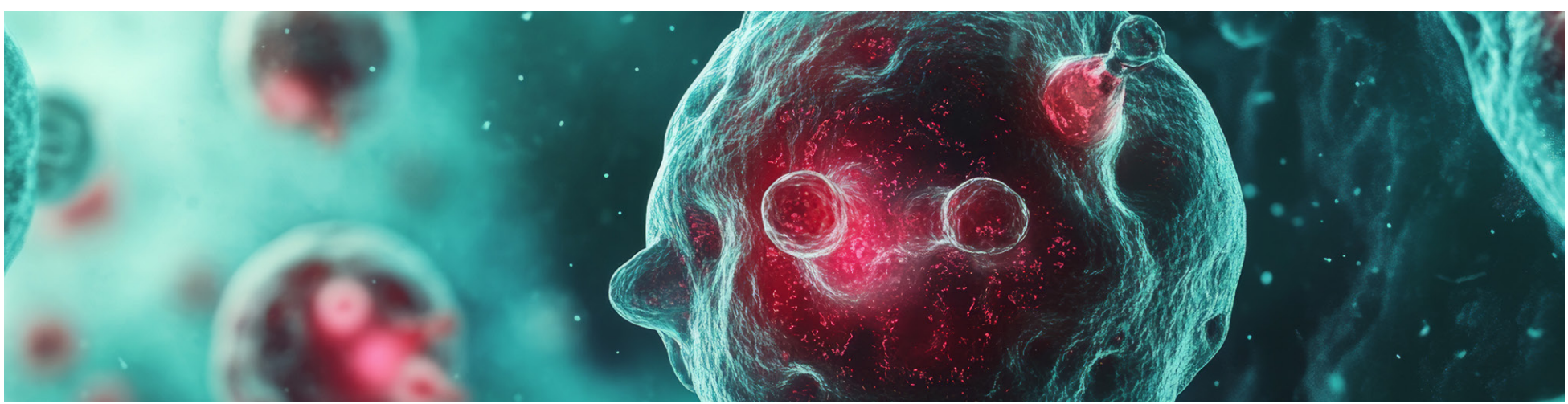
Currently, the compound is undergoing further safety testing. If successful, this molecule can potentially be conjugated to a range of antibodies for the treatment of various blood cancers.

MONOVALENT DEGRADERS FOR HIGH VALUE TARGETS

This ***Intrinsic Degrader*** platform is focused on identifying molecules that can induce degradation of a target protein. The aim of addressing proteins that are deemed 'undruggable' using conventional inhibition or to identify differentiated assets for 'hot' targets.

In 2024, two pilot programmes were added to our portfolio: one oncology target with strong human-relevant data but traditionally considered 'undruggable,' and one I&I target involved in a clinically validated pathway but lacking a reported biochemical function.

The platform team has also collaborated closely with EDDC's Business Development (BD) team, to identify targets of strong interest to Pharma. Based on discussions with companies, two new programmes were initiated and are currently in the hit-finding stage.



Our EVENTS


EDDC
Experimental
Drug Development
Centre
EDDC Annual Drug Discovery Symposium 2024
Drug Discovery: Past, Present, Future
Fireside chat
Prof Damian O'Connell
Prof Alex Matter
Dr Andreas Wallnöfer
Prof William Chin
Prof Jackie Hunter

SYMPOSIUM 2024

On 19 July, EDDC held our Annual Drug Discovery Symposium titled ***Drug Discovery: Past, Present and Future***. We invited four esteemed speakers, Professor William Chin, Professor Jackie Hunter, Professor Alex Matter, and Dr Andreas Wallnoefer, to share their experiences and insights on how drug discovery has transformed and will be transforming through past and future years. The event drew more than 400 attendees from A*STAR research institutes, universities, hospitals, VCs, local biotechs, MNCs and research/service providers and presented networking opportunities for public-private attendees. The recordings are made available on our website.

INTELLECTUAL PROPERTY (IP) AND DRUG DEVELOPMENT SEMINARS

EDDC organised four webinars in 2024. Three webinars were co-organised with IP firms Mewburn Ellis and Morgan Lewis & Bockius covering topics like the importance of considering prior art and protecting future patents, developing an integrated IP strategy for platform technologies and their products as well as viewing IP strategy through an investor's lens. The last webinar was by EDDC's strategic alliance partner, Cancer Research Horizons, on translating cancer research into cancer therapeutics.

HOSTING INDUSTRY VISITORS AND FUTURE INNOVATORS

In 2024, EDDC opened its doors to host numerous groups of visitors, ranging from industry leaders and academic collaborators, to government representatives and international delegations. These visits provided an opportunity to showcase our platforms, share insights into our ongoing projects, and foster meaningful discussions on future collaborations.

Industry and International

COLLABORATIONS

ACCESSING TECHNOLOGIES TO ACCELERATE DRUG DEVELOPMENT

CHEMLEX

In February 2024, EDDC entered into a collaboration with ***ChemLex***, a technology company focused on automation and AI-driven chemical synthesis. Through this partnership, EDDC is leveraging ChemLex's computer-aided chemistry synthesis planning algorithms to streamline the compound synthesis of one of EDDC's molecules. The parties are in further discussions to expand this partnership through bespoke compound library expansion and a joint AI-automation lab, further enhancing EDDC's capabilities in small molecule drug discovery.

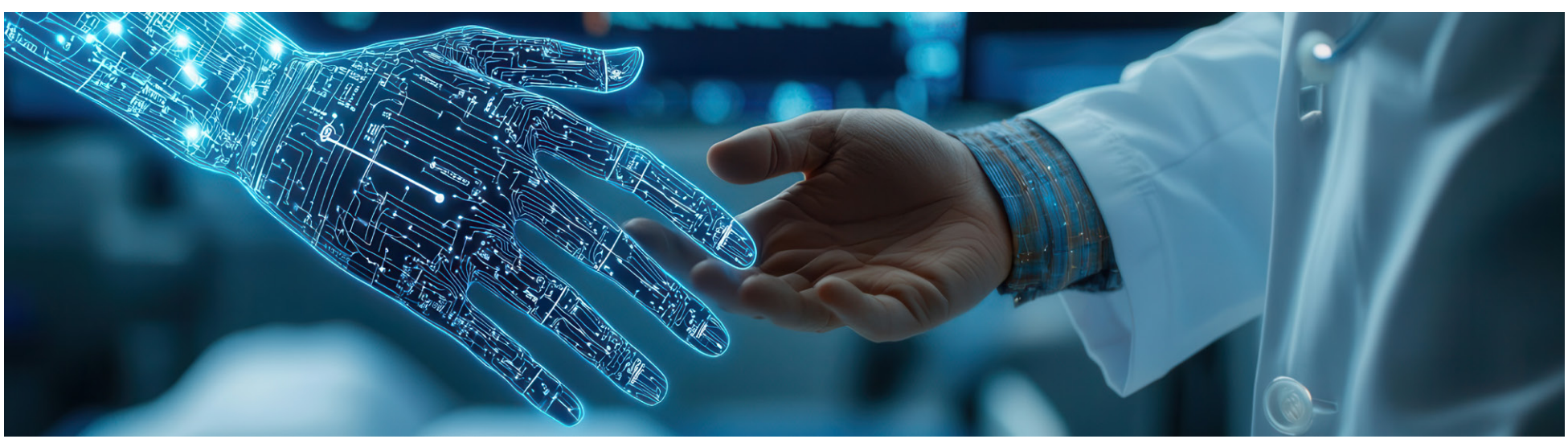
PARTEX

In June 2024, EDDC partnered with ***Partex***, a leading provider of AI-driven solutions in the pharmaceutical industry, to bring forward an innovative approach for early drug discovery and development. In this partnership, Partex will initially use its Asset Exchange technology platform to identify novel indications for EDDC's portfolio assets. The parties intend to broaden this partnership to combine AI technology, scientific expertise and wet lab validations to accelerate the progress of new drug discovery programmes. See the ***full Press Release here.***

DE NOVO ANTIBODY DESIGN

In October 2024, EDDC entered a shared risk-shared reward partnership with two US-based biotechnology companies to employ AI-driven de novo antibody design approaches to develop antibodies against a target identified by EDDC.

