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Titel des Beitrags: siRNA liposome-gold nanorod vectors for multispectral optoacoustic tomography theranostics.

Abstract: Therapeutic applications of gene silencing using siRNA have seen increasing interest over the past decade. The optimization of the delivery and biodistribution of siRNA using liposome-gold nanorod (AuNRs) nanoscale carriers can greatly benefit from adept imaging methods that can visualize the time-resolved delivery performance of such vectors. In this work, we describe the effect of AuNR length incorporated with liposomes and show their complexation with siRNA as a novel gene delivery vehicle. We demonstrate the application of multispectral optoacoustic tomography (MSOT) to longitudinally visualize the localisation of siRNA carrying liposome-AuNR hybrids within tumors. Combination of in vivo MSOT with ex vivo fluorescence cryo-slice imaging offers further insight into the siRNA transport and activity obtained.

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