2024

ATC抗體藥物暨第19屆前瞻生醫新知研討會

Antibody Therapeutic Conference & 19th Frontiers in Biomedical Sciences Conference

Time May 23-24, 2024

Venue National Biotechnology Research Park C201

Welcome Message

Dear distinguished guests, ladies and gentlemen,

On behalf of the organizing committee, it is my pleasure to welcome you to the 11th Antibody Therapeutic Conference (ATC) - the 2024 Antibody Therapeutics Conference: Extended Applications of Antibodies. The conference will be held on May 23rd-24th, 2024 at the National Biotechnology Research Park in Taipei, Taiwan.

In recent years, the field of antibody therapeutics has experienced significant growth, particularly in the areas of cancer treatment, immune-mediated diseases, and infectious diseases. Immunotherapies such as antibody-mediated tumor regression, checkpoint blockade, antibody-drug conjugates (ADC), and chimeric antigen receptor T-cell therapy (CAR-T), have emerged as promising strategies for curing many different cancers.

This year, the ATC will showcase a broad scope of remarkable achievements, with a focus on the extended application of antibodies as well as new therapeutic modalities for treatment of human diseases. We aim to provide a platform for participants to connect, communicate, gain new knowledge, and discuss the most recent advances in this field.

The Taiwan Antibody Association (TAA), the ATC organizer, was established in 2012 with a mission to facilitate research and industrial development of antibody drugs and related technologies in Taiwan. By hosting international conferences like this one, we hope to promote the exchange of ideas and foster collaborations between senior experts and young scientists in the field.

We sincerely hope that this conference will be informative and insightful, and that it will inspire you to make meaningful contributions to the advancement of antibody therapeutics. Once again, we thank you for joining us, and we wish you a successful and enjoyable conference experience.

Han-Chung Wu, Ph.D.

Chairman of Taiwan Antibody Association

Director, Biomedical Translation Research Center, Academia Sinica

Distinguished Research Fellow, Institute of Cellular and Organismic Biology, Academia Sinica

Fellow, National Academy of Inventors (NAI)

Contents

AGENDA

Date: Thursday, May 23, 2024

Time	Agenda
09:00 - 09:30	Registration
09:30 - 09:35	Welcome Remarks｜Han-Chung Wu 吳漢忠
09:35 - 09:40	Moderator｜Andrew H.-J. Wang 王惠鈞
09:40 - 10:20	Developing Antibodies Targeting LILRB2/TREM2 in Alzheimer's Disease Zhiqiang An 安志強 Director, Texas Therapeutics Institute at the Brown Foundation Institute of Molecular Medicine
10:20 - 10:35	Break
10:35 - 10:40	Moderator｜Tse-Wen Chang 張子文
10:40 - 11:20	Ab+1: New Trend in Antibody-related Drug Design Jeng Her 何正宏 Chief Executive Officer (CEO), AP Biosciences, INC.
11:20 - 12:00	Innovative Technologies to Expedite Global Biologics Development & Manufacturing Weichang Zhou Honorary President and Senior Advisor to (CEO), WuXi Biologics
12:00 - 13:30	Lunch Seminar
13:30 - 13:35	4th TAA General Assembly
13:35 - 13:40	Moderator｜Woei-Jer Chuang 莊偉哲
13:40 - 14:20	Technology to Generate Highly Functional Antibodies for Antibody Drug Development Haruhiko Kamada 鎌田 春彦 Group Leader, Laboratory of Advanced Biopharmaceuticals / Center for Drug Design Research, National Institutes of Biomedical Innovation, Health and Nutrition, Japan
14:20 - 15:00	OBI-992: An Anti-TROP2 ADC with Distinct Properties Ming-Tain Lai 賴明添 Chief Scientific Officer (CSO), OBI Pharma, INC.
15:00 - 15:25	Break
15:25 - 15:30	Moderator｜Margaret Dah-Tsyr Chang 張大慈
15:30 - 16:10	Gene Therapies for the Brain Wuh-Liang Hwu 胡務亮 Professor, Department of Medical Genetics and Pediatrics, National Taiwan University Hospital
16:10 - 16:50	Degrader-Antibody Conjugates: Emerging Modality for Tissue-Specific Targeted Therapy Shu-Jen Chen 陳淑貞 Chief Scientific Officer (CSO), AnHorn Medicines, INC.
16:50 - 17:00	Closing Remarks

Date: Friday, May 24, 2024

Time	Agenda
08:30 - 09:00	Registration
09:00 - 09:05	Welcome Remarks｜Wen-Chang Chang 張文昌
09:05 - 09:10	Moderator｜Alice Lin-Tsing Yu 陳鈴津
09:10 - 09:40	Perspectives of Precision Lung Cancer Control in Taiwan Pan-Chyr Yang 楊泮池 Academician, Academia Sinica / Professor, Department of Internal Medicine, National Taiwan University
09:40 - 10:10	My 50+ Years of DNA Exploration Andrew H.-J. Wang 王惠鈞 Academician, Academia Sinica
10:10 - 10:40	Clinical Development of Antibody Therapies Past, Present, and Future Yun Yen 閻 雲 Joint Appointment Research Fellow, Institute of Biological Chemistry, Academia Sinica
10:40 - 10:55	Break
10:55 - 11:00	Moderator｜Chung-Hsuan Chen 陳仲瑄
11:00 - 11:30	Strategies to Ensure the Genomic Integrity of CRISPR-Cas9 Edited Cells in the Era of Precision Medicine John Yu 游正博 Director, The Institute of Stem Cell and Translational Cancer Research (ISCTCR), Chang Gung Memorial Hospital (CGMH)
11:30 - 12:00	Immunometabolism as a Therapeutic Target for Metabolic Disorders Chih-Hao Lee 李志浩 Director, Genomics Research Center, Academia Sinica
12:00 - 12:05	Closing Remarks｜Han-Chung Wu 吳漢忠
14:00 - 17:00	Workshop｜Antibody Drug Discovery: From Target to Lead

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12:30~12:50

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Speaker

Jay Yang, PhD

Twist Bioscience / APAC Business Development Director, Biopharma

Twist亞太生物製藥業務發展協理 Jay Yang 將介紹

如何利用 Twist 的合成DNA文庫技術
與AI Machine Learning相結合

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② 優化傳統篩選所獲得的現有候選物 (leads)

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② 針對難治靶點的特定類別抗體噬菌體展示文庫 (target class specific antibody phage display libraries)

③ 體內動物免疫工作平台 (專有小鼠、single B-cell screening、羊駝VHH)

2024
5/23 四

12:50-13:10

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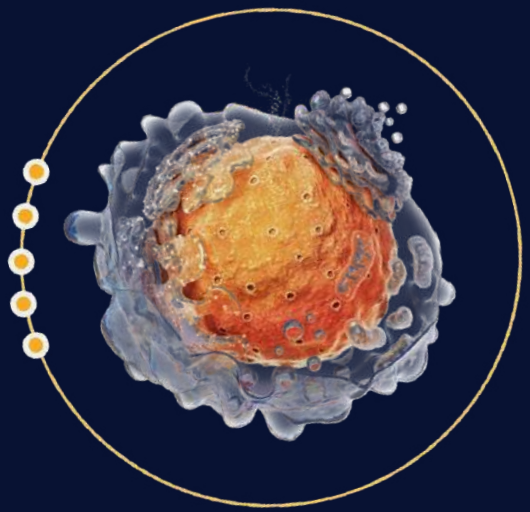

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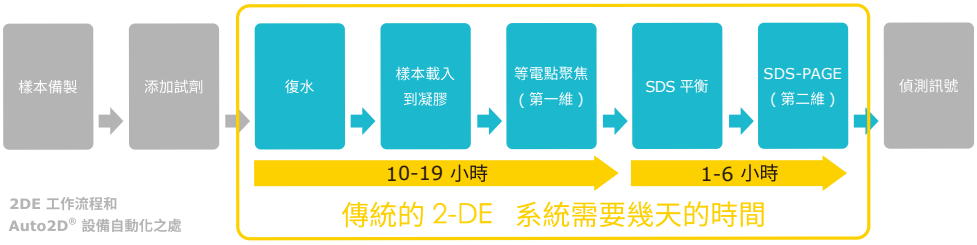
Auto2D® 系統 在 2 小時以內自動完成此過程



