中药全球化联盟
CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE

第20屆中藥全球化聯盟會議
20th MEETING OF CGCM
HENGQIN | 横琴 2024.08.19-22

CGCM 2024

Regional Report

European Chapter

Report by Prof. Dr. Rudolf Bauer,
Chairman of the European Chapter of CGCM

European Chapter

	CGCM Member Institutes	Contact Person	Email
1.	Medical University of Vienna	Prof. Ma Yan	yan.ma@meduniwien.ac.at
2.	TCM Research Center Graz, University of Graz	Prof. Rudolf Bauer	rudolf.bauer@uni-graz.at
3.	German-Chinese Research Foundation of TCM (Deutsch-Chinesische Forschungsgemeinschaft)	Prof. Johannes Greten	info@dcfg-tcm.de
4.	HanseMerkur Center for TCM at the University Medical Center Hamburg Eppendorf	Dr. Sven Schroeder	Schroeder@tcm-am-UKE.de
5.	Sardegna Ricerche	Prof. Giovanni Biggio	songini@sardegnaricerche.it, dichiara@unica.it; gadichia@tiscali.it,
6.	The University of Florence	Prof. Anna Rita Bilia	ar.bilia@unifi.it
7.	Leiden University, European Center for Chinese Medicine and Natural Compounds	Dr. Mei Wang	mei.wang@subiomedicine.com

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4.	HanseMerkur Center for TCM at the University Medical Center Hamburg Eppendorf	Dr. Sven Schroeder	Schroeder@tcm-am-UKE.de
5.	Sardegna Ricerche	Prof. Giovanni Biggio	songini@sardegnaricerche.it, dichiara@unica.it; gadichia@tiscali.it,
6.	The University of Florence	Prof. Anna Rita Bilia	ar.bilia@unifi.it
7.	Leiden University, European Center for Chinese Medicine and Natural Compounds	Dr. Mei Wang	mei.wang@subiomedicine.com

Report from

Leiden University -European Center for Chinese Medicine and Natural Compounds

Dr. Mei Wang

Naturalis Biodiversity Center

universiteitleiden.nl/lueccm

LU-European Center for Chinese Medicine and Natural Compounds

PhD student graduated in April 2024

HSCM – Heidelberger Schule für Chinesische Medizin

Prof. Dr. med. Henry Johannes Greten
c/o Petra Fröschen (p.froeschen@dgtcm.de)

Activities and Publications of our Members

2018 – 2022 (in alphabetical order)

Activities of Prof. Dr. med. Henry Johannes Greten

- The **TCM master project at the University of Porto** will be continued in cooperation with the Piaget Institute of Porto, Portugal.
- Our preparations for **TCM master projects at Tor Vergata University in Rome** and at the University of Istanbul were suspended due to the pandemic. We hope we can resume them in the near future.
- Our **teaching activities at Heidelberg School of Chinese Medicine** are continued.
- We continued to publish **articles of interest for lay people** in local newspapers. The feedback to them is high as many people are interested in alternative medicine.
- We participated in a **research project at the University of Mannheim**, Germany, and the first results have been published after they had already been presented at a conference in Madrid in 2022.

Books

Greten HJ
Heilen mit der Intelligenz des Körpers – Das Beste aus chinesischer Heilkunst und westlicher Medizin
Ludwig 2022, ISBN 978-3-453-28104-2

Ying Xia (editor)
Advanced Acupuncture Research: From bench to bedside,
Spinger 2022, ISBN 978-3030962203

Book contribution

Greten HJ et al
Meridians – neurosensory organs within the system of homeostatic regulation in Xia Y, Greten HJ et al (ed.) Advanced Acupuncture Research: From bench to bedside, Spinger 2021 in press (13 Sept 2022) ISBN 978-3030962203

Publications

of Prof. Dr. med. Henry Johannes Greten and his colleagues
provided with printout

Activities of Prof. Cheng Xiaodong

- **April 2018, visited University of Grenoble Alpes, Grenoble, France**

gave a conference at *the opening of the Exhibition on Traditional Chinese Medicine*. He also provided courses in *the BioHealth Computing Erasmus Mundus Programme*, was part of the jury of the graduate students during the final defense, and attended Scientific Seminars.

- **June 2018, visited Semmelweis University in Budapest, Hungary**

gave a keynote speech at *the 2nd International Congress of Chinese Medicine in Central and Eastern Europe*.

- **October 2018, visited Osaka Medical College Hospital, Osaka, Japan**

gave a talk at *the 17th Annual Conference of Japan-China Joint Society for Clinical and Traditional Medicine*, in Osaka, Japan.

- **April 2019, Taiwan**

was awarded as the Academician of *The Global Sun Si-miao Medicine Research Institute.* He visited the National Taiwan University and gave a keynote speech at *the Summit of Cancer Research in 2019* held in Taiwan.

- **June 2019, Florida, USA**

was appointed as the Adjunct Professor and Tutor of Ph.D. students in *the Atlantic Institute of Oriental Medicine (ATOM)*, Florida, USA. During June 2019 in ATOM, he gave the lectures, offered instructions and provided guidance to the interns in the school intern clinic in the DAOM doctoral degree program.

