



中药全球化联盟

CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE



CGCM 15th Annual Meeting

Regional Report

Taiwan Chapter

Local Chapter Coordinator: President Yun Yen

Secretary General: Prof. Hsu-Shan Huang

Taipei Medical University

2016/08/23



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CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE



CGCM in Taiwan



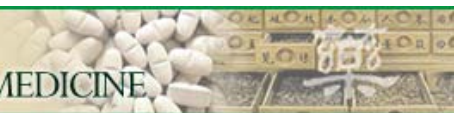
the city where you live :





Taiwan Chapter: History

- CGCM Taiwan Chapter was organized in 2005 under the support of National Health Research Institute (NHRI), founding President Dr. Cheng-Wen Wu (吳成文院長). The National Health Research Institutes (NHRI) is a non-profit foundation established by the government in 1995.
- Up to now, we have 21 institutional members (17 from academia and 4 from industry).
- 2005-2013: Chairperson, Academician Jacqueline Whang-Peng (彭汪嘉康院士)
 - Secretary General: Inan Ma-Feng (馬以南)
- **2014-present: Chairperson, Taipei Medical University, President Yun Yen (閻雲)**
 - **Secretary General: Hsu-Shan Huang (黃旭山)**



Local Organizing Committee in Taiwan

- **Agricultural Biotechnology Research Center (ABRC), Academia Sinica**
 - Lie-Fen Shyur (Chairman)
 - Ming-Che Shih; Ning-Sun Yang
 - Wen-Chin Yang; Pei-Wen Hsiao
 - Yet-Ran Chen; Yu-Liang Yang
 - Yu-Chuan Liang
- **Taipei Medical University**
 - Yun Yen (Chairman)
 - Jacqueline Whang-Peng
 - Hsu-Shan Huang (Secretary General)
- **China Medical University**
 - Hen-Hong Chang (Vice-Chairman of the CGCM)
 - Yang-Chang Wu (Vice President of CMU)
- **Ministry of Health and Welfare**
 - Yi-Tsau Huang (Director-General)
- **National Taiwan University**
 - Lee-Yan Sheen
- **National Research Institute of Chinese Medicine**
 - Jih-Hwa Guh
 - Yuh-Chiang Shen
- **Sponsors**
 - Agricultural Biotechnology Research Center, Academia Sinica, Taiwan
 - Taipei Medical University, Taiwan
 - CGCM Taiwan Chapter
 - CGCM
- **Co-Sponsors**
 - Department of Chinese Medicine and Pharmacy, Ministry of Health and Welfare, Taiwan
 - National Research Institute of Chinese Medicine, Ministry of Health and Welfare, Taiwan
 - China Medical University, Taiwan
 - National Museum of Marine Biology and Aquarium, Taiwan
 - Research Promotion Center for Life Sciences, Ministry of Science and Technology, Taiwan
 - Taiwan Association for Traditional and Complementary Medicine
 - International Association for Traditional and Complementary Medicine



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CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE

Board of Directors

Chairman



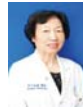
Prof. Yung-chi Cheng
Henry Bronson Professor of
Pharmacology,
Yale University School of Medicine

Vice Chairman (Taiwan)



Prof. Hen-Hong Chang
China Medical University

Advisory Board



Prof. Jacqueline Whang-Peng
Honorary Researcher, Institute of Cancer Research,
National Health Research Institutes (NHRI),
Superintendent, Taipei Cancer Center,
Taipei Medical University



Prof. Yun Yen
President
Taipei Medical University

Council Members



Prof. Ning-Sun Yang
Distinguished Research Fellow and Professor
Agricultural Biotechnology Research Center,
Academia Sinica, Taiwan



Dr. Kenneth Wu
Chair Professor and Director, Metabolomic Medicine
Research Center, China Medical University
Jin Dui Ho Chair, National Tsing-Hua University, Taiwan



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Local Chapter Coordinators (17+4)

Institutional Members (17)

