

Abstract Submitted
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Silver (Ag) nanostructure assisted fluorescence imaging KYUNG-MIN LEE, ARUP NEOGI, MINJUNG KIM, BONGSOO KIM, RAFAL LUCHOWSKI, ZYGMUNT GRZYCZYNSKI, NILS CALANDER, TAE-YOUL CHOI — We developed a novel cell imaging technique using nanoengineered plasmonic platform which consists of a combined structure of silver (Ag) nanowire (NW) and nanodot (ND) array (NW-NDA). This novel platform can be a promising utility for optical imaging and labeling of biological systems. Strongly enhanced fluorescence from fluorophore, mediated by optical resonant field, is attributed to surface plasmon (SP) coupling between Ag NW and NDs. We succeeded in obtaining the fairly enhanced fluorescence intensity and quenched lifetime from LDS798 dye (1-Ethyl-4-(4-(p-Dimethylaminophenyl)-1,3-butadienyl)-quinolinium Perchlorate) dissolved in 0.2% poly(vinyl) alcohol (PVA). This novel nanoengineered plasmonic platform opens up a new horizon for a more efficient and direct way to image a cell and biological system.

Kyung-Min Lee

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