

**Polychemical Activities and
Mechanism Study I (Cancer and
Immunomodulation, Inflammation)**

CGCM Meeting
August 22-26, 2016
Academia Sinica,
Taipei



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**Single Drugs vs.
Plants/Traditional Mixtures**



1. Single Drugs vs. Plants vs. Traditional Mixtures

- a. 283, 284, 289, 290, 292, 293, 295, 296, 297
- b. 280, 285, 287, 294, 298
- c. 279, 281, 282, 286, 288, 301

2. Single Targets vs. Signaling pathways

- a. 281, 282, 283, 299, 300
- b. 284, 288, 295, 297, 298

3. Cancer vs. Immunology

- a. 280, 283, 284, 287, 291, 292, 294, 295, 296, 297, 298
- b. 279, 281, 282, 288, 289, 290, 300, 301



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Single Drugs vs. Plants vs. Traditional Mixtures



288: Zhi-Ke Liu et al.: A traditional Chinese herbal medicine (Da Chixiong formula) suppressed inflammatory mediators in LPS-induced RAW 264.7 cells via inhibition of NF- κ B pathway.

295: Jia-Hua Feng et al.: A plant sesquiterpene lactone derivative, DETD-35, overcomes acquired vemurafenib resistance via triggering ROS induced apoptosis and inhibiting multiple signaling pathways in melanoma cells.

298: Seung-Hun Kim et al.: Tumor growth suppression by apoptosis with aqueous extract of medicine herb *Brucea javanica* in human lung cancer cells with L858R/T790M mutation of epidermal growth factor receptor.

299: Ahmed A.A. Ali et al.: A facile and effective strategy to identify molecular targets of drugs and biological lead compounds.



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Single Drugs vs. Plants vs. Traditional Mixtures



Questions addressed:

- **Reductionistic versus holistic approaches**
- **Quality control: chemoprofiling, contamination, barcoding etc.**
- **Traditional versus modern Chinese medicine**
- **In vitro versus in vivo experimentation – problem of high doses**
- **Plus/minus versions of traditional formulae, dose variations**
- **Emperor – minister – servant plants:
role for bioavailability and prevention of toxicity**



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Single Targets vs. Signaling Pathways



Questions addressed:

- Network pharmacology, big data, background noise
- Value for individualized therapy
- Value for diagnostics and disease
- Target specificity, off target effects



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Cancer vs. Immunology



Questions addressed:

- Role of immunology for carcinogenesis
- Role of immunology for cancer immunotherapy
- Clinical trials versus compassionate uses
- How to assess side effects and toxic reactions



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