- **July 2019, Chengdu, China**

was invited to participate in the *10th National Conference on Immunology of Traditional Chinese Medicine*, and to give a keynote speech

- **October 2019, Beijing, China**

was invited to attend *the 17th International Congress of Immunology*, and to present the research work of his team on neuroimmunology and TCM.

- **December 2020, Changsha, China**

participated in *the 7th Annual Meeting of the Special Committee of TCM Immunology, World Federation of Chinese Medicine Society (WFCMS)*, and gave a keynote speech on TCM immunology.

- **March 2021, Vienna, Austria**

was invited to participate in *the International Webinar of TCM and Preventive Medicine*, which was held as a virtual conference, and he gave a keynote speech online titled as the fundamental theory and clinical applications of TCM in preventing and treating the COVID-19.

- **September 2021, Shanghai, China,**

attended *the 3rd International Biopharma 4.0 Summit* held in Shanghai and gave a lecture entitled *Synergic targeting inhibition of melanoma stem cells by the specific mAb in combination with natural herbal extracts*.

Activities of Prof. Ding Guanghong

- His research interest has focused on the **research on the mechanism of the initiation of acupuncture point**.
- He has **published more than 20 papers in last 5 years and run 4 projects** and **educated 4 PHD students**.
- As a member of the Council of Chinese Society of Acupuncture and Meridians, and also the associate chairman of Shanghai Society of Acupuncture and Moxibustion, he has been one of the man who in charge of the **annual symposium of Shanghai Society of Acupuncture and Moxibustion** every year.
- Shanghai Key Laboratory of Acupuncture Mechanism and Acupoint Function was formally established in 2017, and **Prof. Ding manages the** lab these years. In his leadership, the lab had finished the **first assessment from Science and Technology Commission of Shanghai Municipality in 2021**.

Activities of Dr. Hamdi Delatioglu

- He wrote an **acupuncture book in Turkish language**, which consists of two volumes. The first volume is 520 pages, the second volume is about 750 pages.

- He is planning to start a **master acupuncture training program** together with Prof Greten at his University in Istanbul in 2023.

Activities of Dr. Giovanna Franconi

- Former assistant professor of Internal Medicine and **former Director of the Master's Degree in Clinical Acupuncture at Tor Vergata University in Rome, Italy.**

- She has been partner of two European projects related to Chinese Medicine, GP-TCM (Good Practice in Traditional Chinese Medicine) and CHETCH (Chinese and Europe Taking Care of Healthcare Solutions).

- She is a reviewer of research projects related to Chinese Medicine for Health and Medical Research Fund of Hong Kong (HKSAR).

- Now she is **Honorary Professor** Docens Turris Virgatae at the Systems Medicine Dept of **Tor Vergata University in Rome**.

Activities and Publications of PD Dr. med. Sven Schröder

- Teaching activities in the framework of the **TCM master study at Hamburg University.**
  The average number of students is 15.

- Publications of the **HanseMerkur Centre for TCM at the University Clinics of Hamburg-Eppendorf**
  Provided with printout

Report on TCM Education and Research at the Medical University of Vienna

Yan Ma 马燕
Center of Pathophysiology, Infectiology & Immunology
Department of Pathophysiology and Allergy Research
Vienna General Hospital
Medical University of Vienna

MEDICAL UNIVERSITY OF VIENNA

Molecular Research 傳統中醫藥研究 TCM

TCM Education - Identification of Medicinal Plants in the Alps








Anticancer activity of *Curcuma longa* and affected signaling pathways in prostate cancer cells

C. longa inhibited the growth of PCa DU145 cells

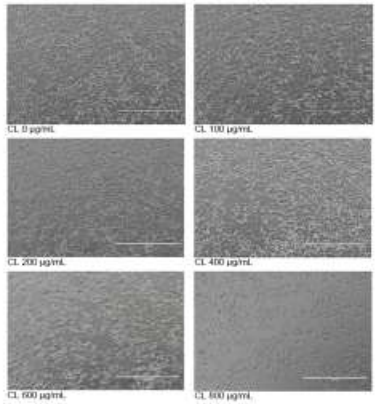


Fig. 1. Cell imaging: *C. longa* inhibited cell growth of DU145 dose-dependently.