This partnership combines the proprietary computational antibody design capabilities of one company with the antibody synthesis and screening approaches of the other, as well as EDDC's high throughput antibody development platform.



SUPPORTING COMPANIES IN SINGAPORE

AUM BIOSCIENCES

EDDC entered a collaboration with ***AUM Biosciences ("AUM")*** in May 2024 to evaluate patient samples from AUM's ongoing Phase 2 clinical trial for the MNK inhibitor AUM001 (previously ETC-206), which was licensed from EDDC in 2018. In this study, EDDC's Biomarker Development team is supporting AUM in conducting biomarker studies aimed at demonstrating the pharmacodynamic (PD) effect of AUM001, by showing inhibition of phospho-eIF4E in peripheral blood mononuclear cells from patients treated with different doses of AUM001.

COLLABORATION WITH A CONSUMER CARE COMPANY

EDDC has been partnering with a consumer care MNC to apply our capabilities in high throughput phenomics and 'cell painting' techniques. The partnership aims to develop functional assays and high throughput compound screens to identify active ingredients for use in skin care. This partnership was expanded in 2024 to include multi-party collaborations with A*STAR Skin Research Labs (A*SRL).

ACADEMIC COLLABORATIONS

IDENTIFYING TARGETS AND SMALL MOLECULE APPROACHES TO TARGET RNA

EDDC is collaborating with A*STAR's GIS, BII, and IMCB, as well as Duke-NUS, Cancer Science Institute of NUS and NTU, under ***DRAGON (Drugging RNA: Our Goal for Oncology)***, funded through the IAF-PP (Industry Alignment Fund - Pre-Positioning) Programme and led by Dr Wan Yue at GIS. RNA-targeting small molecules therapeutics is an emerging field with no FDA-approved assets for cancer currently. This programme aims to comprehensively characterise RNA structures as druggable disease targets in gastrointestinal cancers, with the goal of building an end-to-end platform for novel RNA targeting and drug discovery.

Beyond cancer, EDDC collaborated with IMCB and GIS in 2024 to drive advancements in disease-relevant in vitro models for neurodegenerative diseases, develop innovative validation assays for the RNA degradation platform, and identify small molecules targeting RNA in infectious diseases.

COLLABORATION TO VALIDATE A NOVEL GASTRIC CANCER TARGET

EDDC is collaborating with A*STAR's IMCB to validate the utility of a novel membrane protein as a therapeutic target in gastric cancer subtypes with high unmet need. For this project, EDDC will generate antibodies which IMCB will characterise in *in vitro* and *in vivo* disease models, to determine if blocking the function of the target can result in sufficient reduction in cancer cell viability and proliferation.

COLLABORATION TO DISCOVER NOVEL DRUG TARGETS FOR AUTOIMMUNE DISEASES

EDDC entered into a collaboration with Tan Tock Seng Hospital (TTSH) and A*STAR's GIS and SIgN in June 2024. In this collaboration, EDDC will develop a screening platform for the discovery of putative drug targets that can affect the stability and functionality of regulatory T-cells (Treg) which play a key role in autoimmune diseases. This collaboration leverages the GIS's single cell omics expertise, SIgN's know-how in Treg cell biology and the clinical expertise of TTSH.

BII: Bioinformatics Institute | FDA: Food and Drug Administration | GIS: Genome Institute of Singapore | IMCB: Institute of Molecular and Cell Biology | NTU: Nanyang Technological University NUS: National University of Singapore | SIgN: Singapore Immunology Network

ACADEMIC COLLABORATIONS

PROVIDING EXPERTISE IN PEPTIDE DRUG DESIGN AND DEVELOPMENT

EDDC's Peptide Chemistry team is collaborating with A*STAR's Singapore Institute of Food and Biotechnology Innovation (SIFBI) and Nanyang Technological University (NTU) to design peptides and peptide-based molecules with therapeutic applications and antibody diagnostics respectively.

With years of experience designing and developing peptide and peptide-based therapeutics, our peptide chemists have added tremendous value to scientists in the community interested in this modality.

COLLABORATION TO IDENTIFY NOVEL TARGETS AND ANTIBODY BINDERS FOR IDIOPATHIC PULMONARY FIBROSIS

In May 2024, EDDC and A*STAR's Bioprocessing Technology Institute (BTI) entered a collaboration with the Hannover Medical School to identify novel extracellular targets on the surface of cells implicated in the development of fibrosis in the lung. Any targets identified will be further validated. Antibodies generated against these targets will be further characterised, and tested for their ability to be developed as therapeutic agents.

STATEMENT OF COOPERATION WITH UNIVERSITY OF BRITISH COLUMBIA (UBC)

In June 2024, EDDC signed a Statement of Cooperation with the University of British Columbia (UBC)'s Faculty of Medicine, a leading research institute in Canada. The collaboration will bring together the Faculty of Medicine's world-class research and capabilities in areas like surface proteomics, RNA biology, AI and cryoEM with EDDC's integrated small and large molecule drug discovery and development capabilities.

GRANTS TO ADVANCE DRUG DEVELOPMENT

MINISTRY OF HEALTH'S PREPARE GRANT

EDDC received a grant in July 2024 via a project supported by the Singapore Ministry of Health (MOH)'s National Medical Research Council (NMRC) through the Programme for Research in Epidemic Preparedness and REsponse (PREPARE), under its Vaccines and Therapeutics Commissioned Study (PREPARE-CS1-2024-012). This has advanced the assessment of 3CL protease inhibitors EDDC had developed for broad-spectrum activity to respond to future pandemics caused by coronaviruses.

PREPARE is a national programme set up by the MOH to support and strengthen Singapore's key research capabilities, translational platforms and expertise to develop tools, methods and products that can be tapped on to detect, respond to and contain future infectious disease threats.

BEACON® PLATFORM GRANT PROGRAMME FOR ANTIBODY DISCOVERY

EDDC received a grant for the first ever Beacon® Platform Grant Programme for Antibody Discovery. The grant, funded by Bruker Cellular Analysis (BCA) together with A*STAR's Singapore Immunology Network (SIgN) - BCA Functional Single Cell Biology Center of Excellence, is designed to reward researchers with the most innovative and impactful proposals that employ the Beacon High-throughput screening antibody discovery platform.