2DE 工作流程和 Auto2D® 設備自動化之處

中文型錄下載

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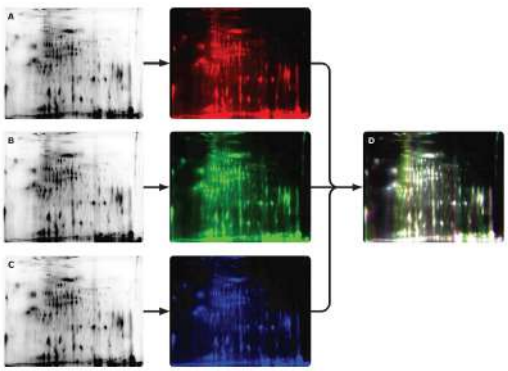
- 自動染色方案取代手動操作染色凝膠
- 多種 IEF 膠片和 PAGE 膠片，適用於更多種類的樣本

二維的確定性UP

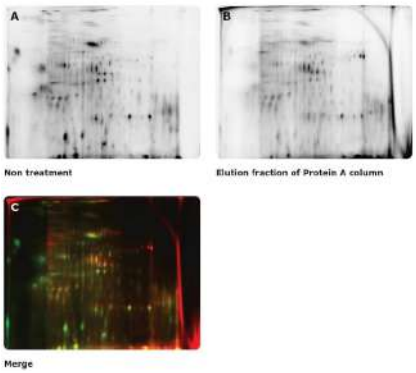
自動二維的高重現性 默克實驗室案例



0.75ug Cy5 標記的CHO HCP抗原進行2D凝膠電泳分離，利用IEF Chip pH 3-10NL 和PAGE Chip 12.5% 在Auto2D® 系統上進行三次(A-C) 分析。在白點(D) 中顯示了結果的重疊。數據表明，使用Auto2D® ® 系統進行的二維凝膠電泳具有高度的重現性。

二維的穩定性UP

HCP 分析-純化前後 默克實驗室案例



將Cy3標記的未純化CHO HCP抗原和Cy5標記的蛋白質A純化的CHO HCP抗原混合物進行二維差異凝膠電泳（2D-DIGE）分離和分析，使用Auto2D® 系統（A-B）。合併數據中的紅色斑點（C）代表主機細胞蛋白，即使在蛋白質A純化後仍然存在。這些數據證明了Auto2D® 系統在蛋白質A純化後分析殘留主機細胞蛋白組分的應用。

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DAY 1 SPEAKER

Zhiqiang An

安志強

Director, Texas Therapeutics Institute at the
Brown Foundation Institute of Molecular Medicine

Dr. Zhiqiang An is Professor and the Robert A. Welch Distinguished University Chair in Chemistry, Director of the Texas Therapeutics Institute, and Vice President of Drug Discovery at the University of Texas Health Science Center at Houston. His laboratory focuses on antibody drug discovery. During the last 10 years, he has advanced six drug candidates to clinical trials for diseases ranging from acute myeloid leukemia (IO-202), cancer bone metastasis (ALMB-0168), solid tumor (IO-108), spinal cord injury (ALMB-0166), COVID-19 (IGM6268), and solid tumor (PRTH-101). Previously, he served as Chief scientific Officer at Epitomics, Inc. and was Director of Biologics Research at Merck. Dr. An is an elected fellow of SIMB, ASM, AAAS, and the National Academy of Inventors (NAI). He is the recipient of the 2024 Scientific Achievement Award in Drug Discovery and Development given by the American Society for Pharmacology and Experimental Therapeutics (ASPET). Dr. An received his Ph.D. degree from the University of Kentucky and his postdoctoral training at the University of Wisconsin-Madison.

Developing Antibodies Targeting LILRB2/TREM2 in Alzheimer's Disease

Triggering receptor expressed on myeloid cells 2 (TREM2) plays crucial roles in Alzheimer's disease (AD) by regulating microglia migration toward, and phagocytosis of amyloid plaques. We have discovered that TREM2 functions are negatively regulated by leukocyte immunoglobulin-like receptor subfamily B member 2 (LILRB2), an inhibitory receptor bearing ITIM motifs. Genetic studies have identified both TREM2 and LILRB2 as risk factors for AD. This presentation will discuss the molecular mechanisms of TREM2/LILRB2 interaction in AD pathogenesis and engineering antibodies targeting TREM2 and LILRB2 for potential AD therapy.

DAY 1 SPEAKER

Jeng Her

何正宏

Chief Executive Officer (CEO),
AP Biosciences, INC.

EDUCATION / TRAINING

INSTITUTION AND LOCATION	DEGREE	MM / YY	FIELD OF STUDY
Dept. of Physics, National Taiwan University, Taipei, Taiwan	B.S.	1981-1985	Physics
Dept. of Microbiology & Immunology, University of Virginia, Charlottesville, VA	Ph.D.	1987-1993	MAKP cloning and dual-phosphorylation
Bristol-Myers Squibb, Princeton, NJ	Post-Doc	1993-1995	Protein kinases and G proteins
DNAX Research Institute (acquired by Merck), Palo Alto, CA	Post-Doc	1995-1998	Signal transduction pathways

Professional experience

- 1998 - 2004 Co-founder of KaloBios Pharmaceuticals, Inc. (NASDAQ: HGEN), an antibody company with three innovative antibody drugs in clinical trials for cancer, inflammatory and anti-infectious diseases; including KB001-A, an antibody for anti-Pseudomonas infection of patients on ventilator, which was licensed to Sanofi Pasteur for $290M plus royalties. In addition, the antibody Humaneering technology developed by the founders was licensed non-exclusively to Novartis for $32M in 2006. Total of ~ $100M venture capital was raised before the company went public in Jan, 2013.
- 2005 - 2006 A founding member and VP of R&D, Multispan, Inc., a leader in G protein-coupled receptor (GPCR) specialty reagents and service provider for GPCR drug development. Dr. Jeng Her was responsible for development of the product line for more than 300 human GPCRs and establishment of a cell-based assay for GPCR compound profiling. These reagents and services had become the major revenue-generation mechanisms which brought the company to a break-even point 18 months after inception of the company.
- 2006 - 2013 Founder & CEO of ProtevoBio, Inc. ProtevoBio is a self-support, employee-owned company with a focus on antibody and protein engineering for biosimilars, bio-betters, innovative antibodies and receptor/ligand Fc fusion traps. The company has developed a fully integrated technology platform for generation and optimization of pre-clinical stage antibody/biologic drugs, including IBI302, which was licensed to Innovent Biologics (1801.HK), currently in PIII trials for wet AMD.
- 2013 - Present Founder & CEO of AP Biosciences (圓祥生技; 6945.TW), a clinical stage bispecific antibody drug developer in Taipei, Taiwan.

DAY 1 SPEAKER

Weichang Zhou

Honorary President and Senior Advisor to (CEO), WuXi Biologics

Dr. Weichang Zhou is Executive Director of the Board, President and Chief Technology Officer (CTO) of WuXi Biologics. With over 30 years of industry experience, Dr. Zhou provides strategic leadership to the firm as he leads a biologics development team of more than 5,000 employees supported by over 3,300 experienced scientists, including 450+ with Ph.D. degree or equivalent – recognized as one of the five largest biological development teams in the world. Dr. Zhou specializes in biologics manufacturing process development, scale-up, characterization, technology transfer, manufacturing and regulatory support.Prior to joining WuXi Biologics in 2012, Dr. Zhou served in senior leadership positions with multiple Chemistry, Manufacturing, and Controls (CMC) teams, including as Senior Director of Commercial Cell Culture Development at Genzyme (a Sanofi company), Senior Director of Process Sciences and Engineering at PDL BioPharma, and Associate Director of Fermentation and Cell Culture at Merck.