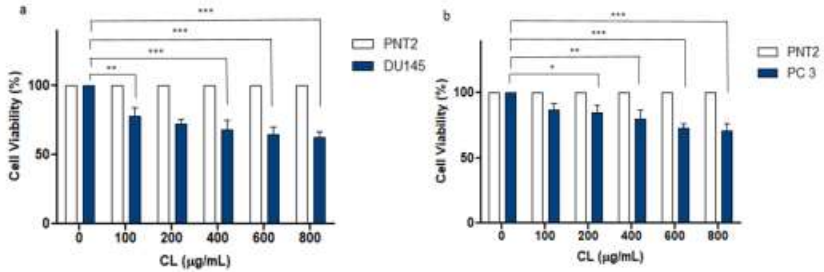
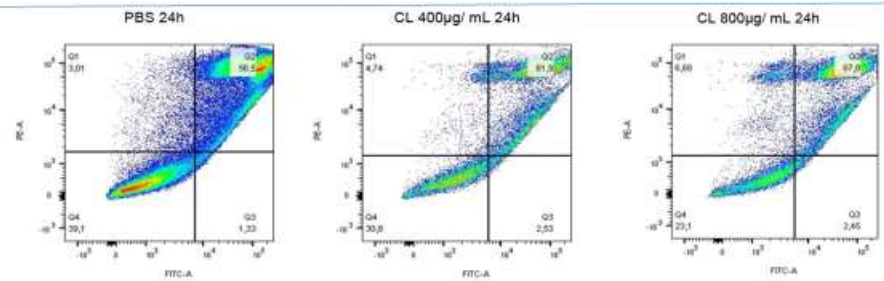


Fig. 2. Cell viability assay. *C. longa* induced dose-dependent inhibition in DU145 and PC3 cells.

C. longa induced apoptosis of PCa cell line DU145



Cells (%) after treatment	Necrotic (Q1)	Late apoptotic (Q2)	Apoptotic (Q3)	Viable (Q4)
PBS 24 h	3.01	56.5	1.33	39.1
CL 400	4.74	61.9	2.63	30.8
CL 800	6.68	67.8	2.75	23.1

Fig. 3. FITC Annexin V Apoptosis Detection Kit with propidium iodide (PI), FACS. *C. longa* induced apoptosis in DU145 cells.

C. longa regulated the gene expression of p21, TMEM79 and ACOXL

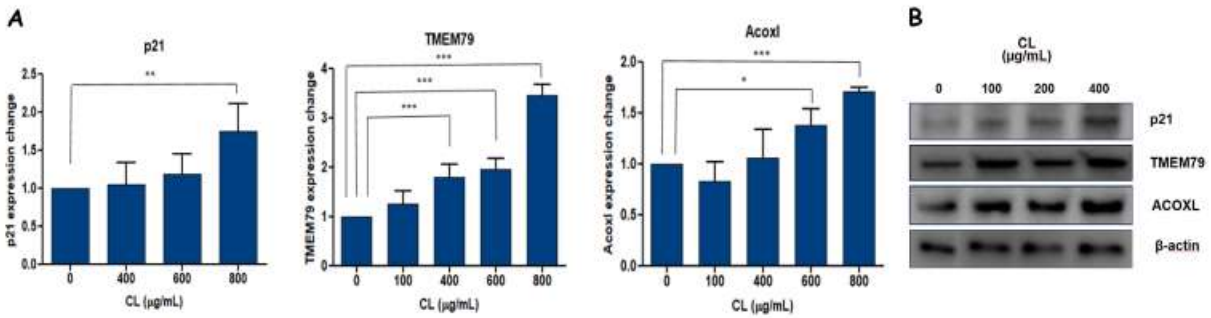


Fig. 4A. qRT-PCR. *C. longa* regulated the expression of the cancer-associated genes p21, TMEM79 and ACOXL at the mRNA level.

Fig. 4B. Western blot analysis. *C. longa* regulated the expression of the cancer-associated genes p21, TMEM79 and ACOXL at the protein level.

C. longa regulated hallmark gene sets of the TNFα/NFκB signaling and inhibited regulators of the pathway

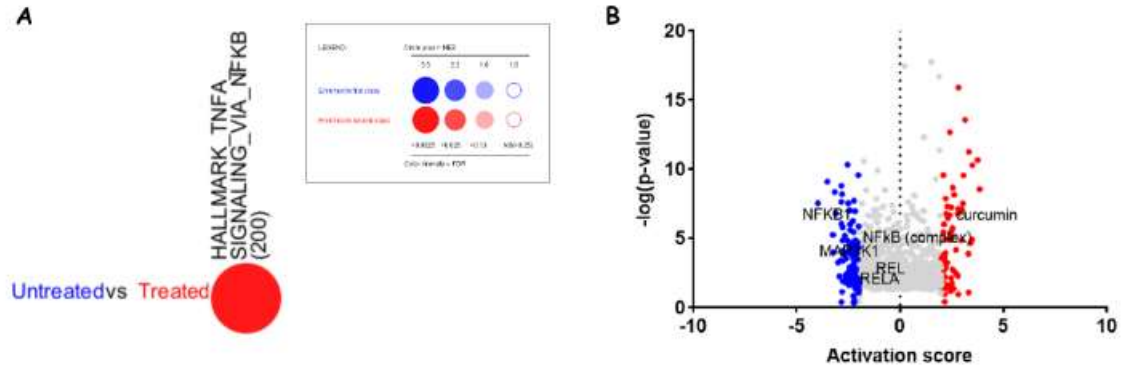


Fig. 5A. Gene Set Enrichment Analysis (GSEA). *C. longa* regulated gene sets associated with the TNFα/NFκB signaling pathway.

Fig. 5B. *C. longa* inhibited regulators of the TNFα/ NFκB pathway.

