Natural Products I
(Biological Activity)

(August 24, 9:30-12pm)

30 posted/52 submitted

Chairman : Yeong Shik Kim
Co-Chairman: Lie-Fen Shyur, Jiangang Shen
Panelists: Guo-Feng Pan, Jianhui Rong,
Xiuping Chen, Nianhan Ma
Noraznawati Ismail

12 Posters for oral presentation

1. Anti-influenza Virus Effect of Aqueous Extracts from Chinese Herbs (No. 158)
   Tianbo Zhang, The Chinese University of Hong Kong, Hong Kong
2. Neuroprotection of Naringin against Cerebral Ischemia-reperfusion Injury through Attenuating Peroxynitrite-mediated Mitophagic Cell Death (No. 161)
   Jinghan Feng, The University of Hong Kong, Hong Kong
3. N-propargyl Caffeamide (PACA) Ameliorates MPTP-induced Dopaminergic Neurodegeneration and Motor Impairments via Activating Keap1-Nrf2 Pathway and Inducing NGF Expression (No. 162)
   Dan Luo, The University of Hong Kong, Hong Kong
4. Garcinone E Exerts Anticancer Properties on Ovarian Cancer Cells (No. 173)
   Jin-Jian Lu, University of Macau, Macau
5. Alantolactone Improves Prolonged Exposure of Interleukin-6-induced Skeletal Muscle Insulin Resistance and Glucose Homeostasis (No. 184) Minjee Kim, Seoul National University, Korea
6. Bone Mass Improved Effect of Icariin for Postmenopausal Osteoporosis in Ovariectomy-Induced Rats: A Meta-Analysis and Systematic Review (No. 187) Jing Wang, Shanghai University of Traditional Chinese Medicine, Shanghai
7. Anti-coccidial Properties of the Phytogenic Formulation BPP (No. 190) Wen-Chin YANG, Academia Sinica, Taipei
8. Caffeic Acid could Mitigate Lipid Accumulation in the Kidneys of Obese and Hyperglycemic Mice (No. 192) Jia-Hung Ye, Chang Gung University of Science and Technology, Taoyuan
9. Anti-atherosclerosis effects by increasing transcriptional activity of SR-B1 promoter using X muta extracts (No 194) Noraznawati ISMAIL, University Malaysia Terengganu
10. Anthocyanins Extract Protects Intestinal Mucosal Barrier by Inhibiting Excessive Autophagy through mTOR Pathway in TBS-induced IBD Model of Rats (No. 196) Jing Tong, Wuhan University, Wuhan
11. Anti-atherosclerosis Effects by Increasing Transcriptional Activity of SR-B1 Promoter Using Xestospongia muta Extracts (No 194) Universiti Malaysia Terengganu
12. Phytomedicine polypharmacology Lie-Fen Shyur, ABRC, Academia Sinica, Taipei

The Chinese University of Hong Kong
The School of Life Sciences

Anti-influenza Virus Effect of Aqueous Extracts from Chinese Herbs

Tianbo Zhang, Chris Ka Pun Mok,
Prof. Pang Chui Shaw

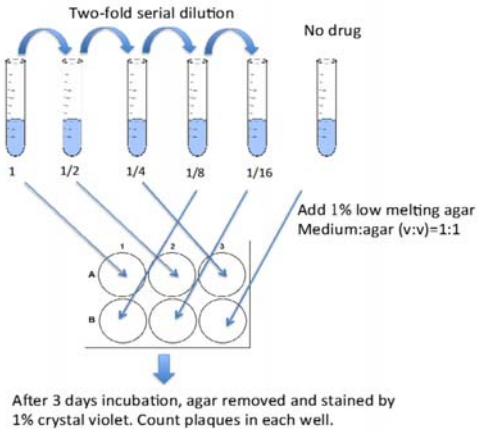
Poster #158

TCM is invaluable as a source of therapeutic agents.