With this grant, EDDC aims to harness Beacon's capabilities to enhance our existing High-Throughput Antibody Discovery (HiTAD)'s capabilities, particularly in addressing challenging membrane targets associated with cancer and other diseases.

VOICES FROM THE COMMUNITY

Our journey to transform great science into great medicines has only been made possible through the collaboration of our trusted partners. We are deeply grateful for their invaluable contributions, insights, and shared commitment to advancing drug discovery. Read below from our partners on their experiences working with us.

"Both Immunoscape and EDDC teams showed a strong commitment to our collaborative project, actively contributing to each phase, and maintaining a clear focus on our shared goals. The workflow was productive, with key milestones being achieved and clear deliverables being met within the expected timelines. The collaborative spirit, paired with open and transparent communication, ensured that all team members remained aligned on goals, expectations, and any challenges encountered. Regular updates and check-ins helped keep the project on track and allowed for early resolution of any issues."

Choon Peng NG, CEO, Immunoscape

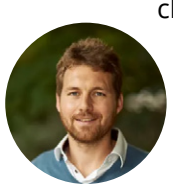
"We are honoured to collaborate with EDDC on both commercial projects and scientific partnerships. Their professionalism, expertise, and innovative approach have been deeply impactful, enabling us to deepen our understanding of drug research and development. EDDC's openness to cutting-edge technologies, such as AI and automation, and their flexible and creative partnership models—ranging from joint academic projects to customised automation solutions—have been invaluable. We greatly value their support and look forward to further strengthening this partnership in the future."

Sean LIN, Founder and CEO, ChemLex

"Jackie and the EDDC High Throughput Screening team were excellent throughout in terms of providing technical support. For this project, they provided expertise in cheminformatics to direct us towards chemical libraries that provided high diversity in chemical space.

Data quality was very high, giving us high Z' factors and confidence in the hit compounds. Assay data quality was comparable to our in-house work with the assay.

We would like to take the opportunity here to thank Jackie and his team for their patience and hard work throughout this project, and the excellent data produced. We are pleased to be able to say that several of the hits have been reconfirmed in our lab, and we are already beginning medicinal chemistry efforts on this target."



Alistair FARLEY, PhD, Scientific Lead, Ineos Oxford Institute

Matthew BEECH, PhD, Postdoctoral Research Associate, Ineos Oxford Institute

VOICES FROM THE COMMUNITY

"My research on Target X antibody has benefited greatly from the Target Translation Consortium ("TTC" or STDR Pre-Pilot Stream 1) scheme. The support from EDDC, particularly on the consultation and establishment of connections with domain experts, helped accelerate our project. The TTC is perhaps the best scheme in Singapore for translational research. With its support, we will soon obtain our PCT patent. Now we are moving towards commercialisation."

A/Prof LIAO Ping, Head & Principal Investigator of the Calcium Signalling Laboratory, National Neuroscience Institute

"The STDR Pre-Pilot Stream 1 (Target Translation Consortium, TTC) was instrumental in supporting my drug discovery efforts. The grant goes beyond funding support, focusing on enabling the PI to prepare for spinning off or licensing the products through a series of workshops run by VCs, patent lawyers, industry experts etc. There are also regular meetings with a Drug Discovery Specialist appointed by EDDC, helping to ensure that the project stays on track and to assist with issues that crop up. In short, the STDR Pre-Pilot Stream 1 is perfect for scientists who have identified novel drug targets and require assistance to help spin off or license the drug targets."

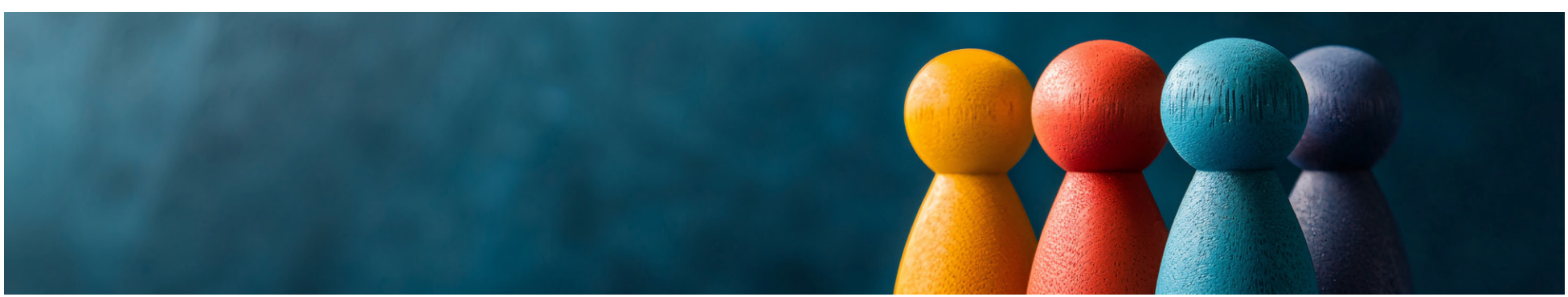
Kah Suan LIM, Senior Research Fellow, National Cancer Centre Singapore

"The STDR pre-pilot allowed me to critically analyse my targets and assets, and has helped break down my project into logical steps essential for drug development. The EDDC team is friendly, supportive, and patient in addressing all my questions and concerns. The workshops they organised have been invaluable in guiding research-focused scientists like me through the non-scientific aspects of drug development."

Jing Han HONG, Principal Research Scientist, National Cancer Centre Singapore

"Throughout my experience with the TTC from application to project execution and even after the project concluded, I learned a lot through the engagements with EDDC. This included my discussions with my EDDC-appointed Drug Discovery Specialist (Giri Periyasamy and later Chong Teik Tan) as well as a fruitful time of learning from the trainers and our fellow participants at the STDR Single Asset Workshop which EDDC organised. I was able to reframe my TTC project, which I had viewed from a classical academic perspective, to a pitch that would address key aspects of my target relevant to translational development. Such efforts to expose local researchers to the drug discovery process and therapeutics development are extremely helpful for young scientists."

Rong En TAY, Principal Investigator, Singapore Immunology Network (SIgN), A*STAR



TALENT
Development

THE EDDC TEAM

EDDC's success in initiating, progressing and commercialising our drug discovery and platform innovation projects stems from our committed & talented colleagues and the positive working relationships between our R&D and non-R&D groups. Here are reflections from some of our colleagues on 2024:

Victor HO | Inflammation & Immunology (Discovery Biology)

"Since joining EDDC in May 2024, I've been inspired and energised by the incredible learning opportunities and the expertise of my talented colleagues. Every day, I'm immersed in the exciting world of drug development, where I have the privilege of contributing to groundbreaking work in my role with the Discovery Biology team. Being at the forefront of identifying innovative drugs and targets to treat autoimmune diseases and cancer fuels my passion and commitment. I am looking forward to a thrilling 2025 and beyond, to make a real impact and contribute to transformative progress in drug discovery and healthcare."

Diane LIM | Medicinal Chemistry (Discovery Chemistry)

"One of my highlights in 2024 involved working on a small molecule drug discovery campaign, and in the process connecting with colleagues in different departments. Leveraging on our different perspectives and abilities to overcome challenges has been both eye-opening and fulfilling. I'm looking forward to more of such interactions and opportunities in 2025!"