- 1 臺北醫學大學
TAIPEI MEDICAL UNIVERSITY
- 2 Academia Sinica
中央研究院
- 3 中國醫藥大學
China Medical University
- 4 臺灣大學
National Taiwan University
- 5 衛生福利部國家中醫藥研究所
National Research Institute of
Chinese Medicine, Ministry of
Health and Welfare
- 6 國家衛生研究院
National Health Research Institutes - I
- 7 國立陽明大學
NATIONAL YANG-MING UNIVERSITY
- 8 國立海洋生物博物館
NATIONAL MUSEUM OF MARINE BIOLOGY & AQUARIUM
- 9 國立中央大學
National Central University
- 10 財團法人醫藥品查驗中心
Center for Drug Evaluation, Taiwan
- 11 行政院農業委員會
農業藥物毒物試驗所
Taiwan Agricultural Research Institute
- 12 國立中興大學
National Chung Hsing University

- 13 高雄醫學大學
Kaohsiung Medical University
- 14 長庚紀念醫院中醫部
Chang Gung Memorial Hospital
Traditional Chinese Medicine
- 15 中山醫學大學
Chung Shan Medical University
- 16 義大醫院
E-DA HOSPITAL / I-SHOU UNIVERSITY
- 17 國立臺灣師範大學
National Taiwan Normal University

Industrial Affiliate Members (4)

- 1 杏輝醫藥集團
SINPHAR GROUP
- 2 順天堂
- 3 TTY BIOPHARM
台灣東洋製藥集團
- 4 台灣三愛農業科
技股份有限公司



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Department of Chinese Medicine and Pharmacy (MOHW)

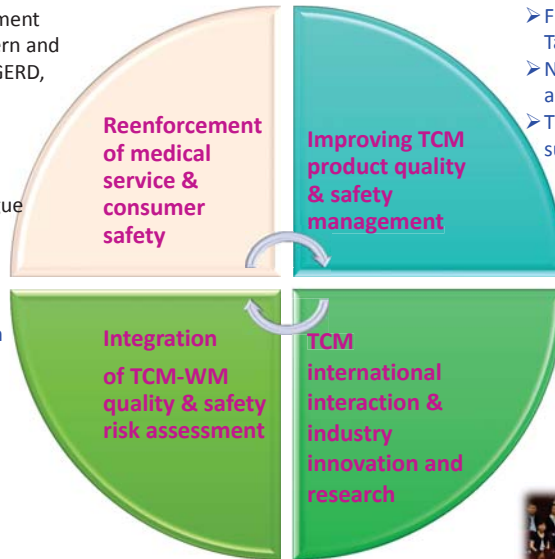


- The combined treatment model between Western and TCM-chronic wound, GERD, infertility
- Standardization for terminologies in TCM symptom
- Construction of tongue diagnosis database



- TCM-WM drug interaction information databases
- Integration of TCM-WM ADRs Reporting system

衛生福利部
中華藥不良反應通報中心
中醫不良反應通報系統



- Finished revising the 2nd English version of Taiwan Herbal Pharmacopeia
- New adapted 57 single herb monographs and 2 concentrated preparation
- The regulatory limitation of abnormal substances



- Continuous publishing JTCM
- Exchange and cooperation with Mainland China, Hong Kong and Macau about the TCM's quality standards
- TCM industry trend analysis and EU duty visit



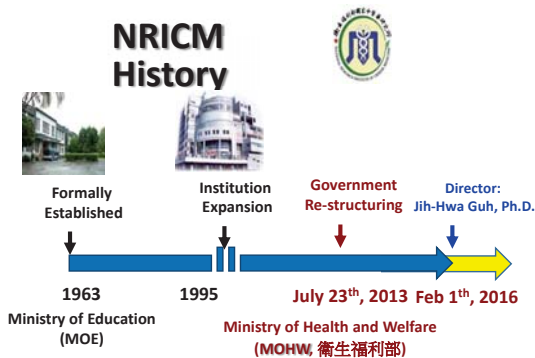
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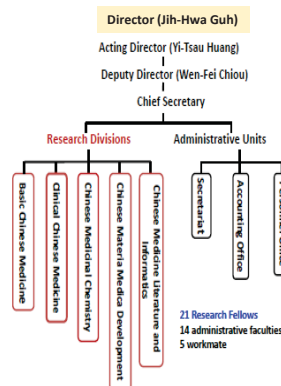
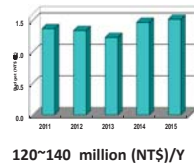
National Research Institute of Chinese Medicine (NRICM)

Director: Jih-Hwa Guh, Ph.D.