Influenza is categorized in Chinese Medicine as an exogenous warm disease or Wen Bing.

Fifty Chinese herbs which are always used to treat Wen Bing were selected to screen.

Plaque Reduction Assay



15th Consortium for Globalization of Chinese Medicine

Naringin Attenuates Cerebral Ischemia/Reperfusion Injury through Inhibiting Peroxynitrite-mediated Autophagic Cell Death

Speaker: Feng Jinghan
Supervisor: Prof. Shen Jiangang

School of Chinese Medicine
The University of Hong Kong

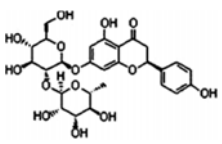
Poster #161

School of Chinese Medicine, The University of Hong Kong

Hypothesis

Key hypothesis:

Naringin reduces cerebral ischemia/reperfusion injury through attenuating peroxynitrite-mediated autophagic cell death



School of Chinese Medicine, The University of Hong Kong

HKU SCM

Conclusion

Above data indicate that:

1. Naringin significantly reduced the damage induced by the cerebral ischemia-reperfusion injury.

2. Neuroprotective effects of naringin could be paritally attributed by reducing peroxynitrite generation and attenuating peroxynitrite-mediated autophagic cell death.

3. Besides, naringin could directly scavenge peroxynitrite under the SIN-1 and OGD/RO condition.

Taken together, naringin might be a potential agent for the treatment of ischemic stroke via attenuating peroxynitrite-induced excessive aut ophagy.

School of Chinese Medicine, The University of Hong Kong

THE UNIVERSITY OF HONG KONG
SCHOOL OF CHINESE MEDICINE
香港大學中醫藥學院

15th CGCM Poster No 162

N-propargyl caffeamide (PACA) ameliorates MPTP-induced dopaminergic neurodegeneration and motor impairments via activating Keap1-Nrf2 pathway and inducing NGF expression

Dr Rong's Group

Ms Dan LUO
Dr Jia ZHAO
Ms Yuanyuan CHENG
Dr Jianhui RONG

School of Chinese Medicine
University of Hong Kong

Prof Lee's Group

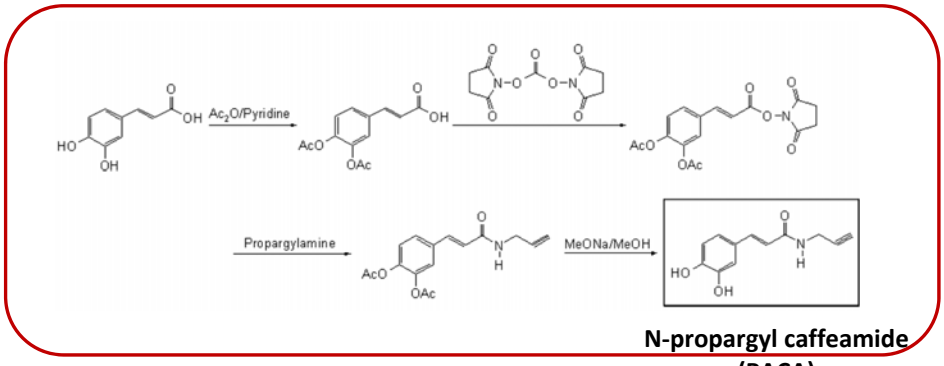
Prof Simon LEE

Poster #162

University of Macau

Hypothesis

Caffeic acid derivatives (PACA) may exhibit the neuroprotective and neurotrophic activities via binding to specific signaling proteins



N-propargyl caffeamide (PACA)

THE UNIVERSITY OF HONG KONG
SCHOOL OF CHINESE MEDICINE
香港大學中醫藥學院

Summary

1. This study synthesized N-propargyl caffeamide (PACA) and identified Keap1 as a PACA-binding protein
2. This study confirmed that PACA could activate Nrf2 and indu ce HO-1 expression
3. This study discovered that PACA enhanced NGF-induced neurite outgrowth in a HO-1 dependent manner