Dr. Zhou has authored and published near 80 scientific papers and holds 9 international patents. He has delivered over 200 presentations and lectures at multiple international conferences and professional courses, and is active in organizing and chairing conferences and symposia related to the development and commercialization of vaccines and biologics. Dr. Zhou served as Chair of the Cell Culture Engineering (XIV) 2014 Conference, Biochemical Engineering (XIII) 2003 Conference, and 2004 Program of the Division of Biochemical Technology of the American Chemical Society (ACS) at the 227th ACS Spring National Meeting. Dr. Zhou was elected as an American Chemical Society fellow in 2013 and an American Institute for Medical and Biological Engineering (AIMBE) fellow in 2002. He previously served as an executive committee member of the Division of Biochemical Technology (BIOT) at the American Chemical Society between 2003 and 2014. He also served as the Division's Program Chair (2004), Awards Chair (2005-2008), Chair-Elect (2008), Chair (2009) and Past-Chair (2010).

Dr. Zhou obtained a Ph.D. in Chemical Engineering from the University of Hannover in 1989 and conducted postdoctoral research at the German Association of Chemical Engineering and Biotechnology, Swiss Federal Institute of Technology Zurich, and the University of Minnesota.

Innovative Technologies to Expedite Global Biologics Development & Manufacturing

- Emerging trends, challenge, and opportunities of new modalities
- Recent advances and application of industry-leading technologies
- Digitalization and automation enabling more efficient biologics development & manufacturing

DAY 1 SPEAKER

Haruhiko Kamada

鎌田 春彦

Group Leader, Laboratory of
Advanced Biopharmaceuticals / Center for
Drug Design Research, National Institutes of
Biomedical Innovation, Health and Nutrition, Japan

Research Interest:
Protein science, Biochemistry, Cancer therapy, Antibody engineering,

Employment:
- 2016 - present Project Leader, National Institute of Biomedical Innovation, Osaka, Japan
- 2010 - 2016 Project Sub-Leader, National Institute of Biomedical Innovation, Nutrition and Health Osaka, Japan
- 2005 - 2010 Senior Researcher, National Institute of Biomedical Innovation, Osaka, Japan
- 2004 - 2005 Senior Researcher, National Institute of Health Sciences, Osaka Branch Fundamental Research Laboratories for Development of Medicine, Osaka, Japan
- 2000 - 2004 Assistant Professor, Mie University School of Medicine, Mie Japan

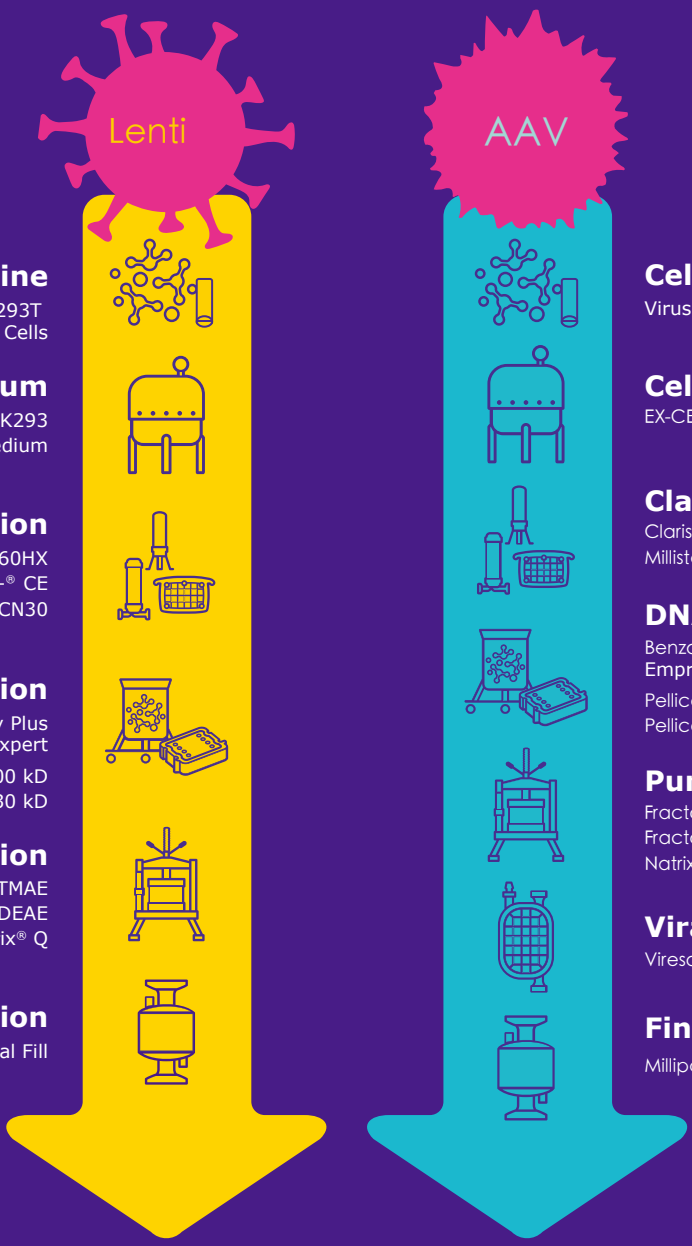
Education:
- Ph.D. Graduate School of Pharmaceutical Sciences, Osaka University 2000.
- M.S. in Graduate School of Pharmaceutical Sciences, Osaka University 1997.
- S.B. in Faculty of Pharmaceutical Sciences, Osaka University 1995.

Awards:
- The Academy of pharmaceutical Science and Technology, Japan, The Best Paper Award, 1999
- Pharmaceutical Research Continuous Grants, Takeda Science Foundation,2006
- XXIII ISTH Congress JSTH Asian-Pacific Scholarship, 2011
- Grand Prize in Competition for Commercialization of Drug Discovery Seeds, Osaka Bio Headquarters, 2019

Technology to generate highly functional antibodies for antibody drug development

Antibodies are known as essential molecules that have high affinity for various molecules and play a critical role in the defense mechanisms of organisms against foreign factors such as viruses and bacteria. Antibodies are characterized not only by their affinity, but also by their high specificity for target molecules, making them prime candidates for the development of drugs with clear mechanisms of action. As a result, they are currently used in the treatment of several refractory diseases.
However, the mere acquisition of binding affinity is not sufficient to create antibodies with significant pharmaceutical value. In other words, the desired properties of therapeutic antibodies involve the regulation of the function of the target molecule, thus necessitating the creation of functional antibodies with properties that demonstrate therapeutic efficacy.
To develop such functional antibodies, it is essential not to view the binding between antibodies and drug targets as a vague interaction. Instead, it is crucial to view the structure of drug targets as separate entities and focus on creating antibodies that bind to functional epitopes, known as functional epitope-targeting antibodies. Therefore, we have been working to create an "Epitope Normalized Antibody Panel (ENAP)" consisting of antibodies capable of binding to different functional epitopes on the target molecule, thereby comprehensively covering epitopes on the drug target. By combining this antibody panel with experimental systems capable of evaluating antibody function, we have sought to efficiently acquire antibodies with high pharmaceutical value.
Through the development of this antibody acquisition technology, we have demonstrated that prioritizing functional epitopes over affinity, which has traditionally been emphasized in existing antibody drug development, allows for the rapid and rational development of antibody drugs. In this presentation, we will discuss our research on the development of therapeutic antibodies targeting the tumor necrosis factor receptor family as an example of the development of antibody drug candidates useful in the treatment of disease.

Cell and Gene Therapy Manufacturing Solutions for LV and AAV



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Pellicon® 2 Biomax 100 kD and 300 kD
Pellicon® Capsule Ultracel 30 kD

Purification
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Fractogel® EMD DEAE
Natrix® Q

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Millipak® Final Fill

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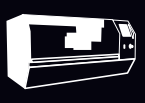
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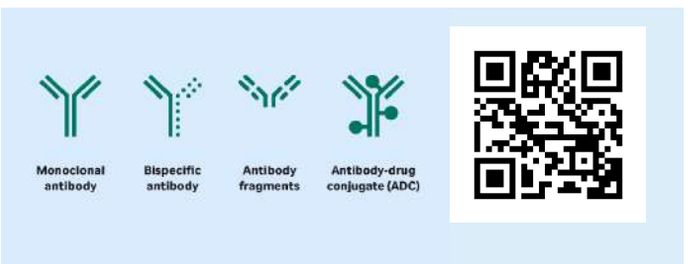
Antibody production workflow - support for process development and manufacturing of mAbs, bispecific antibodies, fragments and more

Antibody-based therapies have evolved beyond monoclonal antibodies (mAbs) to include bispecific antibodies, antibody fragments, antibody-drug conjugates (ADCs), and more novel therapeutics. These molecules share some common unit operations. Download the complete purification strategy for antibody production, please visit the QRcode website.