NRICM History



year	2014	2015
SCI Journal	28	45



Research Emphases:

- 1. Mission-oriented top-down research**
 1. Quality Control
 2. Evidence-Based Clinical Research
 3. Drug-TCM Interaction and Safety
- 2. Basic science research**
 1. Diseases Prevention and Treatment
 2. Chemical Analysis and Total Synthesis
 3. Drug Metabolism and Toxicology
- 3. Compile and publish Chinese medical literatures**



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Agricultural Biotechnology Research Center (ABRC), Academia Sinica

Herbal Medicine Research Program- Evidence-based R&D of phytomedicines for cancer therapy and immuno-modulation

Highlights of Research Topics & Achievements

 <p>Novel polyacetylene compounds from <i>Bidens pilosa</i> L. var. <i>radiata</i> (Asteraceae) and their biosynthesis <i>in planta</i></p> <p>Wen-Chin Yang 楊文欽</p> <ul style="list-style-type: none"> Identified the anti-diabetic activity of <i>B. pilosa</i> (BP)-derived polyacetylenic compound (PA), e.g., cytoployne, in cells and T1D and T2D through regulation of β-cell function and demise <ul style="list-style-type: none"> ✓ 10 articles and reviews published so far (J Immunol., eCAM, etc.) ✓ 4 awards; USA/EU/TW patents and patent licensing Elucidated efficacy and mechanistic evaluation of the BP formulation for chicken coccidiosis through interfering with coccidial life cycle and modulation of gut microbiota <ul style="list-style-type: none"> ✓ 4 articles published so far (Scientific Reports, Plos One, etc.) ✓ 2 awards; 5 patents and patent licensing ✓ R&D of animal drug with Bayer Taiwan and Da-Fong Co. <p>Lie-Fen Shyur 徐麗芬</p> <ul style="list-style-type: none"> Identified novel polyacetylenic compounds for anti-angiogenesis and anti-cancer activities Elucidation biosynthetic pathway of PA in BP plant <ul style="list-style-type: none"> ✓ 4 articles published so far (Pharma. Res., Phytochem., etc.) ✓ 1 patent issued <p>Ning-Sun Yang 楊寧孫</p> <ul style="list-style-type: none"> Identified the bioactivity and the underlying mechanism of a polyacetylenic glycoside from BP plant against mammary tumor metastasis <ul style="list-style-type: none"> ✓ One tech licensing to a biotech company ✓ 1 paper published (J. Leukocyte Biol.) 	 <p>Novel extracts from <i>Wedelia chinensis</i> (Asteraceae) and the biosynthesis of the bioactive compounds</p> <p>Pei-Wen Hsiao 蕭柏文</p> <ul style="list-style-type: none"> Identified and standardized the bioactive fraction against recurrent metastasis of prostate cancer and breast cancer by targeting the vital signaling pathways <ul style="list-style-type: none"> ✓ 3 article published (Clin. Cancer Res., Phytomed., etc.); ✓ 6 Patents issued/pending ✓ 2 awards; 1 tech licensing; 2 CRADA <p>Ning-Sun Yang 楊寧孫</p> <ul style="list-style-type: none"> Elucidated novel WC derived fraction for anti-colitis in animals <ul style="list-style-type: none"> ✓ 1 article published (PloS One)
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

CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE



Agricultural Biotechnology Research Center (ABRC), Academia Sinica

Herbal Medicine Research Program- Evidence-based R&D of phytomedicines for cancer therapy and immuno-modulation