1. This study revealed that PACA protected neurons against 6-OHDA-induced toxicity via inhibiting ROS/RNS production
2. This study demonstrated that PACA protected dopaminergic neurons against MPTP-induced toxicity
3. This study demonstrated that PACA ameliorated MPTP-induced motor impairments in mice

澳門大學中華醫藥研究院
Institute of Chinese Medical Sciences, University of Macau
中藥質量研究國家重點實驗室（澳門大學）
State Key Laboratory of Quality Research in Chinese Medicine, University of Macau

Poster #173

Garcinone E exerts anticancer properties on ovarian cancer cells

Jin-Jian Lu PhD, Assistant Professor

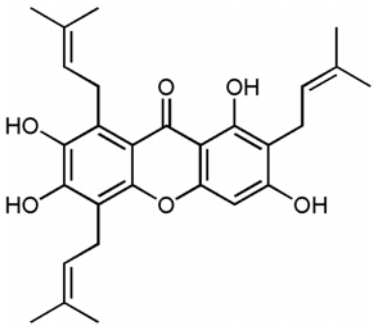
State Key Laboratory of Quality Research in Chinese Medicine

Institute of Chinese Medical Sciences

University of Macau

Xanthone

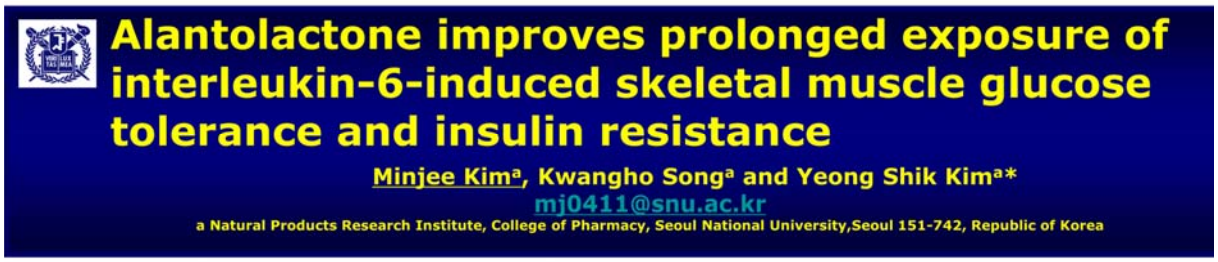
- Isolated from mangosteen, *Garcinia* L
- Antioxidant, anti-inflammatory, anti-microbial…
- Anticancer properties
- α-mangostin *vs* garcinone E (GE)



Challenges: Drug-resistance & Metastasis

Conclusion

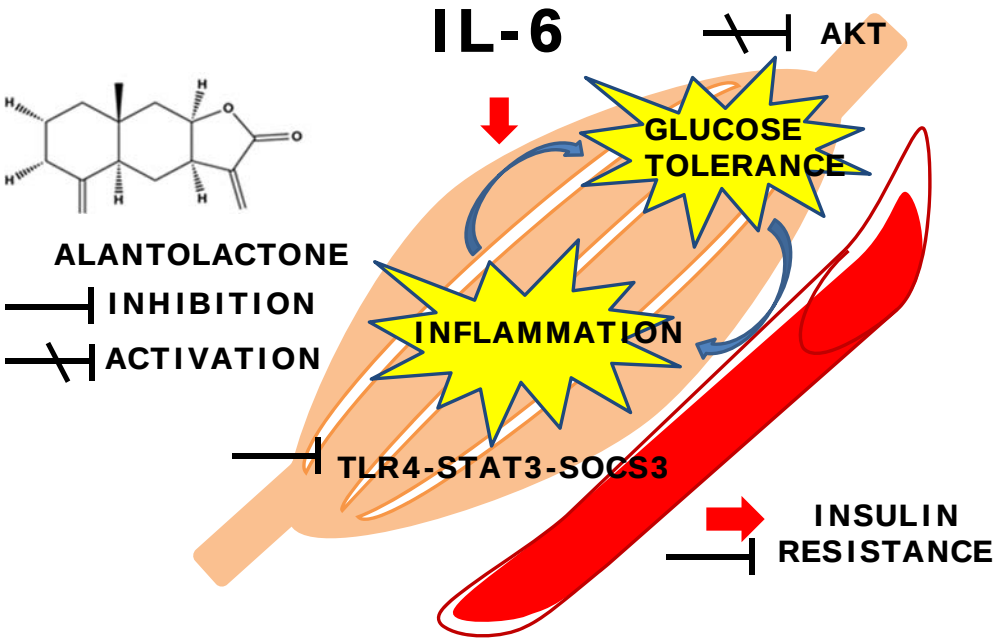
- GE exerts therapeutic potential against ovarian cancer cells.
- GE induced apoptosis in a caspase-dependent manner.
- GE activated IRE-1α which plays a protective role in GE-induced apoptosis.
- GE suppressed migration and invasion on ovarian cancer cells.