Conclusion

- Cell viability assay broadly estimated the **anti-cancer activity of *C. longa*** in PC3 and DU145 cells while not targeting PNT2 cells. Staining the cells with annexin and PI allowed us to differentiate between apoptosis and necrosis.
- qRT-PCR experiments, Western blot analysis and Illumina RNA sequencing demonstrated that ***C. longa* treatment regulated the expression levels of multiple cancer-related genes**.
- **TMEM79 and *ACOXL*** could be developed as **novel markers for early diagnosis and treatment of prostate cancer**.
- ***C. longa* regulated hallmark gene sets of the TNFα/NFκB signaling and downstream regulators of the pathway**.

Report from

University of Graz,
Department of Pharmacognosy,
Institute of Pharmaceutical Sciences

Serving on the International Advisory Board of Hong Kong Chinese Materia Medica Standards

COUNCIL OF EUROPE

European Directorate for the Quality of Medicines & HealthCare

Elaboration of Monographs for TCM herbs for PhEur

TCM-Working Party 建立传统中药研究团队

Chairman: Rudolf BAUER 鲍儒德

BALD	Melanie	France
BAUER	Rudolf	Austria
BILIA	Anna Rita	Italy
BUNNER	Benedicte	France
CHAN	Kelvin	Hong Kong, China
CHANG	Yuan Shiun	Taiwan, China
CICI	Delina	France
DUEZ	Pierre	Belgium
DUFAT	Thi Hanh	France
GASSER	Uwe Michael	Germany
GUO	De-An	China
HARMS	Henrik	Germany
HOENOW	Ruth	Germany
HOERNIG	Michael	Germany
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LAENGER	Reinhard	Austria
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SABATINI-SAMORI	Cristiana	France
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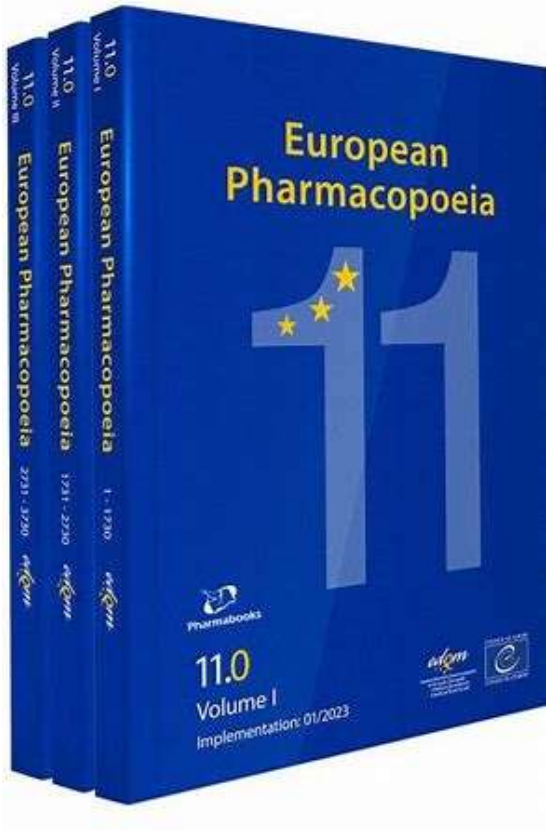
SPIELDENNER	Bruno	France
STOEGER	Erich Andreas	Germany
STURTZ	Tiphaine	France
VIELLE	Cathie	France
WANG	Mei	Netherlands
WANG	Tie Jie	China
WANG TSCHEN	Shu-Yuan	Switzerland
WEBER	Matthias	France
WIESNETH	Stefan	Germany

Elaboration of Monographs for TCM herbs for the European Pharmacopoeia
欧洲药典的中草药专著的确立和发展

Current Status of Work

- 90 Monographs adopted by the Eur. Pharmacopoeia Commission
  欧洲药典委员会已接纳 90 篇专著
- Ca. 20 attributed to Specialists
  约20人取得专家资格认证
- Monographs published as drafts in *PHARMEUROPA*
  多篇论文作为草案在欧洲药典官网上发表
- Monographs for *General Methods* *通用方法*论著*:*
  - Chapter on processing: 加工制作
  - Test for aristolochic acids: 马兜铃酸的检测
  - Test for pyrrolizidine alkaloids 咯烷类生物碱的测试



中國醫藥大學
China Medical University

Austria – Taiwan joint project

Improving quality and safety of Chinese herbal medicine by establishing high level monographs for quality control

PIs:
Prof. Dr. Rudolf BAUER,
Prof. Dr. Yuan Shiun CHANG

The project has been supported by OeAD within the program “Cooperation Development Research” and funded by the Austrian Federal Ministry of Education, Science and Research (TW 01 2020) together with the funding support from Ministry of Education, Taiwan.

