Platinum-based anticancer drugs, cisplatin, carboplatin and oxaliplatin, are some of the most effective chemotherapies used in clinic (Figure). Their cytotoxic activity against cancer stems from a combination of processes including cell entry, drug activation, DNA binding and transcription inhibition, resulting in apoptotic cell death. Due to limitations in platinum-based therapy arising from toxicity and side-effects, there have been a resurgence in interest in studying diammine-platinum(IV) complexes as anticancer prodrugs, with satraplatin currently undergoing clinical trials (Figure). Solvation of labile chloride ligands is suppressed in the stable diammine-platinum(IV) scaffold mitigating the effects of poor selectivities due to rapid aquation of diammine-platinum(II) complexes, such as cisplatin. We are particularly interested in a class of platinum(IV) complexes containing hydrophobic benzoate ligands which displayed improved cytotoxicites in vitro (Figure). By altering the nature and composition of these ligands, we aim to tune the properties of this class of complexes and enhance their therapeutic potential. We will also report a novel method of delivering these complexes via simple hydrophobic entrapment.

CBC SEMINAR ANNOUNCEMENT

Dr Ang Wee Han
National University of Singapore

Tuning the activity of platinum(IV) complexes as anticancer prodrugs

Date: 5th December 2011 (Monday)
Time: 11am – 12.30pm
Venue: NTU SPMS CBC Building Level 2, Conference Room
Host: Assoc Prof Xing Bengang