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Molecular imaging-guided photothermal/photodynamic therapy against tumor by iRGD-modified indocyanine green nanoparticles

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ABSTRACT

Multifunctional near-infrared (NIR) nanoparticles demonstrate great potential in tumor theranostic applications. To achieve the sensitive detection and effective phototherapy in the early stage of tumor genesis, it is highly desirable to improve the targeting of NIR theranostic agents to biomarkers and to enhance their accumulation in tumor. Here we report a novel targeted multifunctional theranostic nanoparticle, internalized RGD (iRGD)-modified indocyanine green (ICG) liposomes (iRGD-ICG-LPs), for molecular imaging-guided photothermal therapy (PTT) and photodynamic therapy (PDT) therapy against breast tumor. The iRGD peptides with high affinity to $\alpha v \beta 3$ integrin and effective tumor-internalized property were firstly used to

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