



Inhibition of ectopic glioma tumor growth by a potent ferrocenyl drug loaded into stealth lipid nanocapsules.

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Auteur	Lainé, Anne-Laure [1], Clavreul, Anne [2], Rousseau, Audrey [3], Tétaud, Clément [4], Vessieres, Anne [5], Garcion, Emmanuel [6], Jaouen, Gerard [7], Aubert, Léo [8], Guilbert, Matthieu [9], Benoît, Jean-Pierre [10], Toillon, Robert-Alain [11], Passirani-Malleret, Catherine [12]
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Résumé en anglais	<p>UNLABELLED: In this work, a novel ferrocenyl complex (ansa-FcdiOH) was assessed for brain tumor therapy through stealth lipid nanocapsules (LNCs). Stealth LNCs, prepared according to a one-step process, showed rapid uptake by cancer cells and extended blood circulation time. The ferrocenyl complex was successfully encapsulated into these LNCs measuring 40nm with a high loading capacity (6.4%). In vitro studies showed a potent anticancer effect of ansa-FcdiOH on 9L cells with a low IC50 value (0.1µM) associated with an oxidative stress and a dose-dependent alteration of the cell cycle. Repeated intravenous injections of stealth ansa-FcdiOH LNCs in ectopic glioma bearing rats induced a significant tumor growth inhibition, supported by a reduced number of proliferative cells in tumors compared to control group. Additionally, no liver damage was observed in treated animals. These results indicated that stealth ansa-FcdiOH LNCs might be considered as a potential new approach for cancer chemotherapy.</p> <p>FROM THE CLINICAL EDITOR: In this study, a novel ferrocenyl complex was assessed for brain tumor therapy through stealth lipid nanocapsules, demonstrating no liver damage, and superior tumor volume reduction compared to saline and stealth lipid nanocapsules alone in an ectopic glioma model.</p>
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Liens

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- [2] <http://okina.univ-angers.fr/anne.clavreul/publications>
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- [15] <http://www.ncbi.nlm.nih.gov/pubmed/24842766?dopt=Abstract>

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