DAI Mingyan | IT (Operations)

"Over the past year, I have had the privilege of contributing to the operational excellence of our IT team. This included the development and implementation of new IT SOPs that align with HQ policies, as well as strengthening the security measures across our systems. What stood out most was the exceptional teamwork and collaboration across teams, showcasing the power of unity. Looking ahead, I'm excited to continue enhancing my technical support and contributing to EDDC's growth in 2025 and beyond."

Inderjeet SINGH | Medical (Development)

"2024 has been a significant inflection point for me both professionally and personally, wherein I moved out of my comfort zone and pushed myself. Taking up the Scientific Project Lead (SPL) role for a challenging discovery project was a great learning and humbling experience. Reviewing the clinical data sets of ETC-159 and EBC-129 reminded me of the impact EDDC is making to improve patients' lives and has given me immense satisfaction. I am convinced that the team would continue to explore new possibilities and opportunities, bringing hope to patients and the community."

EXTERNAL TRAINING AND DEVELOPMENT

In 2024, EDDC partnered with A*STAR's Leadership & Organisation Development (L&OD) team to profile functional competencies within the organisation. Together, we finalised the Career Development and Advancement Framework (CDAF) for staff on the Technology Development & Enterprise (TDE) Scheme.

As of November, out of our total headcount of 141 staff, ***57*** staff had attended at least one Core Competency Framework (CCF) learning activity, ***132*** staff had attended at least one non-CCF learning activity, and ***129*** staff had attended e-Learning, giving rise to a total of ***188*** unique learning activities.

I&E FELLOWSHIP PROGRAMME (IFP)

The IFP is a full-time fellowship programme funded by the National Research Foundation (NRF) to grow a pool of deep-tech talent in Singapore who can translate nascent technologies to the market. The IFP also aims to develop industry-relevant skillsets in our R&D talents. Upon completion of the programme, fellows will be equipped with the necessary skills to take on relevant roles in the local biotech and innovation & enterprise ecosystem.

(From left to right)
***Back Row**: Ding Jia Wen, Timothy Low, Lim Lee Jin, Vincent, Ivalyn Lam, Cai Yichao, Yeo Xun Hui,*
***Front Row**: Jasmine Goh, Alison Tan, Shirlyn Yap, Tiffany Scully*

CELEBRATING THE SUCCESS OF OUR GRADUATING TRAINEES

As we near the conclusion of our first batch trainees for the 18-month Innovation Fellowship Programme (IFP) training programme, it is with great pride and joy that we celebrate the accomplishments of the trainees who will be graduating in Q4 FY24.

Throughout this nurturing programme, our trainees have demonstrated exceptional dedication, growth, and resilience, making significant strides both personally and professionally.

***Absent:** Koh Xiao Hui*

"During my IFP journey at EDDC, I gained a comprehensive overview of the drug development process. Working across both Inflammation & Immunology and Oncology, I acquired invaluable experience in developing target proposals, integrating scientific rationale, competitive analysis, and commercial strategy. The programme's cross-functional exposure to business development and project management further enriched my understanding of fostering collaborations and coordinating project activities. Looking ahead, I hope to leverage these interdisciplinary experiences to drive innovation and make meaningful contributions in advancing therapeutic solutions."

YEO Xun Hui | Discovery Biology

HUMAN CAPITAL FOR THE COMMUNITY

At EDDC, our journey is shaped not only by the milestones we achieve but also by the people who contribute to them. Our alumni carry forward the spirit of innovation, collaboration, and excellence that defines EDDC. Read how the EDDC experience has shaped them for the roles they currently play in the community!

Vishal PENDHARKAR | Former Translational Sciences (In Vivo Pharmacology)

"I feel grateful and privileged for the opportunity to work with such fantastic colleagues at EDDC. It was through the daily interactions with these great minds that I got to learn the nuances of drug discovery, management and leadership. My experience in private biotech after EDDC has reinforced the belief that EDDC's senior management and project teams are well positioned to deliver on its promise of bringing novel treatments to patients. Such is the nature of our endeavour that there will be setbacks along the way but I have witnessed the team's resilience to bounce back stronger every time. A quality that I admire and have tried to imbibe."

Manuel SUTER | Former Discovery Biology (Oncology)

"Working at EDDC was an incredibly rewarding experience that had a big impact on my professional growth. Looking back, I'm truly grateful for everything I learned about drug development—from translational science to clinical applications—and for the valuable skills I picked up along the way. It gave me solid preparation for a future in the biotech and pharmaceutical industry. The collaborative and supportive environment, along with the chance to work with such talented colleagues, made it an ideal place to grow both personally and professionally."

ZHUO Jingli | Former Business Development

"My time at EDDC was a transformative experience that enriched both my professional skills and personal growth; it was a journey peppered with ample challenges but also many small triumphs, made all the more memorable by the forward-thinking and collaborative spirit of many colleagues. The lasting friendships I forged along the way were the icing on the cake!"

Our INITIATIVES

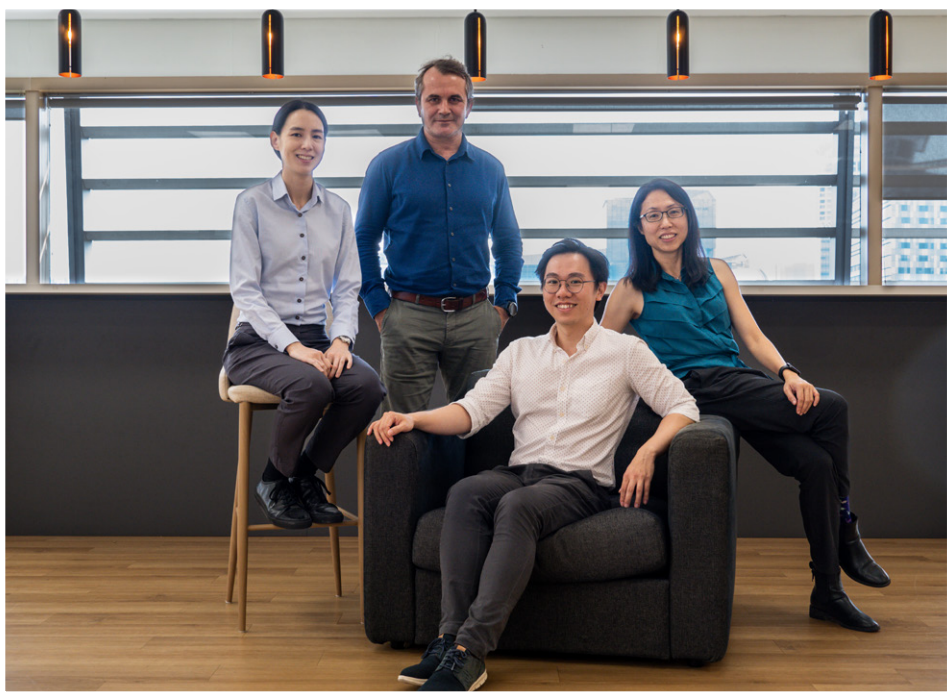
TARGET TRANSLATION CONSORTIUM (TTC)

Established in June 2019, the TTC facilitates the preclinical validation of putative drug targets arising from publicly-funded research.

EDDC is the main coordinator of the TTC. In addition, our scientists review and provide detailed, actionable feedback to all TTC applicants. They also serve as "Drug Discovery Specialists" to awarded projects, helping to design workplans aligned with industry standards and acting as a bridge to the wider ecosystem.

