

Visible light driven dynamic cancer therapy and imaging using graphitic carbon nitride nanoparticle

허남수, 전영시¹, 허윤석[†]
인하대학교; ¹전남대학교
(yunsuk.huh@inha.ac.kr[†])

We reported here nano particle structure of graphitic carbon nitride (g-CN) fabrication for photo dynamic cancer therapy and cell imaging. Nano particle structure of g-CN was fabricated from rod type of melamine and cyanuric acid adducts using inorganic salts melt, eutectic LiCl-KCl. The physical properties of intrinsic optical and chemical functionalities of g-CN is maintained in nano particle structure comparing with pristine g-CN. The highly stable physical properties, low toxicity, and bio-compatibility of nano particle g-CN can be used as photodynamic therapy and imaging agent without further modification. Nano particle g-CN can transport inside the cells and generate reactive oxygen species (ROS) under visible light irradiation. The cytotoxicity of nano particle g-CN can control by light irradiation and effects more on cancer cells rather than normal cells in low concentration.