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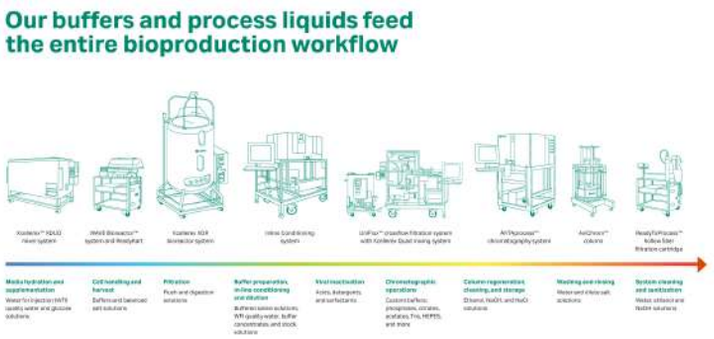
- Supply chain stability



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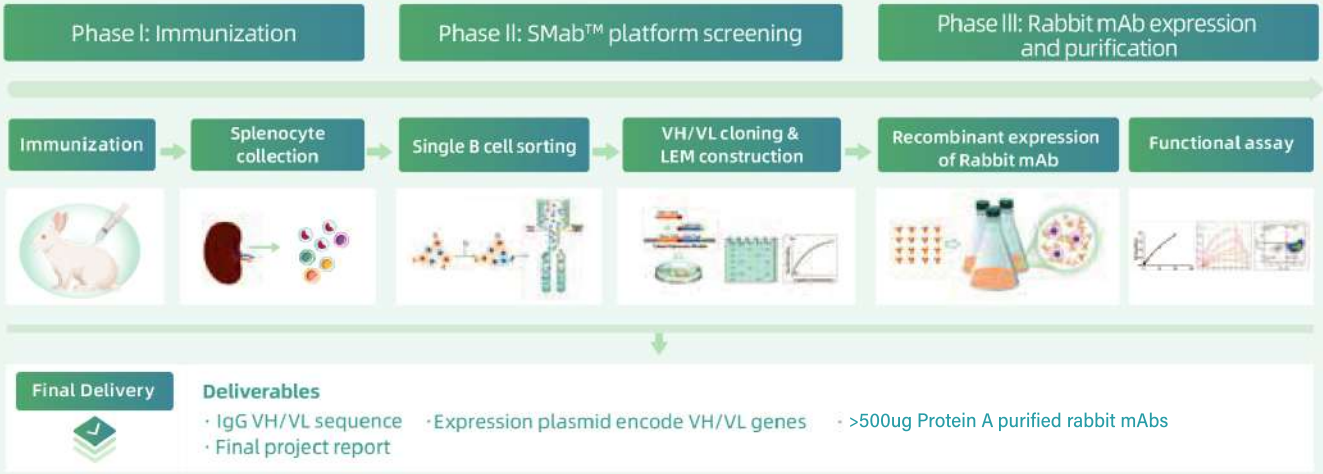

Applications

In Vitro diagnostics
- ✓ IHC pathology
- ✓ Flow cytometry
- ✓ ELISA Antibody pair

Research Antibody
- ✓ PTM specific antibody
- ✓ Small Molecule Antibody
- ✓ Anti-mRNA/siRNA Antibody

Therapeutic Antibody
- ✓ Broadly Neutralizing Antibody
- ✓ Agonist Antibody
- ✓ Antibody drug

PK assay

Anti-idiotype Antibody
- ✓ CAR-T
- ✓ ADC
- ✓ Bi- or Tri-specific Antibody
- ✓ Monoclonal Antibody Drug

PK and ADA Assay Reagent Development

ADA（Anti-Drug Antibody）和PK/PD的測定在藥物開發的過程中至關重要，ADA（抗藥物抗體）測定主要用於檢測治療性蛋白質/抗體在患者體內的免疫原性，藥物動力學（PK）分析則是評估藥物如何在體內吸收、分佈、代謝等。兩種檢測方法均有助於確保患者接受安全有效的治療。YUROGEN 利用豐富的經驗為您的 PK、PD、抗體藥物開發期間的 ADA 研究。 我們的服務包括：

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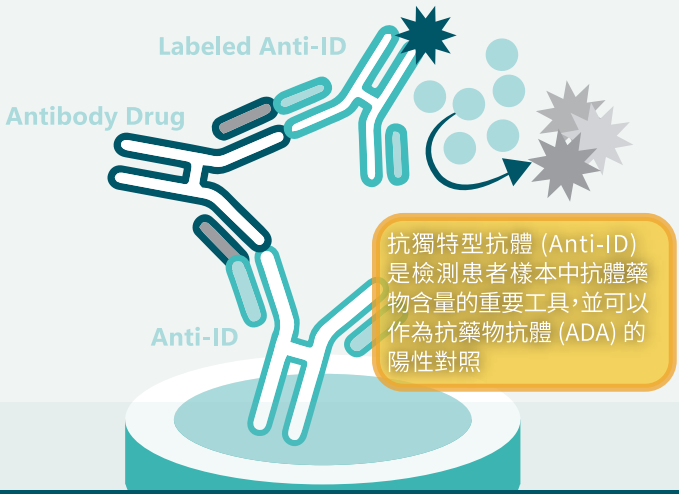

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東部 | 友豐生物科技有限公司 | TEL 0933-484323

DAY 1 SPEAKER

Ming-Tain Lai

賴明添

Chief Scientific Officer (CSO), OBI Pharma, INC.

Current Position

Chief Scientific Officer, OBI Pharma Inc.,

Experience

- OBI Pharma浩鼎生技 (2019 - present)
  Lead R&D teams to develop clinical candidates of vaccines, monclonal antibodies, antibody drug conjugates (ADC), and CAR T cell therapies. He and his team advanced several candidates into clinical trials.
- Merck Sharp & Dohme默沙東 (1995-2019)
  During his tenure at Merck, he and his teams have identified 14 pre-clinical candidates for further development and 12 of them entered clinical trials. One of the clincal candidates completed Ph 3 trials and was approved by FDA in 2018.

Education

- Ph.D. University of Minnesota (1987–1992)
- Post-doctoral study. Massachusetts Institute of Technology (1992– 1995)

OBI-992: An Anti-TROP2 ADC With Distinct Properties

TROP2, a transmembrane glycoprotein highly expressed on epithelial cancers, has emerged as an attractive target for the development of antibody-drug conjugate (ADC). Datopotamab deruxtecan (Dato-DXd), a TROP2 ADC, has been submitted to FDA for approval in nonsquamous non–small cell lung cancer.

R4702 is a novel TROP2 antibody with a different binding epitope from Datopotamab. OBI-992 is a TROP2-targeting ADC, which is derived from the conjugation of R4702 with a topoisomerase I inhibitor, exatecan, via an enzyme-cleavable linker. A PK/PD study in tumor-bearing mice revealed that OBI-992 exhibited higher tumor exposure of free payload than Dato-DXd, resulting in a better antitumor efficacy. In vitro cytotoxicity testing demonstrated that OBI-992 had lower toxicity in differentiating neutrophils and THP-1 cells compared to Dato-DXd, suggesting that OBI-992 may cause less off-target toxicity. Toxicokinetics of OBI-992 in cynomolgus monkeys showed that the systemic exposure of ADC was similar to that of total antibody. The highest non-severely toxic dose (HNSTD) was determined to be 60 mg/kg.

In various CDX and PDX models, a single dose of OBI-992 at 3 or 10 mg/kg exhibited remarkable antitumor efficacy. The antitumor efficacy of OBI-992 surpassed that of datopotamab Dato-DXd across different CDX and PDX models. OBI-992 demonstrated a bystander killing effect as OBI-992 was able to kill TROP2-negative xenografts in the presence of nearby TROP2-positive cells. Furthermore, significant synergistic effect with the combination of OBI-992 with PARP inhibitors was observed. OBI-992 exhibits remarkable antitumor efficacy and a favorable safety profile warranting further studies in the clinical setting.