The TTC's funding programme was integrated into the Singapore Therapeutics Development Review (STDR) scheme from FY2021, as the STDR's "Pre-Pilot Stream 1". This streamlined the funding pathways and ensures continued support for promising drug discovery projects in Singapore.

Successful TTC projects can go through an accelerated review process for STDR "Pilot" funding.



(From left to right)
Tiffany Scully, Christophe Bodenreider, See Yiyang, Chia Hsin-Ee

Absent: *Carol Koh Xiaoying, Chng Song Hui, Katherine Zhuo Weizhi*



KEY DEVELOPMENTS

4 TTC (STDR Pre-Pilot Stream 1) projects awarded

4 EDDC scientists were appointed as Drug Discovery Specialists to support investigators

3 Roadshows to SingHealth, National University of Singapore and Nanyang Technological University

Organised a workshop for STDR Pre-Pilot Stream 1 teams

12 teams trained on the development and commercialisation of single asset projects

EDDC ACADEMIC RESEARCH ORGANISATION (EARO)

High-Throughput Screening (HTS)

EDDC's HTS platform has industry-standard facilities including a fully integrated automation screening platform that can conduct miniaturised screening assays to enable the rapid identification of small molecule hits for drug discovery programmes.

The highly experienced HTS team have expertise in assay development and miniaturisation, and have conducted a wide array of biochemical, biophysical and cell-based high throughput screens using various detection technologies against multiple disease targets. Combined with experience in assay troubleshooting and hit validation, the HTS platform provides novel starting points for downstream discovery and development efforts.

High-Throughput Phenomics (HTP)

EDDC's HTP platform features cutting-edge high-content screening (HCS) and multiplexed imaging systems that enable high-throughput, high-content imaging assays, phenotypic screens, and assays using complex models such as 3D cell cultures and organoids.

The HTP team's expertise in morphological profiling through multiplexed cell painting, combined with powerful data analysis tools, has established them as specialists in unbiased, target-agnostic, imaging-based profiling assays. This capability to measure detailed cellular phenotypic profiles in response to genetic or chemical perturbation has broad applications, including elucidating biological systems, functional pathways, and disease markers.

EARO
Experimental Drug Development Centre
Academic Research Organization

(From left to right)
Back row: *Cheryl Tan Shih Min, Shirlyn Yap Xue Ling, Gian Yi Lin, Wong Mei Yee, Joel Wong Chung Hwee, Jasmine Goh Ya Hwee, Kunal Shah, Justina Fulwood, Doris Tee, Shivaji Rikka*
Front row: *Matan Thangavelu, Teo Hsiang Ling, Goh Kay Lin, Jackie Ang*

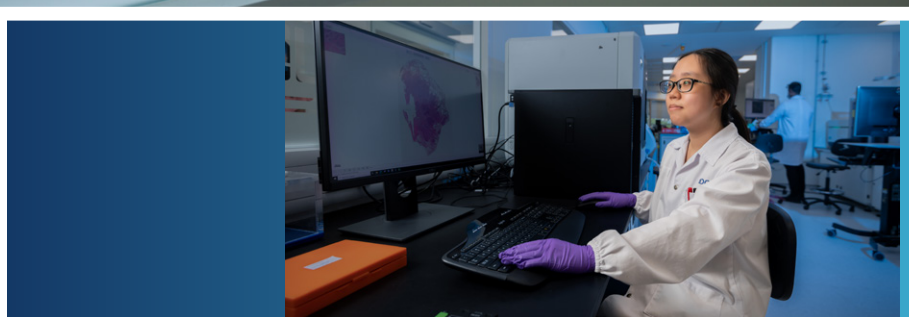
EDDC ACADEMIC RESEARCH ORGANISATION (EARO)

Compound Hub

EDDC's Compound Hub platform manages a compound inventory of over 400,000 small molecule compounds including both diverse and focused chemical libraries of lead-like compounds and fragment-based libraries to form a highly curated collection to drive the discovery of novel hit compounds. Compounds are maintained in a state-of-the-art storage system with advanced compound management tracking features using proprietary software and database systems and prepared for screening using a fully integrated automation platform. The Compound Hub works seamlessly with EDDC's screening groups to provide compound management support for screening activities.

Business Operations

The Business Operations team manages business development, project management and operational aspects of running EARO. The team works with the clients, project teams, billing partner, quality assurance and legal to ensure seamless execution of all work in compliance with established processes and ISO 9001:2015 standards. Overall, the team plays a crucial role within EARO to ensure clients receive exceptional service delivery, consistent experience and high satisfaction.



KEY EARO FIGURES

38 Research Entities Supported

New unique research entities (1st time customers):

13 Public Sector **2** Private Sector

100% client satisfaction with quality service and deliverables met

Passed ISO 9001 Surveillance Audit conducted by BSI certification body

4 Research Collaborations with MNC

55 Service Agreements Executed

13 Comprehensive

8 Assist

34 Tech Access

8 High Throughput Screening Campaigns

4 EDDC Internal Projects

4 External Projects

8 In-house Function Groups Engaged

for external service projects

13 Internal Projects Supported

7 EDDC Pipeline Projects

6 Grant-funded Projects

Please see here for more details on EARO's different services.

Meet Our TEAM

DISCOVERY BIOLOGY

(From left to right)
Back row: *Vincent, Chng Song Hui, Victor Ho, Ang Qi An, Yeo Xun Hui, Timothy Ashley Low, Fanny Teo, Lee Le Tian, Deepika Raman, Ke Zhiyuan, Visalatchi Thiagarajan, Elaine Choo Zhang 'E, Oh Qin Yao, Tan Chong Teik, Ivalyn Lam Yue Qi*
Front row: *Perlyn Kwek Zekui, Oon Chern Ein, Fong Jia Yi, Snow Lee, Ong Shi Min, Ang Xiaoman*

Absent:
Kang Zi Han, Carol Koh Xiaoying

Oncology

The Oncology group focuses on discovering effective anti-cancer therapies in indication areas with high unmet need, including solid cancers such as lung, gastric, and colorectal cancers. The group consists of scientists with deep oncology expertise who drive and implement project activities aimed at identifying and evaluating therapeutic candidates, as well as elucidating their mechanism of action. These include, but are not limited to, various in vitro experimental capabilities such as biochemical, biophysical, 2D/3D or co-culture cell-based assays using state-of-the-art instruments.

Inflammation & Immunology

The Inflammation and Immunology (I&I) group aims to propel innovative initiatives in the I&I therapeutic domain, including identifying and evaluating new therapeutic targets. This group is strategically positioned to enhance EDDC's proficiency in immunology with a team of scientists accountable for formulating and executing cell-based functional assays including immunophenotyping, immune cell activation and suppression that can be expanded into complex co-culture systems (i.e. immune cells and other cell types of interest).