中國醫藥大學
China Medical University

Developped monographs for the European Pharmacopoeia

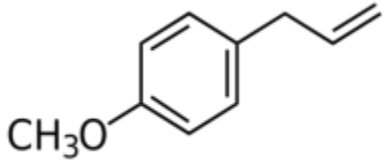
Graz

- Lonicerae japonicae flos PhEur
  Jin Yin Hua - 金銀花
- Pogostemonis herba PhEur
  Guang Huo Xiang - 广藿香

Taichung

- Polygoni multiflori caulis PhEur
  Ye Jiao Teng - 首乌藤
- Hoveniae Semen
  Zhi Ju Zi - 枳椇子

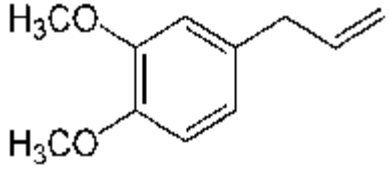
Alkenylbenzenes, like estragole and methyleugenol, and monoterpenes, like α-/β- thujone, menthofuran and pulegone have mutagenic and possibly carcinogenic potential in animal studies



Methylchavicol
(= Estragol)

Component of essential oils extracted from tarragon (60–75% estragol), chervil (60% estragol), basil (23–88% estragol), anise, star anise, bay, fennel, allspice, nutmeg, pine and turpentine

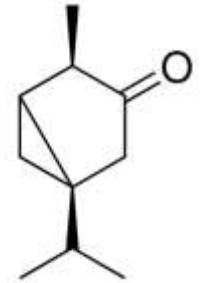
自龙蒿(60-75%**雌菩糖**)、山萝卜(60%雌蔻醇)、罗勒(23-88%雌蔻醇)、**茴香、八角茴香、月桂、茴香、多香果粉、肉豆**蔻、松、松节油中提取之分



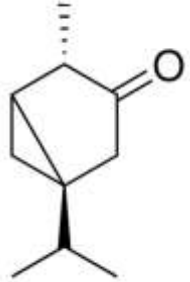
Methyleugenol

Methyl eugenol is a natural constituent in the essential oils of fennel, roses, basil, anise, allspice, nutmeg, bay or laurel

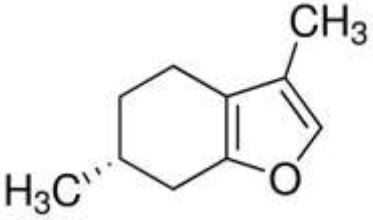
甲基丁香酚茴香、玫瑰、罗勒、**茴香、多香果粉、肉豆**蔻、月桂、**月桂精油中天分**



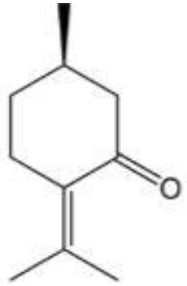
α–Thujone



β-Thujone



Menthofuran



Pulegone

Thujones are found in the essential oil of wormwood (*Artemisia absinthium* L.), tansy (*Tanecetum vulgare* L.) and sage (*Salvia officinalis* L.)

侧柏酮在艾(Artemisia absinthium L.)、**艾菊**(Tanecetum vulgare L.)、**鼠尾草**(Salvia officinalis L.)**精油中**。

Menthofuran and pulegone are found in the essential oils of peppermint and other mint species

薄荷呋喃、蒲酮在薄荷及诸薄荷种**精油中**

12 May 2023
EMA/HMPC/137212/2005 Rev 1 Corr 1*
Committee on Herbal Medicinal Products (HMPC)

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Public statement on the use of herbal medicinal products[1] containing estragole

Final

- the intake of estragole from HMPs in the general population should be as low as possible, which includes a short-time duration of use (maximum 14 days)
- to reach or come as close as possible to the guidance value of **0.05 mg/person per day**
- the usage of estragole containing HMPs in pregnant and breast-feeding women is not recommended if the daily intake of estragole exceeds the guidance value of **0.05 mg/person per day**
- The usage of estragole containing HMPs **in children up to 11 years** is not recommended if the daily intake of estragole exceeds the guidance value of **1.0 µg/kg**

- 凡人HMPs雌酚摄入量尽可下,须臾用(最多14天)
- 尽近0.05毫克/人日指导值
- 若雌酚日摄入量过0.05mg/人日指导值,则不议孕妇、哺乳期妇人含HMPs雌酚
- 若雌酚日摄入量过1.0μg/ kg之指导值,则不议于11岁以下童子中用含HMPs雌酚