DAY 1 SPEAKER

Wuh-Liang Hwu

胡務亮

Professor, Department of Medical Genetics and Pediatrics,National Taiwan University Hospital

CURRENT POSITIONS

College of Medicine, Pediatrics, National Taiwan University, Taipei, Taiwan	Professor	--present
Department of Medical Genetics and Pediatrics, National Taiwan University Hospital, Taipei, Taiwan	Attending Physician	--present
Department of Pediatrics, National Taiwan University Hospital	Professor	--present
Department of Medical Genetics, National Taiwan University Hospital	Attending Physician	--present

EDUCATION

National Taiwan University	Institute of Molecular Medicine	Ph.D.	1997
National Taiwan University	College of Medicine	M.D.	1984
National Taiwan University		Ph.D.	
National Taiwan University	Medical	M.D.	

CAREER AND EXPERIENCE

Department of Medical Genetics, National Taiwan University Hospital	Director	2006 - 2012
Department of Pediatrics, National Taiwan University Hospital	Associated Professor	2005 - 2010
Department of Pediatrics, National Taiwan University Hospital	Assistant Professor	2002 - 2005
College of Medicine, National Taiwan University Hospital	Assistant Professor	1996 - 2002
Department of Pediatrics, National Taiwan University Hospital	Lecturer	1993 - 1996
Department of Genetics, Johns Hopkins University	Postdoctoral Fellow	1989 - 1990
Department of Pediatrics, National Taiwan University Hospital	Residency	1986 - 1989
Department of Pediatrics, National Taiwan University Hospital	Professor	2010 -
Department of Medical Genetics, Mayo Clinic, Rochester, United States	Visiting Scientist	2000 -
Department of Medical Genetics and Pediatrics, National Taiwan University Hospital	Attending Physician	1990 -
Department of Genetics, Johns Hopkins University	fellowship	
Department of Medical Genetics, Mayo Clinic	Visiting Scientist	

DAY 1 SPEAKER

Shu-Jen Chen

陳淑貞

Chief Scientific Officer (CSO),
AnHorn Medicines, INC.

Current Position

Chief Scientific Officer, AnHorn Medicines

Experience

- Co-founders and CSO, ACT Genomics
- Associate Professor, Chang Gung University
- In Vitro Pharmacology Group Head, Taigen Biotech

Education

- Ph.D. in Biochemistry, Virginia Commonwealth University
- MS in Biochemistry, National Taiwan University
- BS in Pharmacy, Taipei Medical College

Degrader-Antibody Conjugates: Emerging Modality for Tissue-Specific Targeted Therapy

Degrader-antibody conjugates (DACs) represent a promising class of therapeutics that integrate the specificity of monoclonal antibodies with the potent protein-degrading capabilities of small molecule degraders. This novel approach enables the selective degradation of disease-causing proteins, offering a unique strategy for targeted therapy.

DACs have shown considerable potential in preclinical studies, demonstrating the ability to target a variety of cancer-associated proteins that are challenging to inhibit using traditional approaches. By inducing protein degradation, DACs can effectively disrupt oncogenic pathways and inhibit tumor growth.

One of the key advantages of DACs is their ability to achieve targeted protein degradation within specific tissues, minimizing off-target effects and reducing systemic toxicity. This precision targeting is particularly valuable in the treatment of cancers where traditional therapies have limited efficacy or significant side effects.

Ongoing clinical trials are evaluating the safety and efficacy of DACs in various cancer types, underscoring the growing interest and potential of this innovative therapeutic modality. Continued research and development in this area hold promise for expanding the therapeutic landscape and improving outcomes for patients with cancer.

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References:

1. Gisslinger H, Klade C, Georgiev P, et al. Ropeginterferon alfa-2b versus standard therapy for polycythaemia vera (PROUD-PV and CONTINUATION-PV): a randomised, non-inferiority, phase 3 trial and its extension study. Lancet Haematol. 2020;7(3):e196-e208. doi:10.1016/S2352-3026(19)30236-4
2. 百斯瑞明仿單. PharmaEssentia Corporation.

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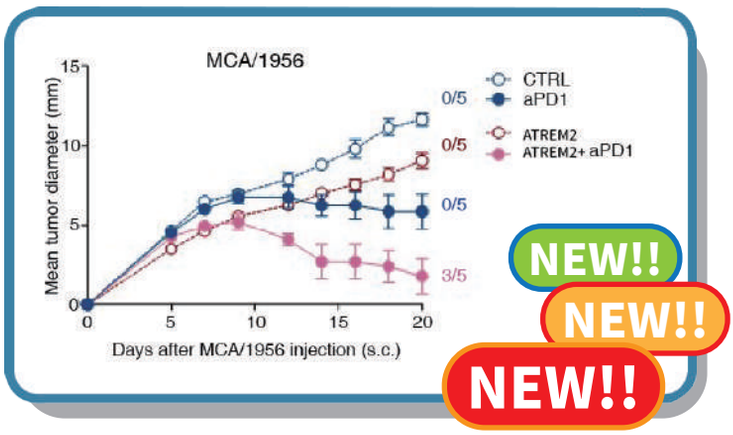

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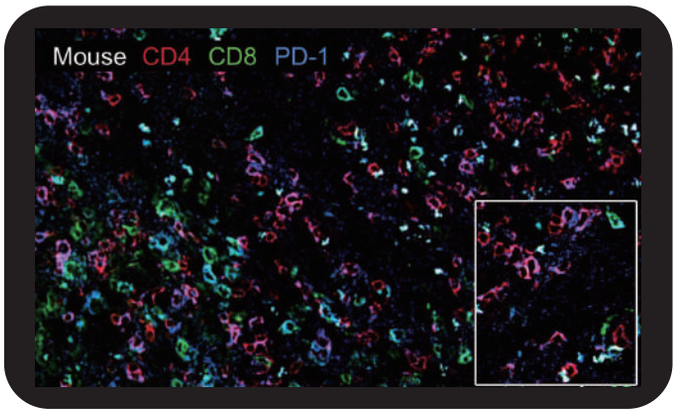

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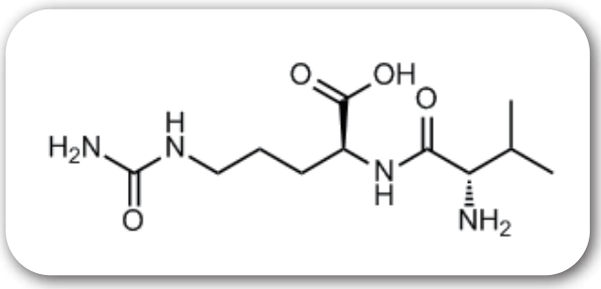

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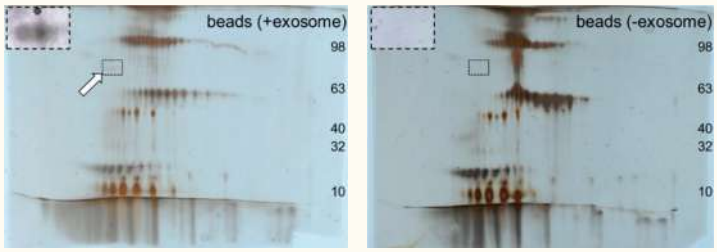
- ✓ 生物製劑製程相關雜質 HCPs (Host Cell Proteins) 偵測
- ✓ 二維膠體螢光差異凝膠電泳 (2D-DIGE)
- ✓ 蛋白轉譯後修飾研究
- ✓ 食品過敏原檢測
- ✓ 蛋白質樣品批次品質檢測

二維電泳應用在 **Antibody-drug conjugate (ADC)** 案例分享

D



此篇作者將癌細胞的 Exosome 注入大鼠體中，篩選出癌細胞中有表現的多通道膜抗體 0614 clone。然後利用磁珠進行免疫沉澱搭配 Auto2D® 二維電泳，確定此抗體為抗 CD73 的抗體。最後可將其抗體製作成抗體藥 0614-5-ADC，用來治療 CD73 表達高的癌症。
此研究策略也可以用來確定其他外泌體免疫產生的任何抗體的抗原。

