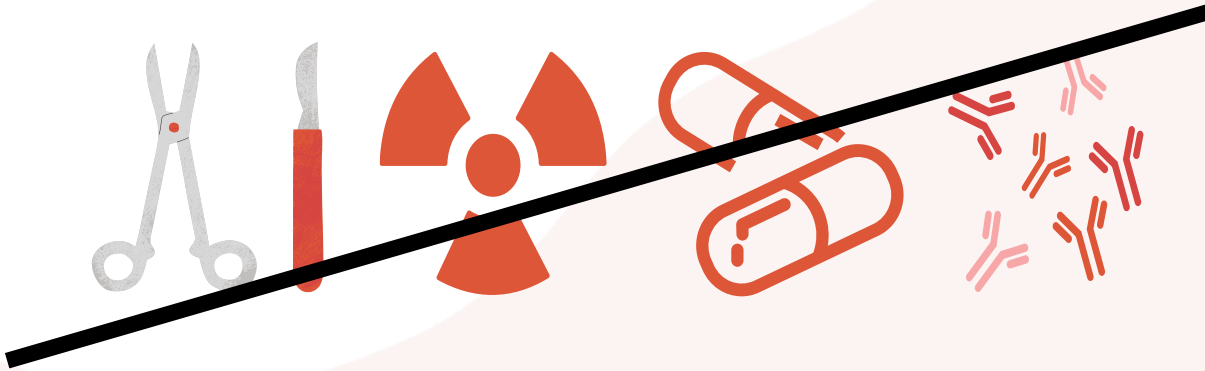


Boosting CAR T cells with Advanced Adjuvant Cancer Nanovaccines

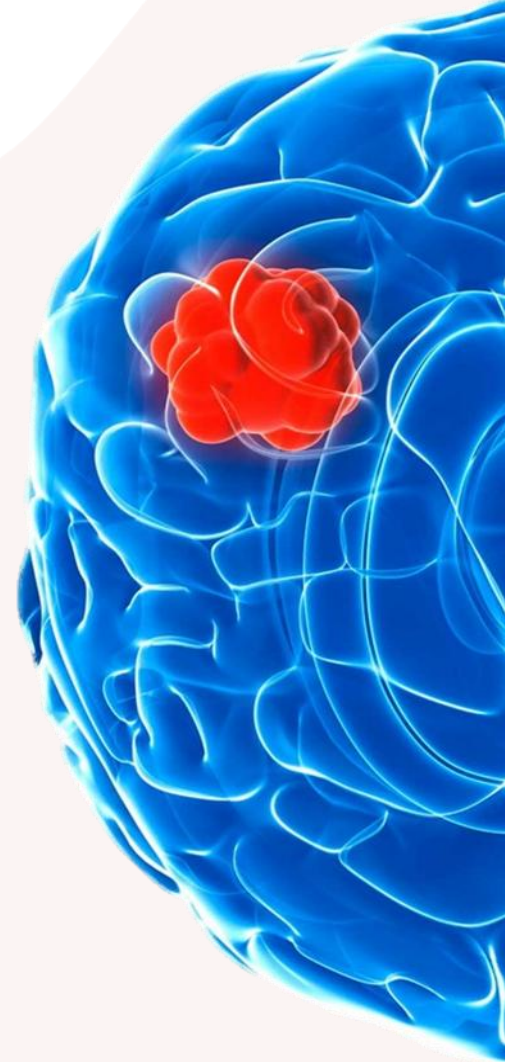
Flávia Sousa, PhD

The need

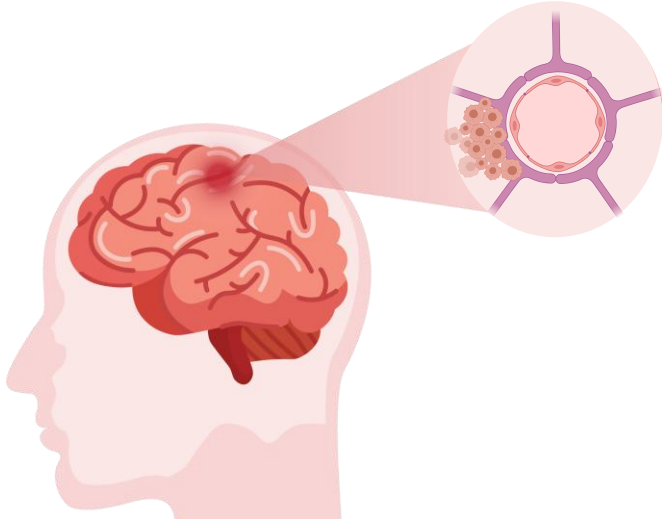