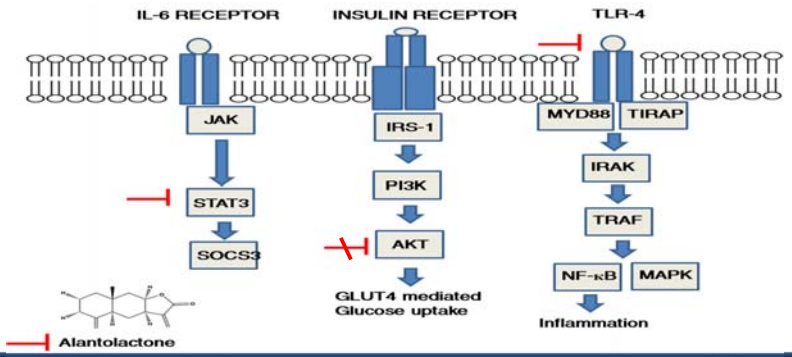
MINJEE KIM

Poster #184

HYPOTHESIS & HIGHLIGHTS



CONCLUSION



- IL-6 induced glucose tolerance and insulin resistance
- Alantolactone suppressed STAT3-SOCS3 and TLR4, and activated AKT phosphorylation
- STAT3-gene silencing suppressed TLR4 gene expression (TLR4-STAT3)
- Alantolactone can be a potential candidate for skeletal muscle associated metabolic disorders or type 2 diabetes

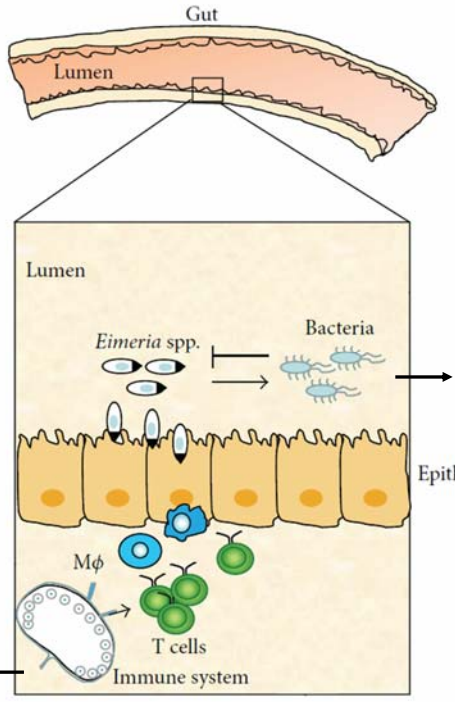
Anti-coccidial properties of the phytogenic formulation BPP

Meng-Ting Yang, Tien-Fen Kuo, Yueh-Chen Wu and Wen-Chin Yang

Agricultural Biotechnology Research Center
Taiwan International Graduate Program
Molecular and Biological Agricultural Sciences

Poster # 190

Eimeria species and gut microbiota



Beneficial bacteria can decrease gut lesion caused by *Eimeria* species.