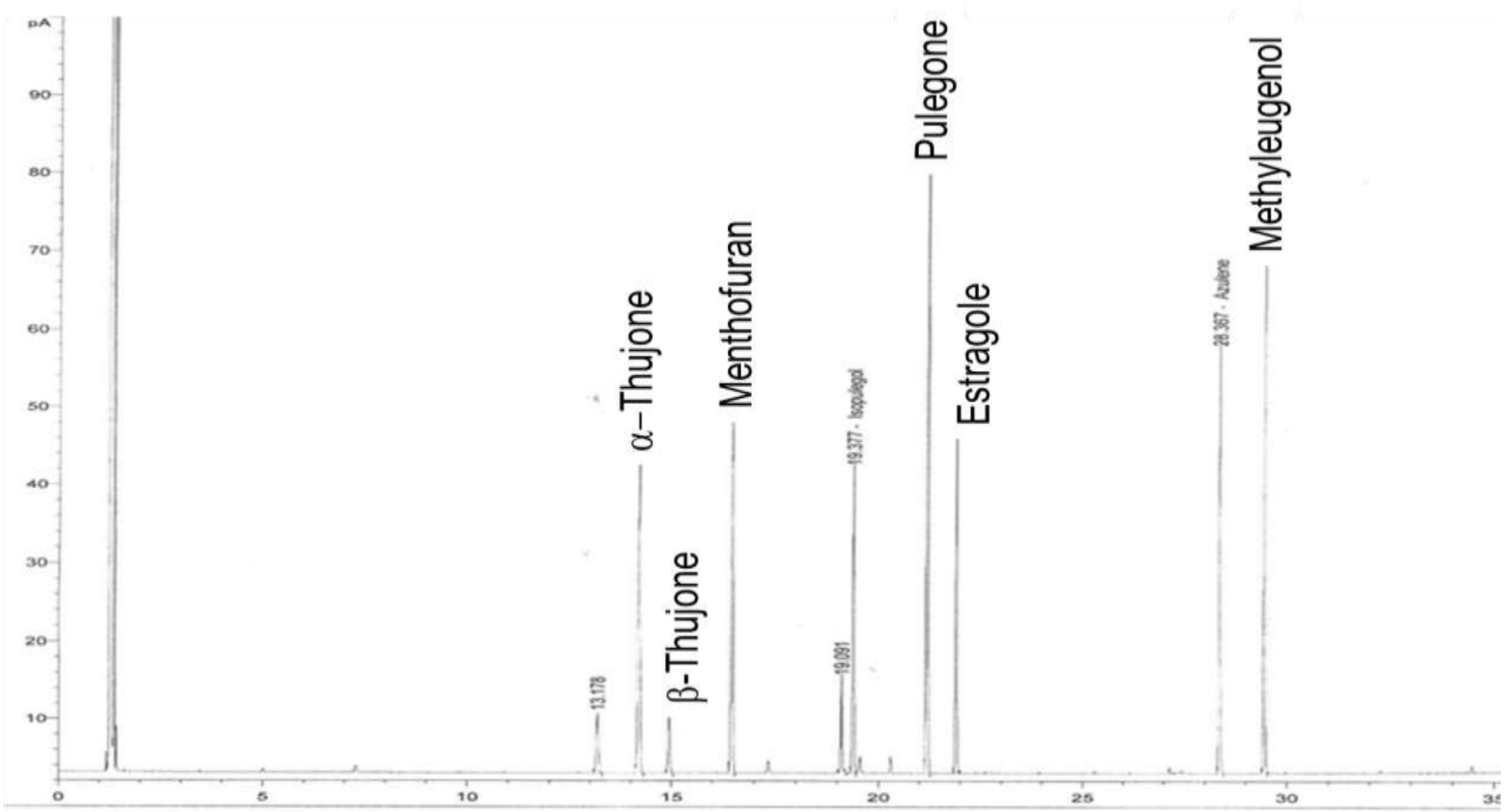
Examples of botanicals generally containing alkenylbenzenes
常含烯基苯物药之例

Pin Yin name	Alternative name in Pin yin	Latin name	References
Hui Qin 秦晖	N.A.	*Pimpinella anisum* L.	(She et al., 2005)
Ba Jiao 八角	Ba Jiao Hui Xiang, Da Hui Xiang	*Illicium verum* Hook.f.	(Xia and Saunders, 2008)
Hui Xiang 惠翔	Xiao Hui Xiang	*Foeniculum vulgare* Mill.	(She et al., 2005)
Ou Qin 或秦	Ba Xi Li, Xiang Qin	*Petroselinum crispum* (Mill.) Hill	(She et al., 2005)
Rou Dou Kou 柔豆口	Rou Guo, Yu guo	*Myristica fragrans* Houtt.	(Li and Wilson, 2008)
Luo Le 罗乐	Jiu Ceng Ta, Lan Xiang	*Ocimum basilicum* L.	(Li and Hedge, 1994)
Long Hao 龙浩	She Hao, Qing Hao	*Artemisia dracunculus* L.	(Lin et al., 2011)
Rou Gui 桂柔	Yu Gui, Gui Pi	*Cinnamomum cassia* Presl	(Li et al., 2008)
Chang Pu 张璞	Shi Chang Pu, Bai Chang Pu	*Acorus calamus* L.	(Li et al., 2010)
Ning Meng Cao 宁萌曹	Xiang Mao	*Cymbopogon citratus* (DC.) Stapf	(Chen and Sylvia, 2006)

Ning, J., Cui, X., Kong, X., Tang, Y., Wulandari, R., Chen, L., Wesseling, S., & Rietjens, I. M. C. M. (2018). Risk assessment of genotoxic and carcinogenic alkenylbenzenes in botanical containing products present on the Chinese market. *Food and chemical toxicology*, 115, 344–357.