Front Immunol. 2019; 10: 2103.
Pharmaceuticals 2022, 15(7), 837

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DAY 2 SPEAKER

Pan-Chyr Yang

楊泮池

Academician, Academia Sinica /
Professor, Department of Internal Medicine,
National Taiwan University

Current Position

- Academician, Academia Sinica
- Professor, Department of Internal Medicine, College of Medicine, National Taiwan University

Experience

- President, National Taiwan University
- Chairman and Member of the permanent committee, Committee on Medical Science Education, Ministry of Education, ROC
- Superintendent, National Taiwan University Cancer Center
- Committee on Medical Science Education, Ministry of Education, ROC
- Professor, Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University
- Dean, College of Medicine, National Taiwan University
- Distinguished Professor and Chair Professor, National Taiwan University
- Director, NTUH National Clinical Trial and Research Center
- Vice Superintendent, National Taiwan University Hospital
- President, Taiwan Society of Pulmonary and Critical Care Medicine
- Director, Advisory Office, Ministry of Education, ROC
- Associate Dean for Academic Affairs, College of Medicine, National Taiwan University
- Adjunct Investigator, President's Lab., National Health Research Institute
- Joint Appointment, Institute of Biomedical Sciences, Academia Sinica
- Chairman, Department of Internal Medicine, National Taiwan University Hospital
- Professor, Department of Internal Medicine, College of Medicine, National Taiwan University
- Director/Co-director, National Research Program for Biopharmaceuticals
- Adjunct Associate Researcher and Researcher, Institute of Biomedical Sciences, Academia Sinica
- Attending Physician, Department of Internal Medicine, National Taiwan University Hospital

Education

- Ph.D., Graduate Institute of Clinical Medicine, National Taiwan University
- M.D., College of Medicine, National Taiwan University,

Perspectives of Precision Lung Cancer Control in Taiwan

DAY 2 SPEAKER

Andrew H.-J. Wang

王惠鈞

Academician, Academia Sinica

RESEARCH

Our laboratory is specialized in structural proteomics, and uses it to study the functions of important bio-systems. Our primary methodologies are high-throughput synchrotron protein crystallography, proteomics as well as bioinformatics. Other advanced technologies, e.g., NMR spectroscopy, SAXS, EM, biophysical or immunological methods are used if necessary. The following domains are our primary interests:

1. Structural enzymology: Several enzymes as potential targets for drug discovery are under investigation. For developing new antibiotics, we focused on prenyltransferases. For anticancer agents, we analyzed phosphatases (in signal transduction). Studies of potential targets for diabetics and Alzheimer's disease are also in progress.
2. Protein-DNA interactions: Besides investigating the effect of small drug molecules in gene transcription, we further devoted to another new gene regulation mechanism by DNA mimic proteins.
3. Causative microorganisms and cancer: In these issues, we focused on the regulation of bacterial anti-drug gene and biofilm as well as the cancer-related kinases and phosphatases.
4. Development of potential pharmaceutical proteins: We also involved in the protein drug discovery by investigating membrane proteins, antigens and antibodies.

DEGREES AND POSITIONS HELD

- 1974 Ph.D., University of Illinois at Urbana-Champaign
- 1970 M.S. , National Taiwan University
- 1967 B.S., National Taiwan University
- 2019 - present Visiting Scholar, Institute of Biological Chemistry, Academia Sinica
- 2019 - present Visiting Chair, Biomedical Translation Research Center
- 2017 - 2020 Director, Program for Translational Innovation of Biopharmaceutical Development – Technology Supporting Platform Axis
- 2017 - 2019 Acting CEO, National Biotechnology Research Park
- 2016 - 2019 Distinguished Visiting Chair, Institute of Biological Chemistry, Academia Sinica
- 2016 - 2019 Co-Chair, Taiwan Protein Project
- 2015 - 2016 Vice President, Academia Sinica
- 2011 - 2015 Distinguished Research Fellow , Institute of Biological Chemistry, Academia Sinica
- 2006 - 2011 Distinguished Research Fellow and Vice President (Academic), Academia Sinica
- 2000 - 2006 Distinguished Research Fellow and Director, Institute of Biological Chemistry, Academia Sinica
- 1992 - 1999 Adjunct Research Fellow, Institute of Molecular Biology, Academia Sinica
- 1988 - 1996 Advisory Board Members, Institute of Molecular Biology, Academia Sinica
- 1988 - 1989 Professor, University of Illinois at Urbana-Champaign
- 1985 - 1988 Senior Research Scientist, MIT
- 1982 - 1985 Principal Research Scientist, MIT
- 1980 - 1982 Research Scientist, MIT
- 1974 - 1980 Postdoctoral Research Associate , MIT

DAY 2 SPEAKER

Yun Yen

閻　雲

Joint Appointment Research Fellow,
Institute of Biological Chemistry, Academia Sinica

RESEARCH

1. Clinical Oncology,
2. Cancer drug development,
3. Translational medicine

DEGREES AND POSITIONS HELD

- 1985 - 1988 Ph.D., Pathology and Cell Biology, Thomas Jefferson University
- 1975 - 1982 MD, School of Medicine, Taipei Medical College
- 2014 - present Joint Appointment Research Fellow, Institute of Biological Chemistry, Academia Sinica
- 2011 - present The Ph.D. program for Cancer Biology and Drug Discovery ,Professor, Taipei Medical University
- 2011 - 2017 President, Taipei Medical University
- 2003 - 2011 City of Hope, National Medical Center, Professor

DAY 2 SPEAKER

John Yu

游正博

Director, The Institute of Stem Cell and Translational Cancer Research (ISCTCR), Chang Gung Memorial Hospital (CGMH)

RESEARCH

- Stem cell biology 幹細胞生物學
- Regulation of hematopoiesis 造血調控
- Tumorigenesis cell 腫瘤細胞

Experience

- 2002 - 2005 Distinguished Research Fellow & Director, Institute of Zoology, Academia Sinica.
- 2002 - 2013 Chief, Stem Cell Program, and Distinguished Research Fellow, The Genomics Research Center, Academia Sinica.
- 2005 - 2009 President, Taiwan Society for Stem Cell Research
- 2005 - 2009 Distinguished Research Fellow & Director, Institute of Cellular & Organismic Biology, Academia Sinica
- 2009 - 2013 Distinguished Research Fellow, Institute of Cellular & Organismic Biology, Academia Sinica
- 2013 - present Distinguished Visiting Fellow, Institute of Cellular & Organismic Biology, Academia Sinica

Education

- M.D., 1968, National Taiwan University
- Ph.D. in Biophysics, 1974, University of Chicago
- Fellow in Biology, 1974-77, The Biological Laboratories, Harvard University

DAY 2 SPEAKER

Chih-Hao Lee

李志浩

Director, Genomics Research Center,
Academia Sinica

EDUCATION AND POSITIONS HELD:

- B.S., Chemical Engineering, National Tsing-Hua University, Taiwan, 1989
- Ph.D., University of Minnesota,USA, 1999
- Postdoctoral fellow, Salk Institute, 1999-2004
- Assistant Professor, Harvard School of Public Health, 2004-2010
- Associate Professor, Harvard School of Public Health, 2010-2015
- Professor, Harvard School of Public Health, 2015-2023
- Distinguished Professor, Genomics Research Center, Academia Sinica, 2023-present
- Director, Genomics Research Center, Academia Sinica, 2023-present

HONORS:

- The Scientist Development Grant awarded by the American Heart Association, 2006
- The Mentoring Award by the HSPH graduating class of 2011, 2011
- Armen H. Tashjian Jr. Award for Excellence in Endocrine Research, 2012

RESEARCH INTERESTS:

The main research interest of the lab is to understand bioenergetic controls of physiological processes that impact metabolic health. Approaches employed include a variety of tools in molecular/cell biology, biochemistry and metabolomics as well as mouse models of obesity and related metabolic diseases. Current projects, with an emphasis on the crosstalk between metabolic and immune signaling, focus on the following areas:

- Molecular basis of endurance exercise-induced metabolic adaptation
- Mitochondrial dynamics in liver metabolism and feeding/fasting responses
- Circadian/metabolic rhythm and metabolites mediated inter-organ communication
- Mitochondrial bioenergetics in inflammatory activation and resolution of immune cells

ACKNOWLEDGEMENT

Thanks for your supporting

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BioAb 拜爾國際股份有限公司

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FORMOSA LABORATORIES, INC. 台耀化學股份有限公司

tfbs 啓弘生物科技股份有限公司 TFBS Bioscience, Inc.

