

New generation of nanocarrier-loaded hydrogels: from conception to in vivo applications

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Conférence

Centre de recherche du CHU de Québec-Université Laval



Centre de recherche



Dr Guillaume Bastiat

Translational Micro and Nanomedicines (MINT),
University Hospital Angers, France

Invité par : Dr Nicolas Bertrand

Date : Vendredi 14 juillet 2017

Heure : 14h00

Lieu : Amphithéâtre Fisher, Local TR-54, Site CHUL



«New generation of nanocarrier-loaded hydrogels: from conception to *in vivo* applications»

The combination of pharmaceutical technologies can be a wise choice for developing innovative therapeutic strategies. The association of nanocarriers with hydrogels provides new therapeutic possibilities. Gels support nanocarriers, localize their administration to the target tissue, and sustain drug release, while nanocarriers can provide differentiated pharmacokinetic and biodistribution and improve the therapeutic index of drugs. An innovative polymer-free hydrogel platform was obtained from the association of lipid nanocapsules (LNCs). The hydrogel network stems from H-bond interactions between cross-linking agents distributed at the oil/water interfaces of LNCs. The viscoelastic properties of the hydrogels are correlated with concentrations of cross-linking agent and LNCs. These mechanical properties allow sustained release of LNCs. Once all LNCs are released, the gel is completely dissolved, without residual materials and potential toxicities. These hydrogels are injectable using syringes and show good biocompatibility after subcutaneous injections, with local inflammatory responses similar to those observed with approved excipients. Two preclinical applications of the hydrogels have been explored: targeting metastasis from lung carcinoma and delaying recurrences of glioblastoma after primary tumor resection.

Note :

Prière d'aviser vos étudiants gradués et stagiaires postdoctoraux afin d'avoir la participation de tous.

Visioconférence

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