# Unique Fluorescent Imaging Probes for Specific Manipulation of Cellular Functions and Localized Theranostics

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In general, fluorescent imaging strategies enable rapid, direct and spatiotemporal visualization of biological events in real time, mainly owing to their high sensitivity, relative safety, and easily handling, and have therefore become robust and reliable tools in monitoring of subcellular protein dynamics and analysis of tumors or pathogen–host interactions *in vitro*, *in vivo* and even in pre-clinical practice. The systematic imaging investigation of biomolecules activities including enzymes or proteins etc in a complicated environment may offer great possibility for the in-depth understanding of the biological basis conferring diseases status, and importantly, for the facilitating of new theranostics *in vitro* and *in vivo*. In our group, a series of simple and specific small molecules or nano-structure based optical imaging probes have been extensively established to real-time visualize cellular function, and significantly, understand the intrinsic mechanisms to involve in potent drug activities as well as monitor the relevant signaling pathways to initiate drug resistance in complicated living system.
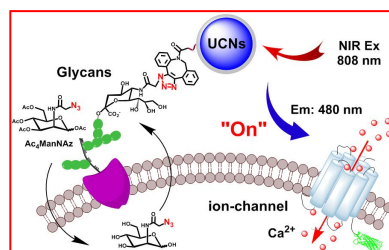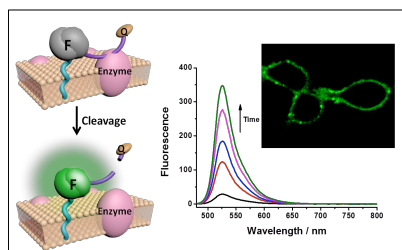
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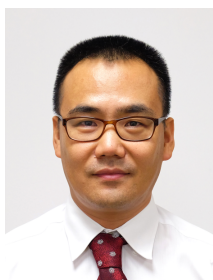
Bengang XING received his Ph.D. in Chemistry from Nanjing University, China, in 2000. From 2001, he did his postdoctoral work, respectively at HKUST, at Molecular Imaging Program in UCLA, and MIPS at Stanford. In 2006, he was appointed as Assistant Professor at NTU and later promoted to Associated Professor in 2011. His current research interests: Fluorescent Imaging, Chemical Biology and Nano-Medicine. Home page: http://www.ntu.edu.sg/home/bengang/