

Section 10

Polychemical Activities & Mechanism Study III (Cancer, Renal, Immunomodulation, Inflammation)

Chairperson: Wendy Hsiao — Macau University of Science & Technology

Co-Chair: Clara Bik-San Lau — The University of Hong Kong

Panellist: Joseph Huang — E-Da Dachang Hospital/I-Shou University



Summary

- A total of 26 abstracts in this session
- 8 abstracts were selected for presentations
- Different fields including cancer and immunomodulation, gut microbiota and barrier function, inflammation and chronic disease, aging and tissue protection/regeneration.
- Covers traditional Chinese medicines and botanical bioactives
- Translation from mechanism study to therapeutic or commercial application.

NO-10-1

YIV-906 suppresses ovarian cancer growth through inhibition of proliferation and activation of multiple programmed cell death pathways

Key Findings

- Decreased Ki67/Hnf1 β ; increased PTEN, Bax, caspase-8/9/3 at 24h post-treatment
- Induced necroptosis (RIPK1/RIPK3), pyroptosis (IL-1 β /NF- κ B), and autophagy (LC3B) alongside apoptosis
- 500 mg/kg dose reduced SKOV3 xenograft tumor growth with no body weight loss

Conclusion

YIV-906 activates multiple programmed cell death pathways, supporting its potential as an ovarian cancer therapeutic.



Dr. Chi-Feng Fu

E-Da Cancer Hospital/I-Shou University

NO-10-11

Ophiopogon japonicus ameliorates Parkinson's disease by remodeling gut microbiota and metabolic profiles along the gut-brain axis

Key Findings

- Improved motor deficits, gait, anxiety, cognition; preserved nigral dopaminergic neurons in MPTP mice
- Restored gut barrier (↓ FITC-dextran, ↑ ZO-1/occludin-1/MUC2); increased Akkermansia, Faecalibaculum
- Reprogrammed lipid/bile-acid pathways; effects abolished in pseudo-germ-free model

Conclusion

Water extract exerts anti-PD effects by remodeling gut microbiota and gut-brain interactions.



Ms. Si-Jia Gao
University of Macau

NO-10-13

Investigation of modified Ginger-Coptis formula (GC01) on diabetic retinopathy

Key Findings

- 12-week GM extract reduced fundus abnormalities, microaneurysms, acellular capillaries vs. model group
- No change in body weight/glucose — protection independent of systemic glycemic control
- Decreased Evans blue leakage; RNA-seq linked effects to inflammation and angiogenesis pathways

Conclusion

GC01 attenuates diabetic retinopathy via anti-inflammatory and anti-angiogenic pathways.



Ms. Ruogu Xiong
The University of Hong Kong

NO-10-16

Ligustri Lucidi Fructus (LLF) and its bioactive ingredients oleanolic acid (OA) and salidroside (SAL), promote myogenesis in muscle satellite cells (MuSCs) of aging senescence-accelerated mice (SAMP8)

Key Findings

- LLF (5–10 $\mu\text{g/mL}$) and OA/SAL (1–10 nM) significantly increased myotube number, diameter, area ($p < 0.001$)
- Upregulated MHC, MyoD, myogenin expression ($p < 0.01$), confirming enhanced myogenic differentiation
- Effects comparable to positive controls IGF-1 and $1,25(\text{OH})_2\text{D}_3$

Conclusion

LLF and its bioactives support management of age-related sarcopenia, which lacks pharmacological treatment.



Dr. Christina Chui-Wa Poon
The Hong Kong Polytechnic University

NO-10-18

Triphala alleviates DSS-induced colitis by activating NRF2 pathway and modulating gut microbiota

Key Findings

- Improved disease activity index, colon length, histopathology in DSS-induced colitis mice
- Enhanced glutathione metabolism; upregulated occludin/claudin-1/ZO-1 via NRF2 (validated in NCM460 cells)
- Gallic, ellagic, chebulic acids identified as key NRF2 activators; increased beneficial gut bacteria

Conclusion

Triphala alleviates colitis via NRF2-mediated glutathione metabolism and improved gut microbiota composition.



Miss Die Hu
Hong Kong Baptist University

NO-10-20

Neuroimmune regulation mediated by the gut microbiota–HPA axis in psoriasis with depression and the mechanisms of traditional Chinese medicine intervention

Key Findings

- IMQ + CUMS model showed psoriasis lesions plus depressive behavior, gut dysbiosis, HPA hyperactivity
- SGYXJD reduced IL-6/IL-8, upregulated epidermal barrier proteins, modulated GR and CRHR1
- Gut metabolites (indole-3-acetic acid, sodium butyrate) inhibited NF- κ B/MAPK in HaCaT keratinocytes

Conclusion

Gut microbiota-HPA axis drives psoriasis-depression pathogenesis; SGYXJD acts across the brain-skin axis.



Miss Zixuan Wang

Beijing Hospital of Traditional Chinese Medicine,
Capital Medical University

NO-10-24

YIV-906 enhances FOLFIRINOX antitumor activity through host STING signaling in pancreatic cancer

Key Findings

- Enhanced FOLFIRINOX activity vs. PAN02 tumors regardless of tumor STING status; lost in STING-KO hosts
- Raised plasma G-CSF, platelet/neutrophil/WBC counts; rescued suppressed MIP-1 α /CCL3 levels
- Activated cGAS-independent STING dimerization; increased TBK1/IRF3 phosphorylation and IFN γ mRNA

Conclusion

YIV-906 acts as an immunomodulatory adjuvant amplifying FOLFIRINOX efficacy via host STING signaling.



Dr. Fulan Guan
Yale University School of Medicine

NO-10-25

The development of extract and bioactive compound of *Acacia farnesiana* (L.) willd for cosmetic industry

Key Findings

- Identified gallic acid, gallates, quercetin; purified novel compound Prunin 6''-O-gallate
- Ethanol/ethyl acetate extracts showed higher antioxidant activity (DPPH/ABTS/FRAP/ROS) than Vit C, BHT, Trolox
- Mature pod extract showed low cytotoxicity, tyrosinase inhibition, antibacterial activity vs. *S. aureus*

Conclusion

Acacia farnesiana pod extracts are a viable bioactive source for cosmetic formulation, with strong antioxidant/antimicrobial activity.



Miss Sunantha Kalaphat
University of Phayao

Thank You