Elaboration of a test for determination of toxic compounds in essential oils for PhEur is in progress

今方定一以测PhEur精油中有毒化合物之试



Sino-Austrian Joint Research Project – Metabolic and pharmacological profiling of the TCM formula Hanshiyi used for the treatment of COVID-19

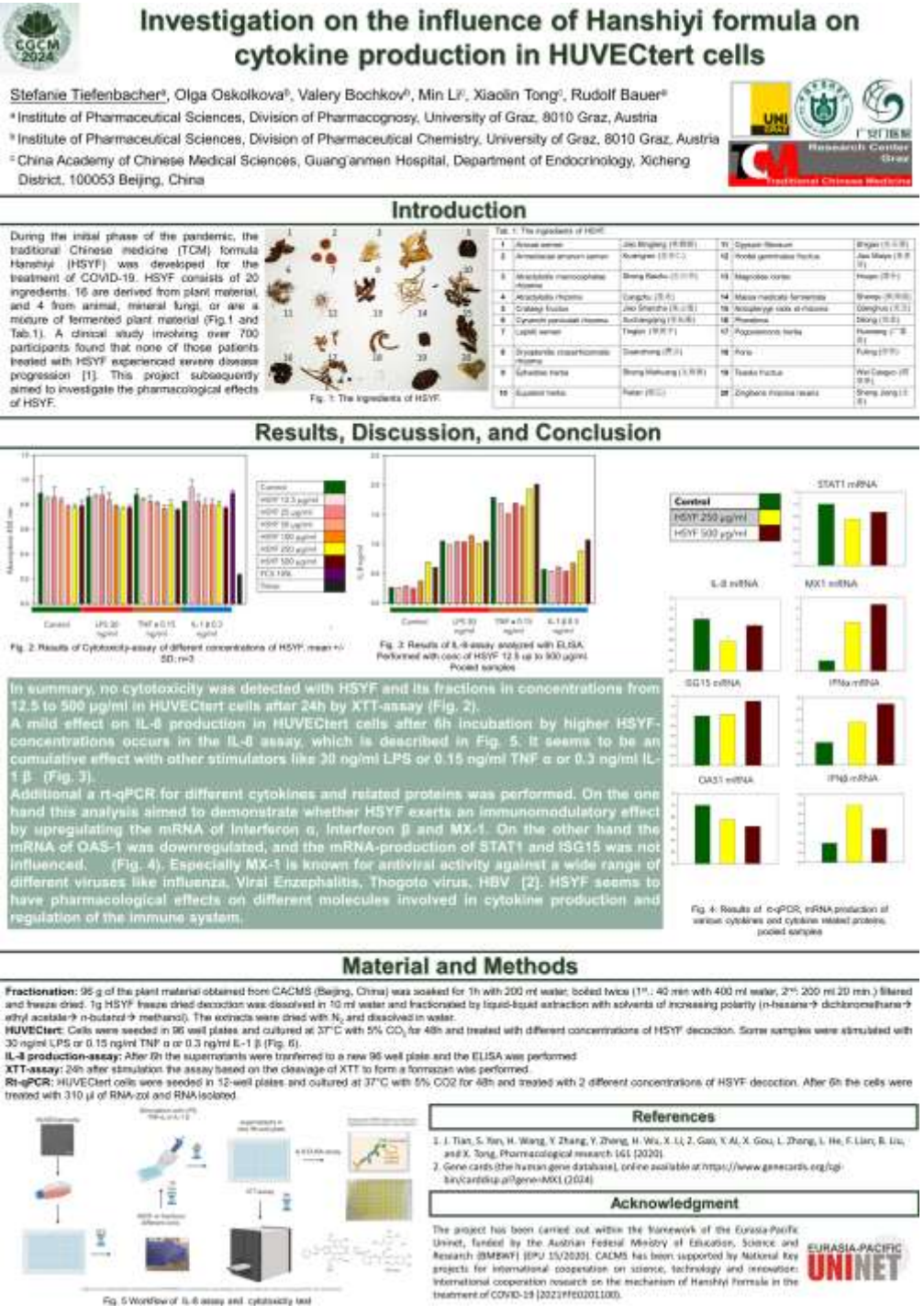
Cooperation partners

Austria

- PI: Prof. Dr. Dr. h.c. Rudolf BAUER, Institute of Pharmaceutical Sciences, University of Graz, Austria
- Priv.-Doz. Dr. nat. techn. Dagmar BRISLINGER, MSc., Gottfried Schatz Research Center for Cell Signaling, Metabolism and Aging, Medical University of Graz, Austria
- Mag. pharm. Dr. rer. nat. Eva-Maria PFERSCHY-WENZIG, Institute of Pharmaceutical Sciences, University of Graz, Austria
- Mag. pharm. Stefanie TIEFENBACHER (PhD student), Institute of Pharmaceutical Sciences, University of Graz, Austria