Highlights of Research Topics & Achievements

<p>Lie-Fen Shyur 徐麗芬</p> <p>Ning-Sun Yang 楊寧孫</p> <p>Yu-Liang Yang 楊玉良</p>	<ul style="list-style-type: none"> R&D plant sesquiterpene lactone DET analogs from <i>E. scaber</i> for cancer therapy <ul style="list-style-type: none"> ✓ 6 articles (Mol. Cancer Therapeutics; Mol. Oncol.; etc.) ✓ 3 US and 2 ROC patent issue/pending Bioactive plant galactolipids from <i>C. rabens</i> for cancer and inflammatory disorders <ul style="list-style-type: none"> ✓ 2 articles (Cancer Res.; Mol. Med.) ✓ 3 US and 3 ROC issued/pending; 2 national awards; 1 tech licensing ✓ Apply IND (2016); planning clinical trial (2017) Demonstration phytochemicals/extract fractions from TCM plants for specific immune-modulation activities for anti-inflammatory diseases or as cancer vaccine approaches <ul style="list-style-type: none"> ✓ 11 articles (Oncotarget; JBC; Mol. Cancer; eCAM, etc.) ✓ 2 awards Development of imaging mass spectrometry on natural products research <ul style="list-style-type: none"> ✓ Article published: <i>Scientific Reports</i>; <i>Natural Product Reports (cover)</i>; <i>Organic Letter</i>, etc. 	 <p><i>Elyphantique scaber</i> (Compositae) (地胆草 或 地胆草)</p>  <p><i>Crassocephalum rabens</i> (Compositae) (地胆草)</p>  <p>shikonin</p>  <p>NPR</p>
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Taipei Medical University, President Prof. Yun Yen

Graduate Institute of Pharmacognosy & Ph.D. program for the Clinical Drug Discovery from Botanical Herbs

Master / Ph.D. Consistent Education

Graduate Institute of Pharmacognosy

Ph.D. program for the Clinical Drug Discovery from Botanical Herbs

Taipei Medical University

National Research Institute of Chinese Medicine

Herbs, Proteins, Natural Products

Bioactivity assay

Potential Compounds Clinical / Industry Value

Healthy Food, Care Products

Research Focus

Osteoporosis, Hyperglycemia, Hypertension, Aging, Cancer, Degenerative Neurological Disease

Translational Research

Development of Herbal medicines

Pharmaceutical Company

Cooperate with 5 hospitals:

Taipei Medical University, Wan Fang, Shuang Ho, Shin-Kong, Cathay General

	SCI	IF>5	Patent
01/01/2016-08/08/2016			
School of Pharmacy	40	11	USE OF URARIA IN PROMOTING OSTEOGENESIS OR PROVIDING NEUROPROTECTION US 9,044,476 B2
Graduate Institute of Pharmacognosy	17	5	
Ph.D. program for the Clinical Drug Discovery from Botanical Herbs	10	2	

Conference

The 18th International Congress of Oriental Medicine 2016

- Invited Lecture 1 : Survey of Traditional Chinese Medicine in Diagrams and Tables
- Invited Lecture 2 : The prescription philosophy of Dun Huon Ji-ShengTang for the prevention of arthritis

Posters : 20



- 吳介信 教授/院長
Wu, Chieh-Hsi
Professor/Dean
- 王靜儀 教授/所長
Wang, Ching-Chiung
Professor/Director
- 侯文瑞 教授
Hou, Wen-Chi
Professor
- 黃偉展 副教授
Huang, Wei-Jan
Associate Professor
- 林若凱 助理教授
Lin, Ruo-Kai
Assistant Professor
- 莊國祥 助理教授
Chuang, Kuo-Hsiang
Assistant Professor
- 李慶國 教授
Lee, Ching-Kuo
Professor
- 李美賢 教授
Lee, Mei-Hsien
Professor
- 戴承杰 教授/醫師
Dai, Cheng-Jie
Professor / Doctor
- 梁文剛 副教授
Liang, Wen-Li
Associate Professor
- 陳美全 助理教授
Chen, Mei-Chuan
Assistant Professor
- 李佳馨 助理教授
Lee, Chia-Jung
Assistant Professor



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National Taiwan University



國立臺灣大學食品科技研究所

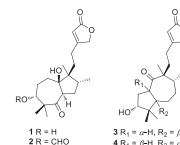
Institute of Food Science and Technology, National Taiwan University