Glioblastoma remains incurable



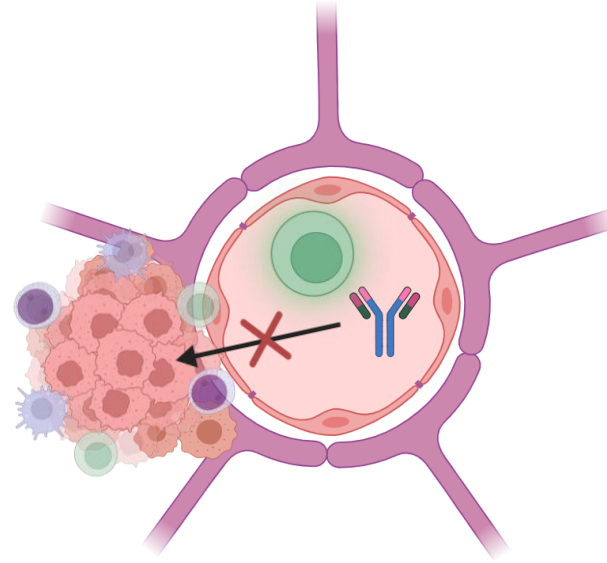
5-year survival – 5.7%



The challenges

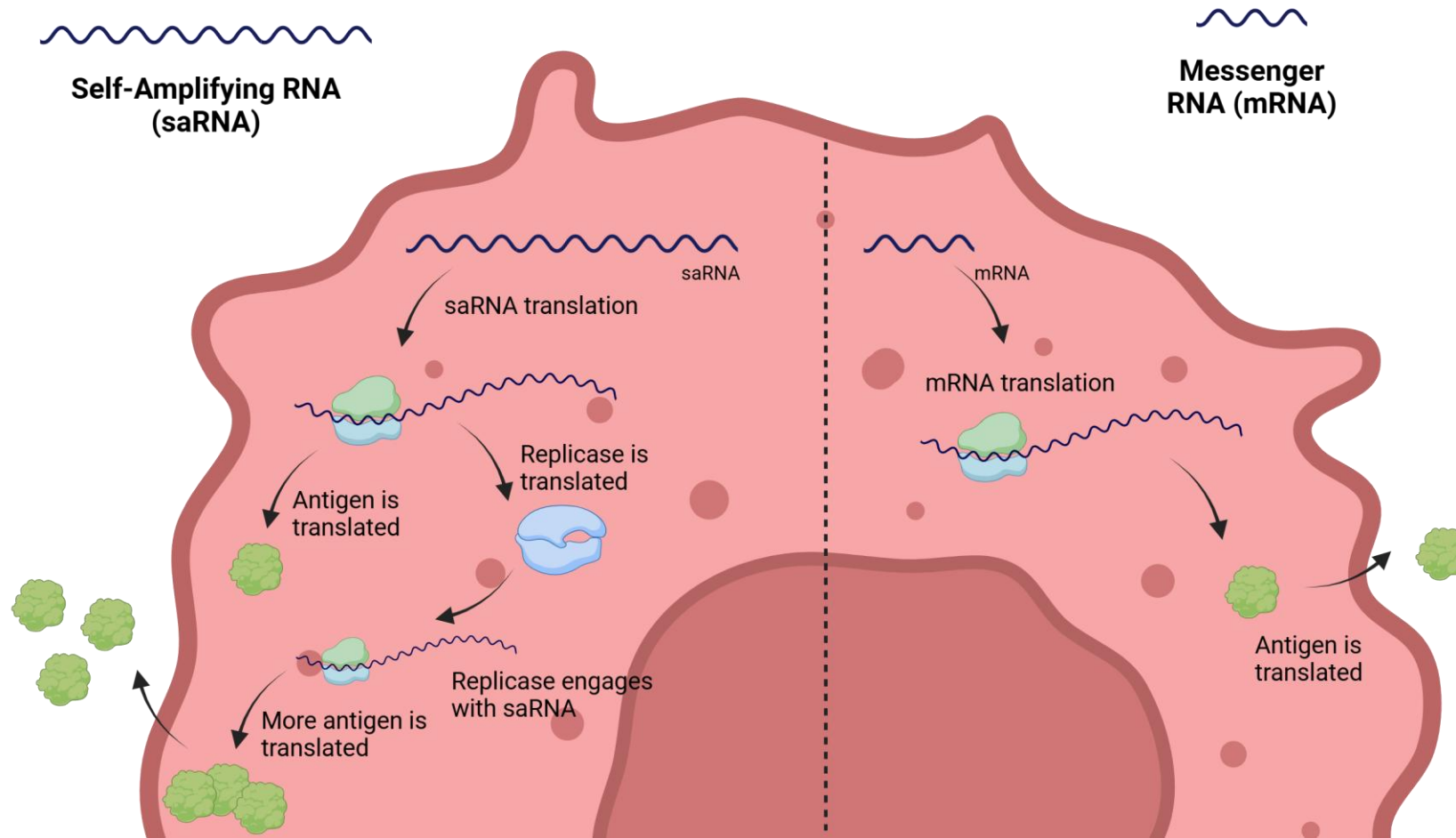


Presence of the
blood-brain barrier