China

- PI: Academician Prof. Dr. TONG Xiaolin, Department of Endocrinology, Guang'anmen Hospital, CACMS, Beijing, China
- Prof. Dr. LI Min, Department of Endocrinology,Guang'anmen Hospital, China Academy of Chinese Medical Sciences, Beijing
- Dr. YAO Yangfeng, Institute of Virology, Wuhan National Bio-Safety Level 4 Lab of CAS, Wuhan, China
- Assoc. Prof. Dr. GAO Juntao, National Research Center for Information Science and Technology, Tsinghua University, Beijing
- Dr. TIAN Jiaxing, Department of Endocrinology, Guang 'anmen Hospital, CACMS, Beijing
- Dr. HAN Lin, Department of Endocrinology, Guang 'anmen Hospital, CACMS, Beijing
- Dr. ZHOU Yanyan, Institute of Chinese Materia Medica, CACMS, Beijing
- Dr. WANG Weihao, Institute of Chinese Materia Medica, CACMS, Beijing
- GOU Xiaowen, MSc, Department of Endocrinology, Guang 'anmen Hospital, CACMS, Beijing
- YAO Chensi, MSc, Department of Endocrinology, Guang 'anmen Hospital, CACMS, Beijing



Investigation on the influence of Hanshiyi formula on cytokine production in HUVECtert cells

Stefanie Tiefenbacher[a], Olga Oskolkova[b], Valery Bochkov[b], Min Li[c], Xiaolin Tong[c], Rudolf Bauer[a]

[a] Institute of Pharmaceutical Sciences, Division of Pharmacognosy, University of Graz, 8010 Graz, Austria
[b] Institute of Pharmaceutical Sciences, Division of Pharmaceutical Chemistry, University of Graz, 8010 Graz, Austria
[c] China Academy of Chinese Medical Sciences, Guang'anmen Hospital, Department of Endocrinology, Xicheng District, 100053 Beijing, China

Introduction

During the initial phase of the pandemic, the traditional Chinese medicine (TCM) formula Hanshiyi (HSYF) was developed for the treatment of COVID-19. HSYF consists of 20 ingredients. 16 are derived from plant material, and 4 from animal, mineral fungi, or are a mixture of fermented plant material (Fig.1 and Tab.1). A clinical study involving over 700 participants found that none of those patients treated with HSYF experienced severe disease progression [1]. This project subsequently aimed to investigate the pharmacological effects of HSYF.

Fig. 1: The ingredients of HSYF.

Tab. 1: The ingredients of HSYF.

Results, Discussion, and Conclusion

Fig. 2: Results of Cytotoxicity-assay of different concentrations of HSYF, mean +/- SD, n=3

Fig. 3: Results of IL-8-assay analyzed with ELISA. Performed with conc. of HSYF 12.5 up to 500 µg/ml. Pooled samples

Fig. 4: Results of q-qPCR, mRNA production of various cytokines and cytokine related proteins, pooled samples

In summary, no cytotoxicity was detected with HSYF and its fractions in concentrations from 12.5 to 500 µg/ml in HUVECtert cells after 24h by XTT-assay (Fig. 2).
A mild effect on IL-8 production in HUVECtert cells after 6h incubation by higher HSYF-concentrations occurs in the IL-8 assay, which is described in Fig. 5. It seems to be an cumulative effect with other stimulators like 30 ng/ml LPS or 0.15 ng/ml TNF α or 0.3 ng/ml IL-1 β (Fig. 3).
Additional a rt-qPCR for different cytokines and related proteins was performed. On the one hand this analysis aimed to demonstrate whether HSYF exerts an immunomodulatory effect by upregulating the mRNA of Interferon α, Interferon β and MX-1. On the other hand the mRNA of OAS-1 was downregulated, and the mRNA-production of STAT1 and ISG15 was not influenced. (Fig. 4). Especially MX-1 is known for antiviral activity against a wide range of different viruses like influenza, Viral Enzephalitis, Thogoto virus, HBV [2]. HSYF seems to have pharmacological effects on different molecules involved in cytokine production and regulation of the immune system.

Material and Methods

Fractionation: 96 g of the plant material obtained from CACMS (Beijing, China) was soaked for 1h with 200 ml water, boiled twice (1st.: 40 min with 400 ml water, 2nd: 200 ml 20 min.) filtered and freeze dried. 1g HSYF freeze dried decoction was dissolved in 10 ml water and fractionated by liquid-liquid extraction with solvents of increasing polarity (n-hexane→ dichloromethane→ ethyl acetate→ n-butanol→ methanol). The extracts were dried with N_2 and dissolved in water.
HUVECtert: Cells were seeded in 96 well plates and cultured at 37°C with 5% CO_2 for 48h and treated with different concentrations of HSYF decoction. Some samples were stimulated with 30 ng/ml LPS or 0.15 ng/ml TNF α or 0.3 ng/ml IL-1 β (Fig. 6).
IL-8 production-assay: After 6h the supernatants were tranferred to a new 96 well plate and the ELISA was performed
XTT-assay: 24h after stimulation the assay based on the cleavage of XTT to form a formazan was performed.
Rt-qPCR: HUVECtert cells were seeded in 12-well plates and cultured at 37°C with 5% CO2 for 48h and treated with 2 different concentrations of HSYF decoction. After 6h the cells were treated with 310 µl of RNA-zol and RNA isolated.

Fig. 5 Workflow of IL-8 assay and cytotoxicity test

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