

Reduced graphene oxide/gold nanorods hybrid system for synergistic photothermal/photodynamic therapy

이승화, 김소연<sup>†</sup>

충남대학교

(kimsy@cnu.ac.kr<sup>†</sup>)

Recently, Near infrared (NIR) photothermal therapy(PTT) using nanocarriers has attracted particular interest as a hyperthermia strategy. Especially, AuNRs have attracted considerable interest as photothermal agents for various cancer treatments for their efficiency of photothermal activation and smaller size than gold nanoshells for NIR activation. However, using AuNRs alone as photothermal agents showed poor accumulation to cancer cells and limited temperature rise. Therefore, we prepared the reduced oxide(rGO)/AuNRs hybrid composites, and then conjugated target ligands and PS into the rGO/AuNRs. The rGO/AuNRs hybrid composites showed excellent stability in aqueous solution and enhanced photothermal effect. In addition, their photodynamic and photoacoustic effect were also investigated.