Gut-associated immune cells can inhibit harmful bacteria and *Eimeria* species.

Evidence-Based Complementary and Alternative Medicine, Volume 2016, Article ID 2657981, 19 pages

Aims & Conclusions

Herbal Medicine, *Bidens pilosa* (BPP) has been reported to tre at over 41 categories of disease such as protozoan infection, ba cterial infection, gut disorders, immune disorders

- Our study suggests that BPP serves as a novel remedy for coccidiosis through suppression of sporozoite invasion in *E. tenella*, regulation of chicken intestinal bacteria, decrease of gut pathology and OPG, augmentation of body weight, leading to high anti-coccidial efficacy in field trial. We are now developing it into vet medicine for avian coccidiosis.

長庚科技大學
CHANG GUNG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Graduate Institute of Health-Industry Technology,
Chang Gung University of Science and Technology,
Taiwan

Caffeic Acid could Mitigate Lipid Accumulation in the Kidneys of Obese and Hyperglycemic Mice

Speaker: Ye, Jia-Hung

Advisor: Pao, Li-Heng

Date: 2016.08.24

Poster #192

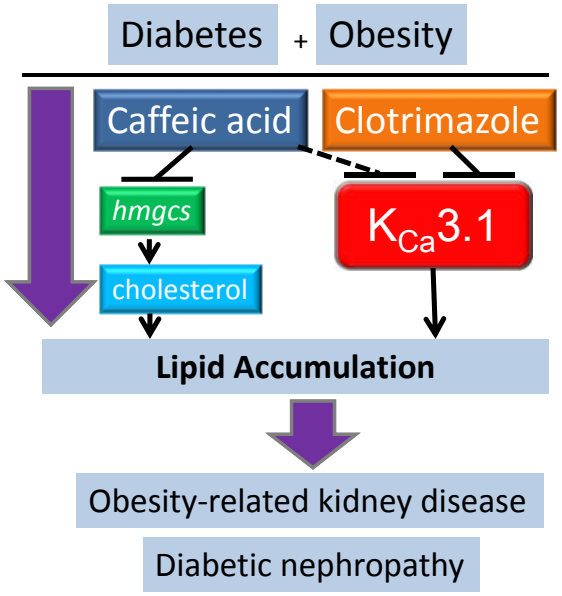
Summary

Ameliorated

- Renal lipid accumulation
- Pancreas atrophy

Slightly improved

- Blood glucose level
- Insulin secretion
- Insulin resistance
- Fatty liver
- Liver weight
- Kidney weight



Anthocyanins Extract Restore Impaired Intestinal Barrier Function

Ph.D Jing Tong

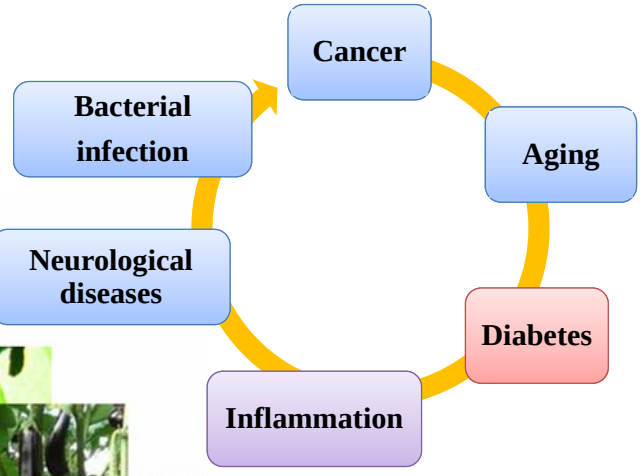
（tongjing@whu.edu.cn)