DISCOVERY CHEMISTRY

(From left to right)
Back row: *Subramanyam Vankadara, Lim Jieyan, Diane Lim, Sandra Sim, Liew Si Si, Xu Weijun, Ronald Toh, Yang Haiyan, Hannah Toh, Grace Lin, Tan Li Hong, Juliana Mohammad, Klement Foo*
Front row: *See Yiyang, Frankie Mak, Brian Chia, Padmanabhan Anbazhagan*

Absent: *Eileen Tay*

Medicinal Chemistry

The Medicinal Chemistry team is central to EDDC's small molecule drug discovery effort, through generating compounds that can become therapeutic candidates to address human diseases. Working closely with Discovery Biology colleagues, the team engages early in project strategy planning, and supports the progression of projects from hit triage to lead optimisation. The drug design process is accelerated by our computational chemists who help predict and rationalise protein-ligand interactions using computer-aided drug design methodologies.

Beyond our core, the team actively explores new innovations and advances in chemistry to enhance EDDC's internal work processes such as AI-driven chemical synthesis. The team also proposes new biological targets, finds alternative mechanisms of inhibiting targets, and creates innovative platforms.

Peptide Chemistry

The Peptide Chemistry team specialises in designing and developing peptides, peptidomimetics and novel payloads for antibody-drug conjugates, with a special focus on initiating and delivering new drug assets into EDDC's pipeline. The team was also instrumental in co-designing an oral SARS-CoV-2 peptidomimetic protease inhibitor which was out-licensed in 2022.

ANTIBODY TECHNOLOGY

(From left to right)
Back row: *Yap Thai Leong, Koh Xin Yu, Sim Wei Qiang, Jessie Lim, David Voo, Felicia Zheng, Chiam Poh Cheang, Ding Jia Wen, Nur Quraishah*
Front row: *Simone Dorfmueller, Wan Kah Fei*

Absent: *Tabitha Tan, Koh Xiao Hui*

Therapeutic Protein & Antibody Discovery (TPAD)

TPAD scientists employ a High Throughput Antibody Discovery (HiTAD) Platform to effectively generate, select, produce and evaluate protein-based large molecules. This involves employing an optimised immunisation strategy and an automated single B-cell cloning method for the efficient sampling of the immune B cells repertoire. The High-Throughput Therapeutic Protein (HTTP) platform, which combines iterative cycles of computer-aided structural rational design, Fc plug-and-play, optimal protein expression and integrated developability assessment, facilitates the generation of therapeutic-quality large molecules with minimal experimental investment and quicker timelines. Both platforms are integrated with a centralised data management system, providing high quality data packages that allow clinically-relevant, data-driven decision-making.

The Protein Science and Analytics (PSA) team focuses on antibody production and asset generation within large molecule drug discovery, as well as supporting protein reagent preparation for drug discovery and development projects across the organisation. With extensive experience in antibody characterisation and developability assessments, the group facilitates decision-making and prioritisation of lead candidates.

Antibody Design

The Antibody Design team is focused on developing innovative antibodies for a wide range of therapeutic applications. By integrating computational and empirical approaches, the team investigates how amino acid sequence diversity fundamentally influences protein function and structure, leveraging these insights to design antibodies with enhanced properties. The team collaborates with multidisciplinary partners to adapt and integrate AI-driven tools that streamline the antibody discovery and engineering processes. By harnessing the power of AI alongside established functional methodologies, the team aims to design optimal antibody sequences with higher success rates and shorter development timelines. This approach is particularly effective in optimising binding affinity, stability, specificity, and antibody humanisation.

COMPUTATIONAL SCIENCES

Computational Biology

The Computational Biology team is responsible for developing and incorporating computational methods, analytical workflows, machine learning and AI approaches into EDDC's drug discovery processes. The team is actively involved in the various AI for Drug Discovery (AIDD) initiatives across the ecosystem to collaboratively advance the applications of AI in accelerating and transforming drug discovery and development. Their scope of work involves data integration, harmonisation and synergising with bioinformatics, advanced data analytics and cloud computing. The team also drives the development of high throughput 'Omics data platforms and predictive models to guide decision-making and in silico hypothesis generation at EDDC. The team collaborates closely with cross-functional colleagues and external partners to integrate in silico and wet-lab approaches to build a machine learning-ready data foundation, and to harness ML/AI to tackle challenges across important drug discovery stages.

Information Systems

The role of the Information Systems team includes spearheading software development and providing application support to facilitate the drug discovery process. To efficiently manage data, the team establishes a robust infrastructure capable of handling complex datasets inherent in pharmaceutical research. This includes integrating lab instrumentation for seamless data flow and accuracy. Additionally, the team leverages LLM applications to provide powerful natural language processing. They also focus on ELN/LIMS QC, automation, and integration to streamline workflows and ensure data integrity. In essence, the Information Systems team acts as a technological vanguard, bridging the gap between drug discovery and the evolving landscape of information technology.

(From left to right)
Back row: *Cai Yichao, Hankun Li, Sun Miao, Neil Samuel Niguidula*
Front row: *Vamshidhar Gangu, Tan Shan Ho*

Absent: *Koe Chwee Tat, Yaron Turpaz*

CHEMICAL BIOLOGY & THERAPEUTICS

Chemical Biology

Chemical Biology is a multidisciplinary team of chemists, biologists, and structural biologists who work in synergy to identify downstream substrates for a target of interest, decipher mechanism of action of hetero-bifunctional molecules and design innovative tools and strategies to enhance the drug discovery workflow at EDDC. The team helps to elucidate a more comprehensive view of the pathway impacted by a drug candidate, understand target-ligand interactions and develop various therapeutic modalities for unmet medical needs.

Structural Biology

Structural Biology employs state-of-the-art techniques to map the three-dimensional structures of proteins, DNA/RNA and their complexes with drug candidates to catalyse the drug discovery process. In so doing, the team provides a foundation for rational drug design, lead optimisation, and innovative therapeutic interventions. The team works closely with medicinal chemists, computational chemists, and biologists through fragment screening initiatives, biophysical characterisation of target-ligand interactions, and determining structures of macromolecules and complexes using an array of methodologies, such as X-ray crystallography, NMR spectroscopy, Cryo-EM, and other cutting-edge methods.

(From left to right)
Back row: *Jothi Anantharajan, Huang Qiwei, Wang Gang, Lim Lee Jin, Nithya Baburajendran*
Front row: *Loh Yong Yao, Kang CongBao, Ng Guan Zhi*

Absent: *Lim Wan Hsin, Mouli Chakraborty, Ng Hui Qi*



TRANSLATIONAL SCIENCES

In Vivo Pharmacology (IVP)

The IVP team enables advancement of projects from discovery to the IND submission stage by providing critical scientific and technical expertise. The IVP team executes high-quality in-house studies and facilitates study outsourcing to CROs. IVP team members specialise in designing and performing robust efficacy studies in oncology and immuno-oncology, fibrosis, and infectious diseases.

The team facilitates the assessment of drug metabolism, pharmacokinetic properties, tolerability and pharmacology of lead molecules. Once a molecule is selected for development, IND-enabling activities are conducted before regulatory submissions and approval for clinical trials. The work is supported by a state-of-the-art animal vivarium at Biopolis and designated laboratory software platforms for data acquisition and analysis.

Biomarker Development

The Biomarker (BM) Development team is responsible for the development of biomarker assays to enable project transition from discovery to PDC, and then into clinical trials. They drive the biomarker strategies for EDDC's precision medicines from programme inception and translate them for use in First-in-Human studies and beyond. Prior to clinical development, the team establishes robust pharmacodynamic (PD) biomarker assays and, if required, performs development tests for suitable patient selection biomarker assays, to enhance the chances for clinical success and differentiation. Patient selection biomarkers are chosen in alignment with clinical development objectives, validated, then clinically implemented using a network of external partners operating under CAP/CLIA accreditation.