Prof. Lee-Yan Sheen



Prof. Ya-Ching Shen, School of Pharmacy

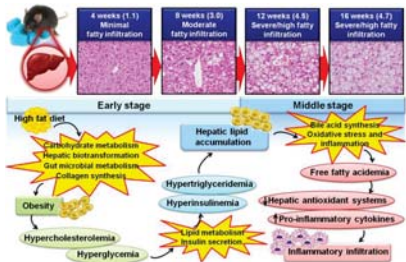


大葉柴胡

Mass spectrometry-based serum metabolomics of a C57BL/6J mouse model of high-fat diet induced nonalcoholic fatty liver disease development

Yi-Syuan Lai, Wei-Cheng Chen, Tien-Chueh Kuo, Chi-Tang Ho, Ching-Hua Kuo, Yufeng Jane Tseng, Kuan-Hung Lu, Shih-Hang Lin, Suraphan Panyod, and Lee-Yan Sheen

J. Agric. Food Chem. Just Accepted Manuscript • DOI: 10.1021/acs.jafc.5b02830 • Publication Date (Web): 11 Aug 2015



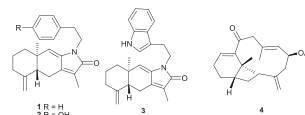
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

Prof. Shan's research subjects :

- Randainins A-D, based on two new Diterpene skeletons, from *Callicarpa randaiensis*
- Nortriterpene Lactones from the Fruits of *Schisandra chinensis*
 - Fractionation of the ethanolic extract from the fruits of *S. chinensis* furnished lancifodilactones B, C, E and I, wuweizidilactones A, B and I, wuweizidilactones C and D, and wuweizidilactone H, and three new nortriterpene lactones.
- Nitrogen-Containing Sesquiterpenes and a Diterpene from Marine Soft Coral, *Cespitularia taeniata*



五味子



台灣產軟珊瑚





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China Medical University, Taiwan, President Prof. Wen-Hwa Lee
Prof. Heng-Hong Chang, Prof. Yang-Chang Wu

Performance Ranking of Chinese Medicine-related Scientific Papers for World Universities

Chinese Medicine Papers Published in Related Six Academic Area in Web of Science
PHARMACOLOGY PHARMACY; FOOD SCIENCE TECHNOLOGY; INTEGRATIVE
COMPLEMENTARY MEDICINE; TOXICOLOGY; PLANT SCIENCES; NUTRITION DIETETICS



Year	CMU	NTU	TMU	KMU	NYMU	NCKU	NSYSU
2010	336	370	153	165	128	82	75
2011	432	398	189	182	153	140	79
2012	533	398	180	167	169	153	89
2013	402	327	220	150	140	111	54
2014	440	446	200	182	138	157	59
2015	399	370	202	184	121	127	127
Total	2542	2309	1144	1030	849	770	483

Research Center for Chinese Herbal Medicine

- Cross-national collaboration: New drug development of Indigo naturalis Ointment for treating psoriasis
- Preclinical study of novel diabetic peptide drugs derived from Tian-Hwa-Fen
- Formosan Fern-derived Compound as GSTO Inhibitor for Cancer Treatment



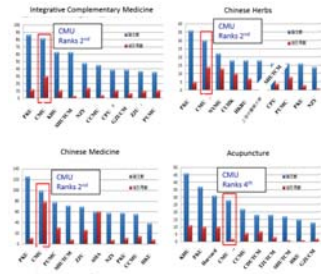
- New drug development targeting Glioblastoma – 2nd Generation drug of interstitial chemotherapy

Year	CMU	Other
2010	1	1
2011	1	1
2012	1	1
2013	1	1
2014	1	1
2015	1	1
Total	6	6

Research Center for Chinese Medicine & Acupuncture

- Targeting TRPV1 for Body Weight Control using TRPV1-/- Mice and Electroacupuncture
- Electric stimulation of the ears ameliorated learning and memory impairment in rats with cerebral ischemia reperfusion injury
- Probing the Effects and Mechanisms of Electroacupuncture at Ipsilateral or Contralateral ST36-ST37 Acupoints on CFA-induced Inflammatory Pain
- Clinical and Translational Research of Acupuncture Treatment on Fibromyalgia Syndrome
- Basic Clinical Translational Research on Acupuncture Treatment of Neuropathic Pain
- Discover new acupuncture analgesic receptor: Orexin receptor
- Electroacupuncture at KI3 Acupuncture Point Restores Spatial Learning by Downregulating Phosphorylated NMDA Receptor in a Mice Parkinson's Model
- Auricular electroacupuncture reduced inflammation-related epilepsy accompanied by altered TRPA1, pPKC α , pPKC ϵ , and pERK1/2 signaling pathways in kainic acid-treated Rats
- Basic and clinical studies of acupuncture treatment of chemotherapy-induced peripheral neuropathy
- SS-1 for Sjogren's syndrome in clinical study