Wuhan University, China

2016.8 Taiwan

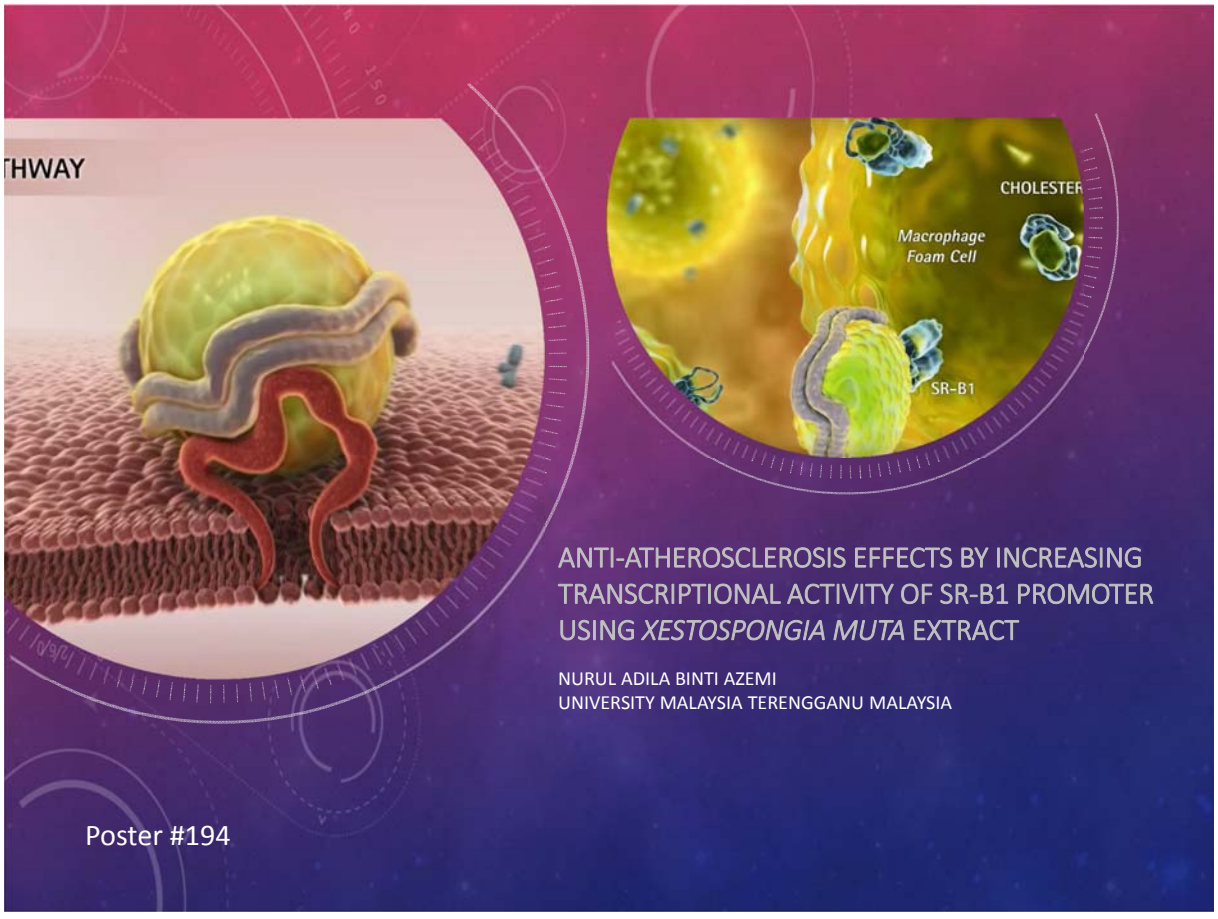
Anthocyanins

(as much as 600)