(From left to right)
Back row: *Susmitha Vuddagiri, Frances Kusuma, Vithya Manoharan, Hannes Hentze, Alison Tan, Nurul Rozaini, Claudia Koh*
Front row: *Vikas Madan, Sylvia Gan*

CAP: College of American Pathologists | CLIA: Clinical Laboratory Improvement Amendments | CRO: Contract Research Organisation | PDC: Preclinical Development Candidate | IND: Investigational New Drug

DEVELOPMENT

Medical

The Medical team operates under two main functional areas: First, they design and execute clinical development plans for EDDC assets that progress to the clinical stage, including safety leadership and sponsor medical oversight of ongoing clinical trials. Second, they guide the discovery teams in making decisions at various stages of a project.

Clinical Operations

The Clinical Operations team manages all development activities from study start up to close out, including vendor selection and CRO oversight, ensuring the study is conducted in accordance with scientific and ethical guidelines.

Chemistry, Manufacturing & Controls

The Chemistry, Manufacturing & Controls (CMC) team screens, selects, and manages qualified CDMO/CMOs for product development and cGMP contract manufacturing for drug substances (DS) and drug products (DP) in compliance with applicable regulatory requirements. Investigational products used in clinical trials include small molecules and biologics such as mAb, ADC, vaccines, and recombinant proteins. The team also provides information for the CMC dossier in regulatory filings.

Regulatory Affairs

The Regulatory Affairs team works closely with Singapore's Health Sciences Authority (HSA) and the U.S. Food and Drug Administration (FDA) to coordinate regulatory efforts around clinical trials that EDDC is sponsoring and supporting. The team also works closely with scientific colleagues to offer regulatory consultations on CTA/IND submissions, development planning and other regulatory submissions.

(From left to right)
Back row: *Veronica Diermayr, Inderjeet Singh, Lee Yock-Ann, Venkateshan Srirangam, Julienne Cometa, Kantharaj Ethirajulu, Kunal Shah*
Front row: *Stephanie Blanchard, Ranjani Nellore*

Asset Development Leaders

EDDC has Asset Development Leaders (ADLs) to oversee the progress of projects entering preclinical to clinical development. ADLs use their extensive discovery and/or development experience to lead integrated project teams comprising Discovery Biology, Discovery Chemistry, Translational Sciences, Development, Project Management and Business Development colleagues.

ADLs plan ahead to prepare for regulatory submissions, as well as to ensure that the projects' differentiation against the competition is well exemplified. They ensure that the team generates critical data packages within budgets and deadlines.

ADC : Antibody-Drug Conjugate | CRO: Contract Research Organisation | CDMO: Contract Development and Manufacturing Organisation | CMO: Contract Manufacturing Organisation | CTA: Clinical Trial Authorisation | cGMP: Current Good Manufacturing Practice | mAb: Monoclonal antibody | IND: Investigational New Drug

BUSINESS DEVELOPMENT

The Business Development and Alliance Management team drives the commercialisation of EDDC's portfolio assets and manages partnerships with local and international public and private organisations. As EDDC is a national platform hosted administratively by A*STAR, the team works closely with colleagues in A*STAR's Innovation & Enterprise and Legal departments to achieve our goals.

Business Development

The Business Development (BD) team spearheads EDDC's engagement with pharma and biotech companies, as well as venture capital and venture builders, to commercialise EDDC's portfolio assets. The team monitors the competitive landscape for EDDC's portfolio projects and also works closely with our innovative platforms to support the development of strategic development plans towards licensing or spin-offs.

Alliance Management

The Alliance Management (AM) team drives EDDC's engagement and support for public sector researchers, mainly through the Target Translation Consortium (TTC) and the Singapore Therapeutics Development Review (STDR). AM also manages EDDC's collaborations with and outreach to publicly funded researchers as well as global alliance partners like Biocurate and Cancer Research Horizons.

External Innovation

The External Innovation effort works hand-in-hand with the BD and AM teams to identify and establish co-development opportunities with local and international academic and biotech partners.

(From left to right)
Back row: *Low Choon Bing, Ervin Tan, Wang Yang, Rachel Lim, Christophe Bodenreider, Katherine Zhuo, Tiffany Scully, Samantha Wong*
Front row: *Tam Lay Hong. Ang Hwee Ching, Chia Hsin-Ee, Goh Kay Lin*

Communications

The Communications team is responsible for maintaining EDDC's online presence and its brand assets. The team communicates EDDC's achievements, partnerships, expertise and capabilities through multiple channels including press releases, annual reports, and web-based written and visual content. Communications also supports EDDC's outreach efforts through events and speaking engagements at various platforms.

PROJECT MANAGEMENT

The Project Management team works hand in hand with senior management, scientific and development teams to manage portfolio projects, platforms and the triage workflow. The team oversees EDDC's entire portfolio of projects and platforms in collaboration with the leadership team and ensures that individual projects/platforms proceed within the agreed scope, timeline and budget. The team also coordinate publication submission, technology disclosure submission as well as grant submission and tracking. To support the commercialisation efforts led by the Business Development team, the Project Management team takes the lead in assembling project documents and budgets.

The team members have multi-disciplinary backgrounds and extensive public and private sector experiences, enabling them to contribute to organisational success.

(From left to right)
Tiffany Scully, Phuong Lan Le Ngoc, Tan Bee Huat, Kunal Shah, Xu Haoying, Rachel Lim
Absent: *Nur Huda*

STRATEGY PLANNING

The Strategy Planning (SP) team works closely with EDDC's leadership and across all functions to:

- Establish EDDC's strategic goals and priorities on a 5-year (per Research Innovation & Enterprise cycle) and annual basis;
- Align the organisation to develop and implement workplans according to these agreed goals and priorities;
- Track the progress of the organisation towards achieving these outcomes.

The team is responsible for stakeholder management through:

- Organising regular meetings with EDDC's Governing Board and other key stakeholders to jointly review EDDC's performance and to seek endorsement for new initiatives or strategic milestones.
- Annual reporting of EDDC's progress to its stakeholders.

(From left to right)
Liew Si Si, Sharleen Cheng, Teo Hsiang Ling, Klement Foo, Yu Lan, Vera Tan

OPERATIONS

Admin Ops, Lab Ops and IT teams

These teams are responsible for ensuring that EDDC's day-to-day operations run smoothly and stably, enabling our research and business operations to progress productively.

Quality Assurance

The Quality Assurance (QA) team at EDDC ensures effective management of the Quality Management System (QMS) in alignment with ISO 9001 standards. The team conducts internal and clinical audits, supports training programmes, and drives continuous improvement initiatives. Additionally, QA provides expert input on Good Clinical Practice (GCP)-related activities to uphold regulatory compliance and maintain high-quality standards across projects.

Resource Management

The Resource Management team operates within the Chief of Staff office and is responsible for overseeing EDDC's resource allocation by working with A*STAR's Finance, Procurement, HR, and ITSS teams. The team focuses on budget, portfolio, and personnel management, managing budget forecasts, delivering tri-annual financial reports to the Governing Board, and securing annual budget approvals, all while closely monitoring project activities and resource utilisation. Through strategic capacity planning and effective workload management, they ensure that resources are well-prepared for upcoming projects and that productivity remains high. Additionally, they organise organisation-wide events to enhance communication between staff and management, fostering a highly inclusive and collaborative culture within EDDC.

