

# NOVEL IMMUNOSTIMULATING THERMOSENSITIVE HYDROGEL TO BOOST IMMUNO-ONCOLOGY

# ERG\NEO

L'AVENIR EST FAIT D'AUDACE

Thermosensitive hydrogel for a local and sustained delivery of immunostimulating agents for the treatment of recurrent and metastatic cancer

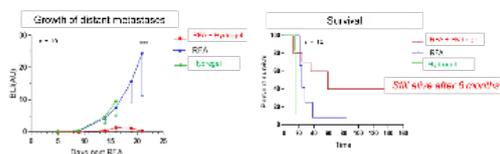
## PRESENTATION

Efficacy of immunotherapies is limited by the poor immunogenicity of some cancers. For example, ~90% of colorectal tumours cannot be targeted as they are qualified as low immunogenic.

Radiofrequency ablation (RFA), extensively used for the local destruction of tumours or metastases, is known to activate a tumourspecific T-cells response, still ineffective to avoid recurrence.

The technology relies on a thermosensitive hydrogel injected in the tumour cavity treated by RFA, which delivers, locally and sustainably, immunostimulating agents to initiate an antitumoral immune response directed against distant metastases. The thermosensitive hydrogel allows an optimal delivery in the tumour cavity in its liquid state and a long lasting effect thanks to its gelling at around 30 °C.

*In vivo*, the *in situ* immunostimulating thermosensitive hydrogel injection after RFA results in a prolonged survival of mice and a regression of distant microscopic tumours due to a strong systemic antitumor immune response. Furthermore, the immunostimulating thermosensitive hydrogel boosts the regression of macroscopic tumours when associated to RFA and a systemic check point inhibitor.



Survival and growth of distant metastases in a mouse model of colorectal cancer after the treatment of a primary tumour

Thermosensitive hydrogel - Drug delivery -  
Immuno-oncology - Colorectal cancer

## COMPETITIVE ADVANTAGES

- Hydrogel made of approved components
- Sustained delivery of immunostimulating agents
- Increase immune checkpoint inhibitors efficacy in non-immunogenic cancer
- Ease of production (liquid at room temperature)

## INTELLECTUAL PROPERTY

International patent application filed on August 31, 2017

## PUBLICATIONS

Lemdani *et al.*, ASCO 2017 Abstract e14540.

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## APPLICATIONS

- Treatment of recurrent and metastatic cancer
- Combination with immune checkpoint inhibitors for treatment of non-immunogenic cancer

## DEVELOPMENT PHASE

- ✓ Performed optimization of thermosensitive hydrogel properties.
- ✓ *In vivo* POC in mouse model of metastatic colorectal cancer, alone and in combination with immune checkpoint inhibitors.
- ✓ Ongoing development : *in vivo* POC in mouse model of lung cancer