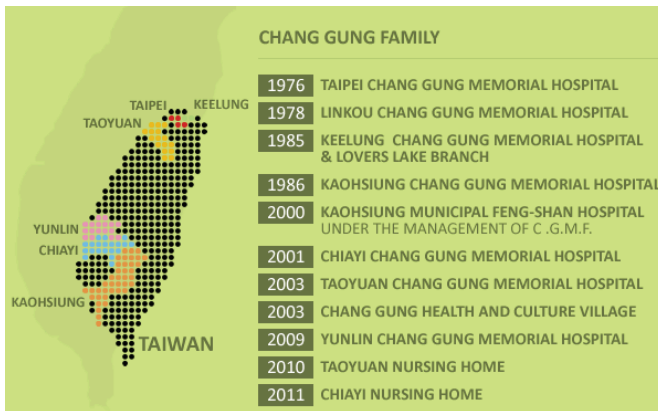
Top 1 in Taiwan



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Chang Gung Memorial Hospital, TCM Center, Taiwan



The Chang Gung Memorial Hospital organization

- The development of this Research Centre is firmly embedded in the values and traditions of the organization. Central in these values are parsimony, goal orientation and social justice and they recognize the need for a strong connection between quality of healthcare, quality of education, and quality of educational research and development.
- A research center that will not only pursue own active research projects, but also will be the catalyst for the development of educational knowledge and expertise in the organization is therefore essential in the enactment of Chang Gung Memorial Hospital's vision. It will be strongly supported from the top of the organization.

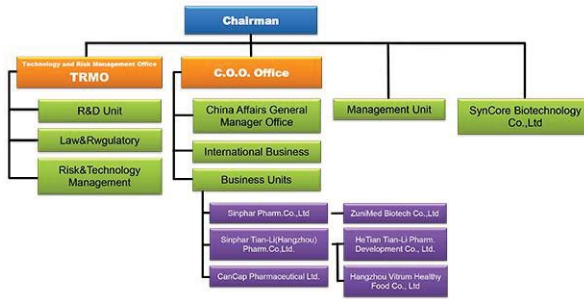


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Sinphar Group, Taiwan



Achievements during 2015-2016 period

1) Lipucan[®] :

- (1) Completed an anti-lung cancer preclinical study and published in “Journal of functional food” in 2016.
- (2) Patent approval for treating immune disorder in China, Canada, Korea, Japan between 2015-16.
- (3) Patent approval for treating cachexia in Europe in 2015.
- (4) Patent approval for the treatment of lung cancer in the US and Taiwan in 2016

2) TianLif[®] :

- (1) Patent approval for treating amyloid beta-peptide associated disease or conditions in Singapore in 2015.
- (2) Patent approval for regulating blood glucose level in USA in 2016

3) Epigallin[™] :

- (1) Patent approval for treating a disorder induced from myocardial ischemia in China and USA between 2015-16.
- (2) Completed a chronic stable angina clinical study and published in “Acta Cardiologica Sinica” in 2016.



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3i Plant Factory Group (3i Herbal Plant Factory)



Production no pesticides, no heavy metals Chinese herbal medicine 無農藥、無重金屬藥用植物	Industrial-scale production of high-quality Chinese herbal medicine 產業量化規模生產 高質量藥用植物
Our Goals 企業使命	
Promote market development of Chinese herbal medicine 促進藥用植物市場發展	Promote development of Chinese herbal medicine internationally 促進中草藥全球化市場的流通



The world's first mass-produced *Anemochilus*, *Dendrobium* and *Antrodia cinnamomea* plant factory



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CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE



Thank you for your attention !



***Hope you can enjoy your trip in Taiwan and be
happy everyday, Have fun !***