(From left to right)
Back row: *Nur Huda, Dai Mingyan, Connie Er, Chan Wai Ling, Dakshani Selvakumar, Ho Soo Yei, Selina Chan, Helen Yeo, Samantha Lee, Sebastian Tan*
Front row: *Stephanie Blanchard, Alastair Lau, Leyon Wong, Yu Lan, Poh Zhiying*

SOCIAL EVENTS

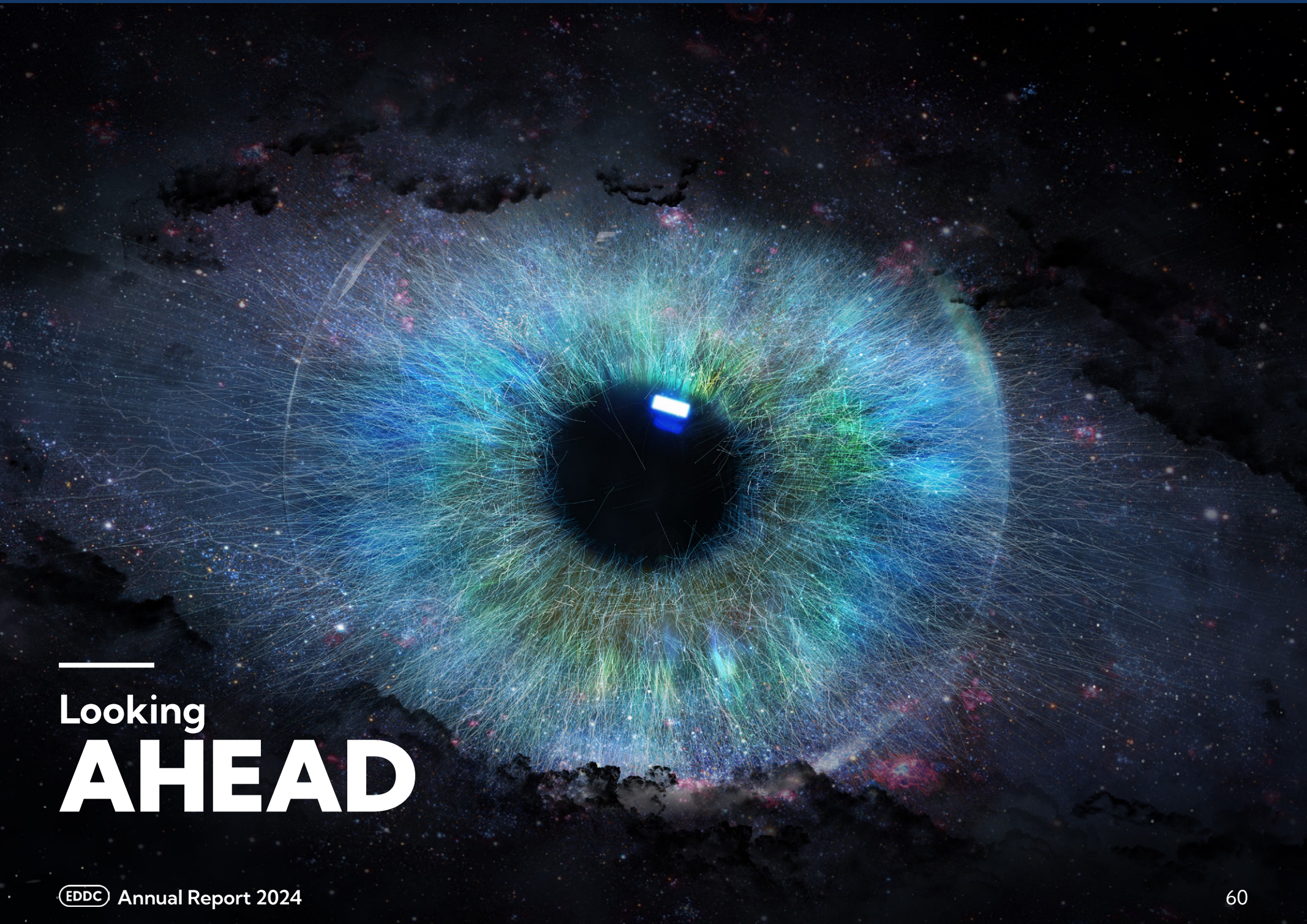
Family Day

SOCIAL EVENTS

Departmental team building

SOCIAL EVENTS

Year-End Dinner



Looking AHEAD

WHAT'S IN STORE FOR 2025

In the year ahead, EDDC will sharpen its focus on creating and maturing high-value substrates for drug discovery and development by leveraging our innovation pillars — Therapeutic Areas, Platforms, and Technology — to seed, mature and grow Singapore's biopharma landscape.

1. Driving Research and Innovation in Therapeutic Areas and Platforms

EDDC aims to build a robust and diversified pipeline of high-quality assets to attract and retain private investments in Singapore. By focusing on ***oncology*** and ***inflammation & immunology (I&I)*** as our core therapeutic areas, we are leveraging cutting-edge platforms like ***TRIDENT***, ***intrinsic degraders***, and ***small molecule RNA-targeting*** technologies. At the same time, we remain committed to contributing to national pandemic preparedness efforts and staying opportunistic in emerging fields like ophthalmology. We will continue to progress key projects to lead-stage development, showcasing the potential of our assets to partners and investors.

2. Advancing Technologies for Translational Success

To maximise our translational capabilities, EDDC will continue embedding AI and automation into its drug discovery processes in 2025. Efforts will focus on building a comprehensive data foundation, expanding data flow integration, and adopting spatial -omics technologies. By streamlining workflows through automation, we aim to accelerate data collection and analysis, reduce human errors, and enhance efficiency. These advancements will strengthen EDDC's position as a leader in computational sciences, supporting portfolio impact and innovation.

WHAT'S IN STORE FOR 2025

3. Seeding and Scaling Biotech Startups for Growth

As we build momentum, EDDC will focus on translating these substrates into opportunities for biotech spinoffs and new companies (newcos). Working closely with venture builders and investors, we aim to seed and scale startups that strengthen Singapore's biotech landscape. Our business development efforts will include early engagement with biopharma, mapping relationships with venture capitalists, and refining newco creation models. These efforts ensure that our assets achieve value inflection points and are primed for successful partnerships or licensing deals.

4. Cultivating Partnerships to Maximise Licensing and Spin-Off Opportunities

By engaging complementary partners to access critical data, biological samples, and advanced technologies, we aim to accelerate the development of our assets while fostering an exchange of expertise. These partnerships will not only enhance the clinical and commercial potential of our projects but also create opportunities for spin-offs that contribute to Singapore's growing biotech ecosystem. Through these efforts, we strive to position our innovations for long-term success and broaden their impact.

LinkedIn: Experimental Drug Development Centre (EDDC)
Location: 10 Biopolis Road, #05-01, Chromos, Singapore 138670
Website: www.eddc.sg
Email: info@eddc.sg
Phone: +65 6407 4333

Access our LinkedIn page here!