Jello

TAIWAN'S LARGEST CDMO FOR BIOLOGICS

ONE-STOP SHOP CLINICAL & COMMERCIAL

- Mono & Bi & Poly-specific Antibodies
- Antibody Drug Conjugates (ADCs)
- Recombinant Proteins & Peptides
- Plasmid DNAs (pDNAs)
- Biosimilars
- Vaccines

Since 2012

1.0 Bn USD
Market Capitalization

90+
Products

29.6 kL
Total Capacity (& Growing!)

15+
Countries for IND/NDA Sub.

CELL LINE DEVELOPMENT

- Mammalian & Microbial

PROCESS DEVELOPMENT

- Upstream & Downstream & Formulation

ANALYTICAL SERVICES

- Development & Validation & Characterization

GMP MANUFACTURING

Mammalian
2 x 200L, 5 x 1,000L, 12 x 2,000L SUBs
3 x 15,000 SUBs (2028)

Microbial
1 x 30L, 1 x 150L Fermentors
1 x 75L, 500L, 1 x 1,500L Fermentors (2025)

REGULATORY SUPPORT

Inspections & Approvals

US FDA · EU EMA · Japan PMDA · Taiwan FDA · Australia TGA

Contact Us : bd@eirgenix.com

Manufacturing for Pre-Clinical to Commercial Supply!

ZHUBEI FACILITY (A)
Clinical to Commercial

Mammalian
- 1000 L x 2 SUBs
- 2000 L x 12 SUBs

ZHUBEI FACILITY (B)
Clinical to Commercial

Microbial
- 75 L x 1 Fermentor
- 500 L x 1 Fermentor
- 1500 L x 1 Fermentor

STARTING 2025

STARTING 2028

XIZHI FACILITY
Pre-Clinical to Commercial

Mammalian
- 200 L x 2 SUBs
- 1000 L x 1 SUB

Microbial
- 30 L x 1 Fermentor
- 150 L x 1 Fermentor

QIAOTOU FACILITY
Commercial (Global Scale)

Mammalian
- 15000 L x 10 SSBs

Cost-Effective
High Value-to-Cost Ratio Services

Flexible
Client-Orientated, Customized Service Packages

Timely
Competitive Timelines to Meet Client Targets

High Quality
Internationally-Recognized Quality Services

Experienced
Broad and Extensive CDMO Track Record

Total Solution

從實驗室到工廠，我們有完整的解決方案

cytiva

Request Free sample*

*(ex. CHO, HEK293)

Fast Trak Custom Service

- Optimization
- Analysis
- Stability Test
- Rapid Response Production

nova biomedical

BioProfile FLEX2

ADVANCED INSTRUMENTS

Cell Metric® X

Solentim STUDIUS™

VIPS® PRO

ICON™

ABER

Lucullus PIMS

Biomass assessment

GETINGE

Applikon my-Control

Livit Flex

Applikon AppliFlex ST

Applikon Bio

岑祥股份有限公司

台北：02-27851156 台中：04-24710255 新竹：03-5307592 高雄：07-3431735 台南：06-2071392

info@thco.com.tw

LIFE SCIENCE TECHNOLOGIES

官網 LINE@

Bora Biologics

Making Success More Certain

From Helix to Clinical

Bora Biologics can support your molecules for :

1. Cell Line Development
2. Analytical & Formulation Development
3. Process Optimization
4. Early Stage Material
5. cGMP Manufacturing

boragroup

Bioanalytical Solutions from Preclinical to Clinical Stage

Leveraging over 30 years of experience of our GLP and GCP compliant laboratory, Mithra has the expertise to analyze both chemical drugs and protein drugs, to develop bioanalytical method from scratch and to support method validation and large scale sample analysis from preclinical to early and late clinical research.

Per Your Study Stage

Preclinical
Non-GLP & GLP Toxicology Study

- Single dose/Repeat dose/DRF
- Dose formulation analysis
- Immunogenicity assessment
- Animal study management
- Pharmacokinetics
- Toxicokinetics
- Pharmacodynamics
- PK/PD modeling

Clinical
FIH or phase I to IV

- Pharmacokinetics in SAD/MAD/FE
- Immunogenicity assessment
- Biomarker & Cytokine analysis
- Clinical trial supply

Per Type of Molecules

NCE, Peptides & New modality drugs
Mass Spectrometry

- Method development/validation
- PK & PD bioanalysis
- Exploratory metabolite profiling
- Protein binding & Blood plasma partitioning
- Customized development and experimental design

Biotherapeutics
Ligand Binding Assay

- Method development/validation
- PK & PD bioanalysis
- Immunogenicity assessment
- Antibody titers
- Biomarker & Cytokine analysis

Immunogenicity (Anti-drug Antibody) for Biotherapeutics
ELISA, Electrochemiluminescence (MSD)

Tiered approach from screening, confirmatory, titration & neutralization

- Assay development & validation
- Drug tolerance assessment
- Cut-point determination
- Sensitivity navigation & optimization

Biomarkers & Cytokines
LC-MS/MS, Ligand binding assay, MSD, Flow cytometry (CBA)

- Multiplex detection of biomarkers & cytokines
- Tailored and integrated solution for biomarker analysis
- Method qualification or Fit-for-purpose assay development

What we support for your clinical trial :

- PK/PD modeling and dosage determination in FIH study
- Customized manual for specimen collection and handling instructions
- Clinical trial management & Site staff training
- Lab kit design and supply

Mithra 明生生物科技股份有限公司 Mithra Biotechnology Inc.

Analytical Expertise · Quality Output
Dedicated Project Management

樂斯科生物科技

動物實驗職人

快速內毒素檢測

省時快速 | 符合 3R

Nexgen-PTS™

減少用量

15分鐘

簡易操作

快速微生物檢測

省時一倍 | 符合 CFR

Celsis Advance II™

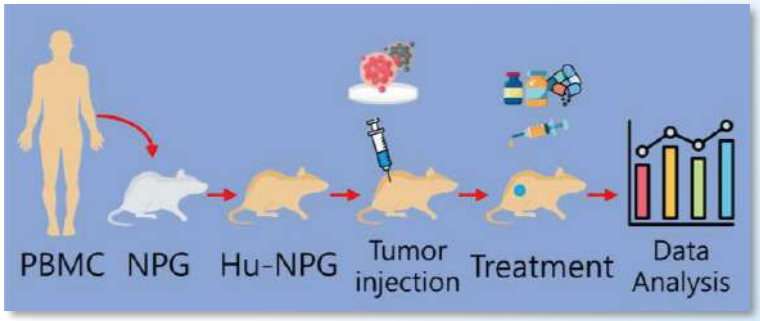
ATP生物發光

4 - 7天

適用各種樣品

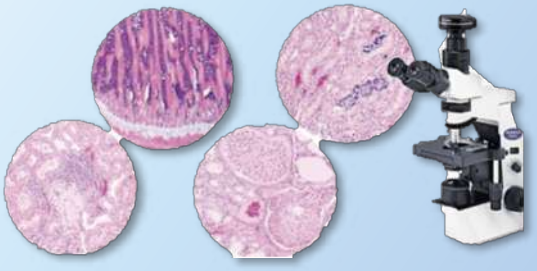
動物檢測服務

動物試驗 | 免疫擬人鼠



病毒理服務

交期穩定 | 專業分析



客製化抗體

NEW

iREAL BIOTECHNOLOGY

Rabbit Recombinant Monoclonal Antibody Service

Advantage:

1. High lot-to-lot consistency
2. Animal-free antibody Production
3. Sensitivity and higher affinity
4. Improved tissue penetration