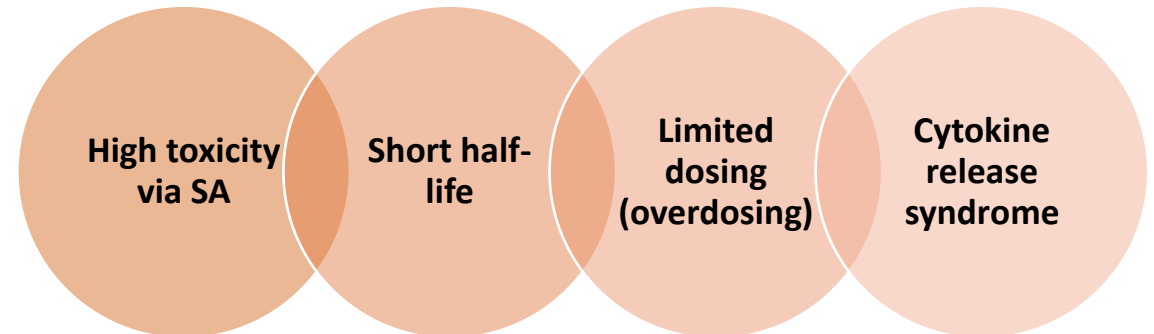
Immunosuppressive
tumour microenvironment (TME)

saRNA nanovaccines

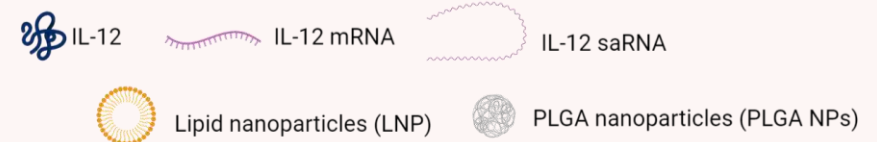
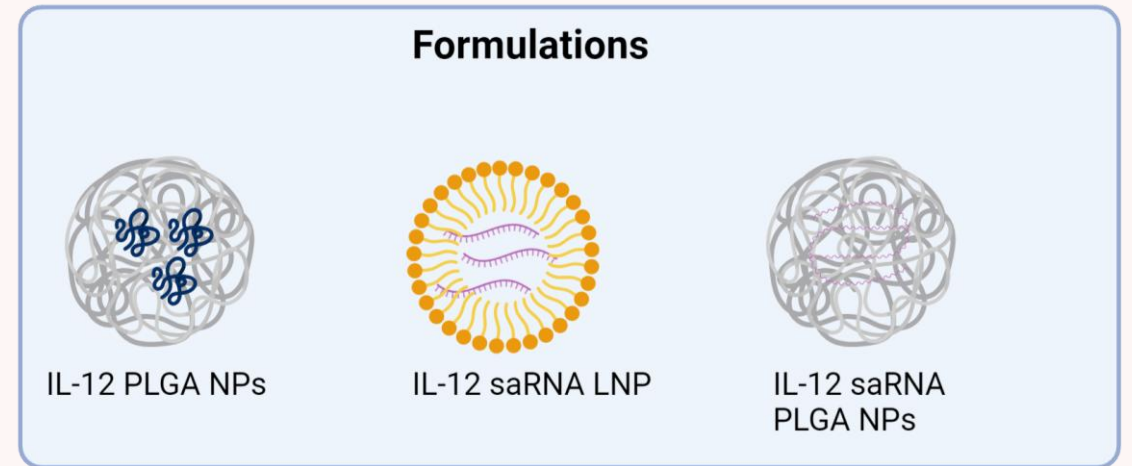
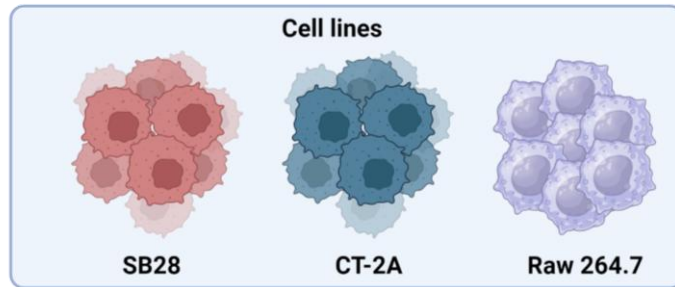


