
Functionalized fluorescent lipid nanoemulsions for active cell targeting

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Résumé

Fluorescent lipid nanoemulsions (LNEs), owing to their biocompatibility, good in vivo stability, and low toxicity, have found applications in biomedical imaging (1). However, their targeting to specific cells remains challenging because of difficulties in functionalizing them (2). Here, we have developed an approach to functionalize LNEs with antibodies by inserting an azide linker (NH₂-PEG-N₃) via in situ reaction with a cholesterol derivative inside LNEs. Azide-LNEs were further decorated with antibodies bearing "clickable" DBCO group and tested in cancer cells. Fluorescence microscopy showed selective accumulation of Cy5.5-loaded LNEs in HER2-positive cells. Our approach offers a plug-and-play fluorescent nano-platform for cellular targeting in cancer and cardiovascular diseases.

Mots-Clés: Lipid nanoemulsion, bioimaging, Nanoparticles fuctionalization, cell targeting.

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