動物飼育服務

消毒產品

各式飼料及墊料

動物飼育設施設備

實驗室儀器及器械

LASC

樂斯科生物科技股份有限公司
地址：台北市南港區重陽路 267 號 3 樓
電話：(02)2651-8669 傳真：(02) 2651-8969

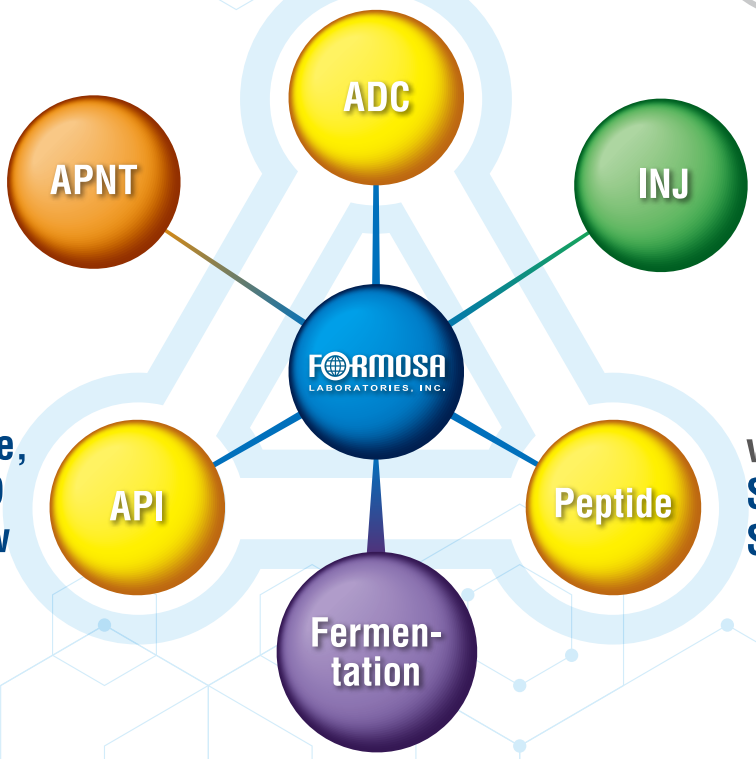
FORMOSA LABORATORIES, INC.

The Strategic One-stop CDMO Partner for Your Success.

ADC & APNT Candidates → CMC Development → API/DS Manufacturing → Injectable Manufacturing → Labelling/ Packaging/ Logistics

Linkerpayload Technology, Bioconjugation to sterile product supply

Nanoparticle Formulation Technology



Liquid, Lyo. and PFS for general and high potency

HPAPI, Hormone, Cytotoxic, Vit. D Continuous Flow

via **Microwave Solid-phase Peptide Synthesizer**

65 active **CDMO projects** in 2023, covered from prelinical, clinical and commercial stages. Concrete Quality Track Record and Certificates. File DMF in **32** countries, **50** US DMFs. Granted with PIC/S GMP and GDP certificates.

TFBS Bioscience Inc.

Available Services

Cell Bank Characterization

Mammalian Cell Bank Characterization

- Identity
- Genetic Stability
- Microbiology
- Adventitious Agent Testing
- Tumorigenicity and Oncogenicity

Bacterial and Yeast Cell Bank Characterization

- Purity
- Genetic Stability
- Identity
- Viability

Virus Clearance Validation Study

- DNA / Protein Impurity Clearance
- Virus Clearance Validation
- Phage Clearance Validation

Bulk and Lot Release Testing

- Identity and Impurity Test
- Potency Assay
- Customized Bioassay
- Testing for Vaccine / Biologics / Cellular Product

Assay Development / Optimization / Validation

- ELISA-based Assay : ELISPOT Assay / ADA Screening
- qPCR-based Assay
- Cell-based Assay : Potency assay / Neutralization Antibody Assay
- In vivo study : IBD animal model / TIL animal model / Xenograft animal model

Preclinical and Clinical Sample Analysis

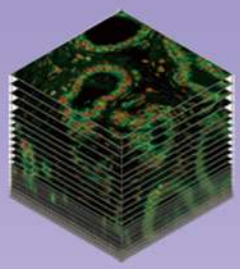
- Pharmacokinetic (PK) and Toxicokinetic (TK)
- Immunogenicity
- Neutralization Assay
- Cytokine Profile and Immuno-bioassay

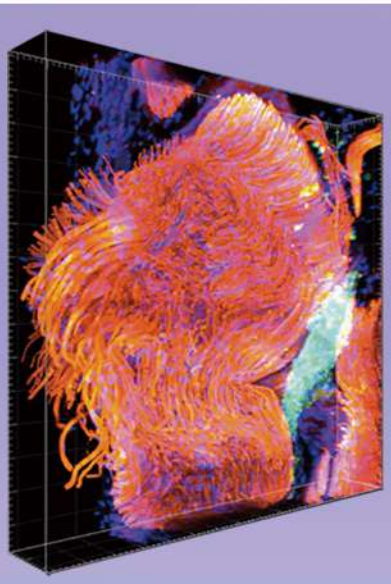
Production of Cell Bank & Viral Vector with GMP Compliance

- MCB / WCB / EOP Production
- AAV / LV / RV / Customized Viral Vector Production
- Full Panel of QC Test for Viral Vector & CAR-T Product

Jello X 3D Digital Pathology Imaging

Precision Medicine
- Immunotherapy
- Targeted Therapy
- Cell Therapy



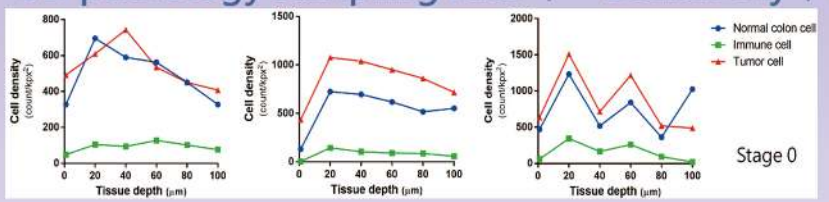


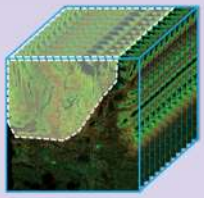
- **Lung cancer 3D PD-L1 + gene mutation**
- **Lung cancer 3D PD-L1 profiling**
- **Prostate cancer 3D Gleason scoring**
- **Oral cancer domain-KEY deep learning algorithm**
- **Breast cancer histopathology deep learning algorithm**
- **Breast cancer 3D PD-L1 profiling**

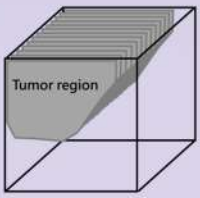
3D Pathology for Healthcare

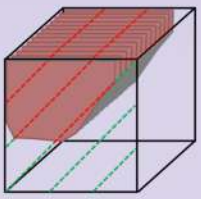
Colon Polyps Diagnosis

3D pathology sampling rate ↑ Sensitivity ↑

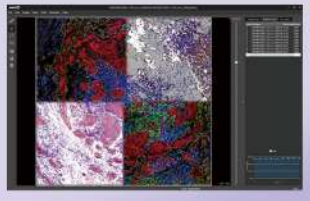








MetaLite®



O/X +/- % ROI TME TIL

- Edge device available
- CPU-based
- Stand-alone
- Server-plug application
- Easy-scalable
- Multi WSI format support
- Model uniformity
- Data collection
- Data privacy

Value-Added Features

1. Matching right patients to right drugs
2. Matching right drugs to right indications
3. Finding amenable patients for biopharma

Publication

Website

sales@jellox.com

2024 ATC抗體藥物暨第19屆前瞻生醫新知研討會

Antibody Therapeutic Conference &
19th Frontiers in Biomedical Sciences Conference

Organizers

TAA 社團法人台灣抗體協會 TAIWAN ANTIBODY ASSOCIATION

中央研究院 ACADEMIA SINICA

NBRP National Biotechnology Research Park 國家生技研究園區

BioMReC 生醫轉譯研究中心 Biomedical Translation Research Center

財團法人台北市林蔡耀教授學術教育基金會

Co-Organizers

伯森生技

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EirGenix

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岑祥股份有限公司 TSENG HSIANG LIFE SCIENCE LTD.

UNIMED 騰達行

BECKMAN COULTER Life Sciences

MOLECULAR DEVICES

cytiva

恆順生物科技

Mithra

LASC

新藥開發暨價創研究中心

BioAb 拜爾國際股份有限公司

Sponsors

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TFBS 啓弘生物科技股份有限公司 TFBS Bioscience, Inc.

Jello