Power of IL-12

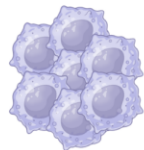
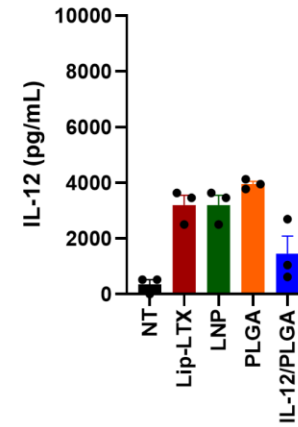
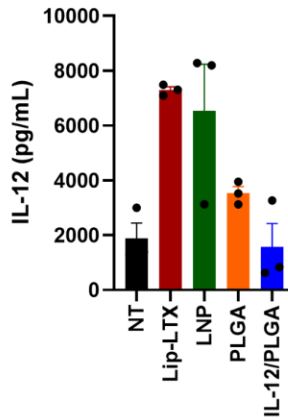
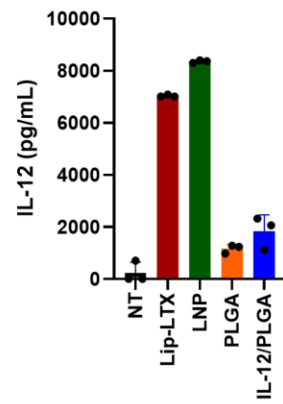
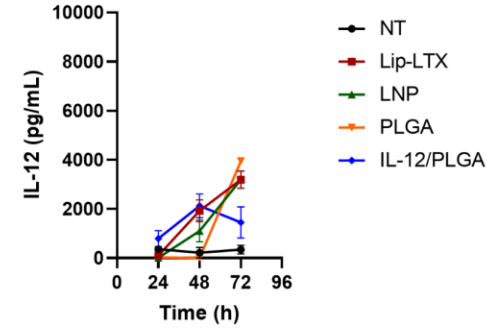
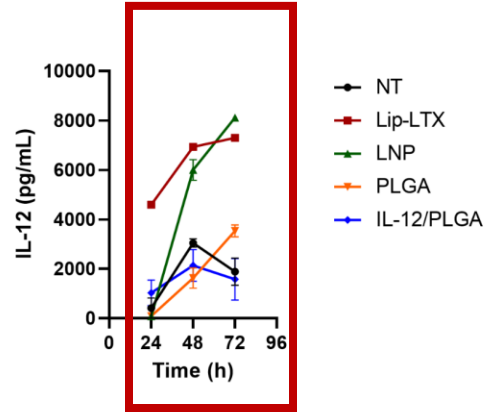
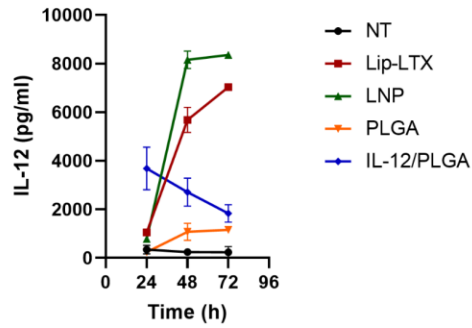
- Convert immunologically **“cold” tumor microenvironment to inflamed “hot” tumor.**
- Stimulates production **of interferon- γ (IFN- γ)**
- Changes the tumor microenvironment from one that contains M2-type phenotype macrophages to one that has more inflammatory M1-type phenotype