Brassica oleracea L. var. *capitata* L

Intestinal Barrier Function



ANTI-ATHEROSCLEROSIS EFFECTS BY INCREASING TRANSCRIPTIONAL ACTIVITY OF SR-B1 PROMOTER USING *XESTOSPONGIA MUTA* EXTRACT

NURUL ADILA BINTI AZEMI
UNIVERSITY MALAYSIA TERENGGANU MALAYSIA

Poster #194

MARINE SPONGES

- 5000 different compounds has been successfully isolated from 500 species of sponges (Rafai et al., 2005).
- Rich source of novel steroids, terpenoids, peptides, macrolides and alkaloids (Andersen et al, 1996)
- Compounds that has been isolated from marine sponges active in;
  - **anti-bacterial** (Qaralleh et.al, 2011),
  - **anti-cancer** (Brown et al 2004),
  - **anti-fungal**, **anti-tuberculosis** (Azevedo 2008),
  - **anti-inflammatory** (Mandeau et al. 2005),
  - **alternative adjuvant in insulin therapy** (Zhang et al 2009)
  - **anti malarial** (Sipkema 2005).
- 28 samples of marine sponges collected along Archipelago of Bidong Islands , 81.48% are toxic, 18.52% are non toxic against Human Hepatocellular Carcinoma Liver Cell Line (HepG2) (Izzati, 2014).

Figure 2.0 : X. muta specimen collected at Bidong Island, Terengganu, Malaysia.

Conclusion

Fraction 7 from diethyl ether partition shows a bright potential as anti-atherosclerotic agent due to its promising activity in increasing the expression of SR-B1 promoter in the transfected HepG2 cells after 24 hours of treatment.

2016 CGCM MEETING

Phytomedicine polypharmacology: Resolution of inflammatory diseases

Lie-Fen Shyur
徐麗芬

Research Fellow
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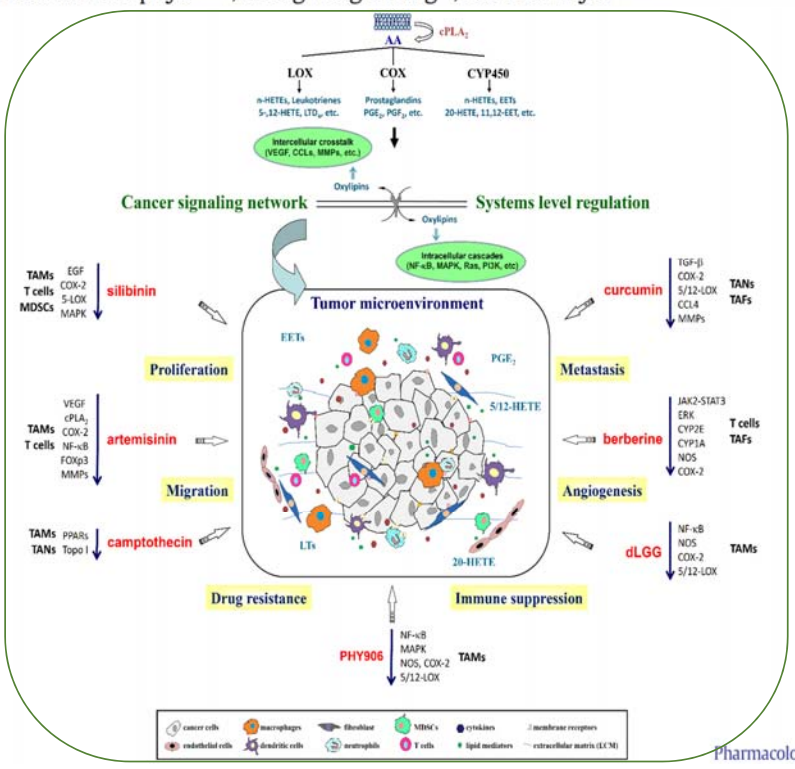
Phytomedicine polypharmacology: Cancer therapy through modulating the tumor microenvironment and oxylipin dynamics

Maria Karmella Apaya [a,b,c], Meng-Ting Chang [b], Lie-Fen Shyur [a,b,c,d,*]



Pharmacology & Therapeutics 162 (2016) 58–68