

2<sup>nd</sup> International Conference and Exhibition on

# NANOMEDICINE AND DRUG DELIVERY

May 21-23, 2018 Tokyo, Japan

## Strategies for improving the intratumoral distribution of liposomal Temozolomide in brain therapy

Chung-Yin Lin<sup>1</sup>, Kuo-Chen Wei<sup>2</sup> and Pin-Yuan Chen<sup>2</sup><sup>1</sup>Chang Gung University, Taiwan<sup>2</sup>Chang Gung Memorial Hospital, Taiwan

Convection-Enhanced Delivery (CED) is a promising technique for targeted delivery of drugs directly into diseased CNS tissues. We have found a way to increase drug concentration within a tumor achieving improved therapeutic efficacy while limiting systemic exposure to the drug, thereby reducing systemic toxicity. This study presents a model drug-liposome system synergistically applying CED targeted drug delivery into the CNS for therapeutic purposes. The liposome containing temozolomide (LipoTMZ) displayed good release and distribution of TMZ when delivered using the CED infusion method. We demonstrated controlled delivery by applying CED to tumor cells. Results indicate that LipoTMZ is an effective carrier of chemotherapeutic agent that releases TMZ to the cell cytosol upon CED. This novel drug delivery system promises more effective delivery of drugs to brain tumors, including improved local penetration and the potential to reduce unwanted side effects caused by TMZ.

### Biography

Chung-Yin Lin has received her PhD degree in Biomedical Engineering from National Taiwan University, Taipei, Taiwan, in 2010. In 2012, she was Visiting Scholar at Brigham Young University, USA. In 2014, she joined College of Medicine, Chang Gung University, Taoyuan, Taiwan. She is currently an Associate Principle Investigator and the Director for Medical Imaging Research Center, Chang Gung University and Hospital. Her research interests focus on ultrasound sonication, drug delivery and biomedical engineering.

winwood5782@gmail.com

**Notes:**