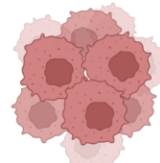
Treatment groups



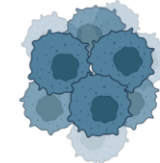
Transfection efficacy



Raw 264.7

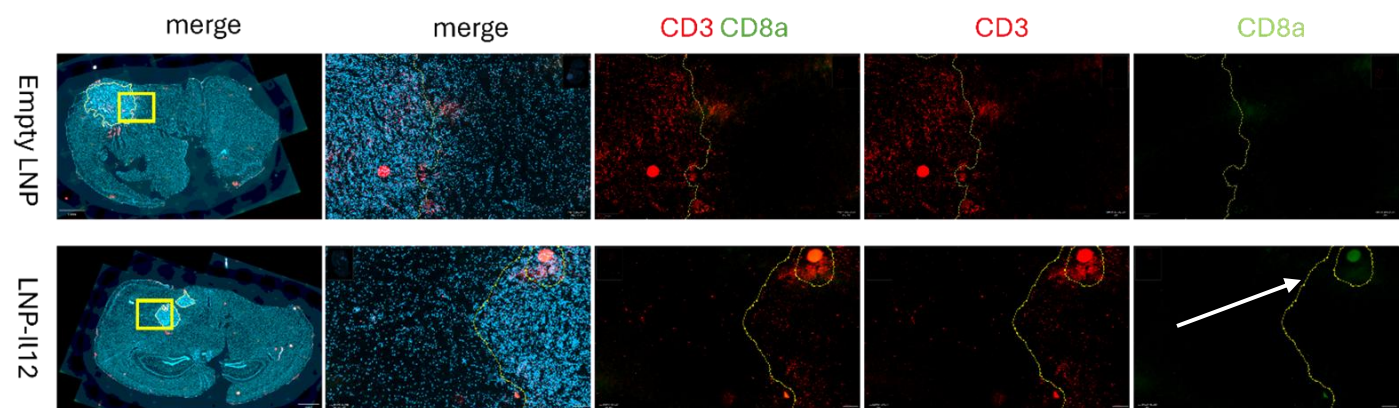
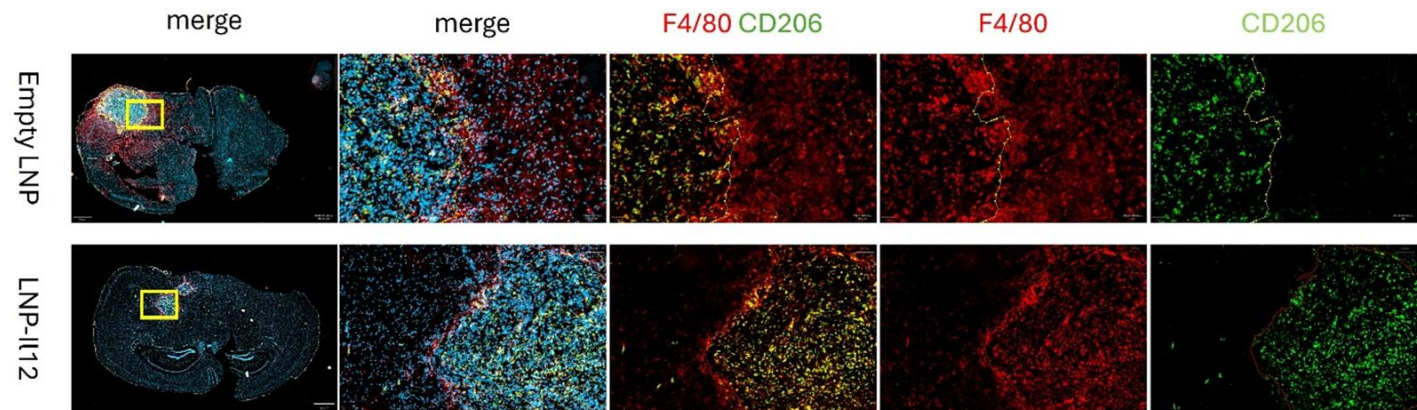
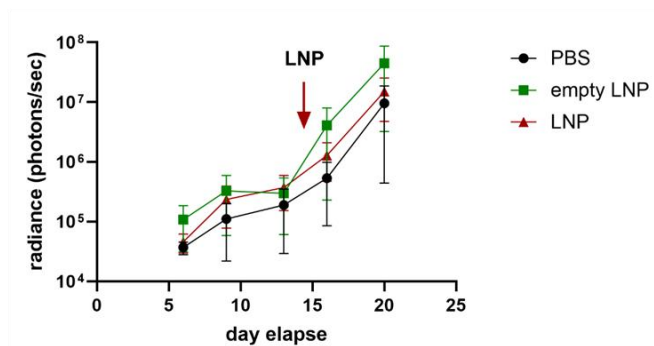
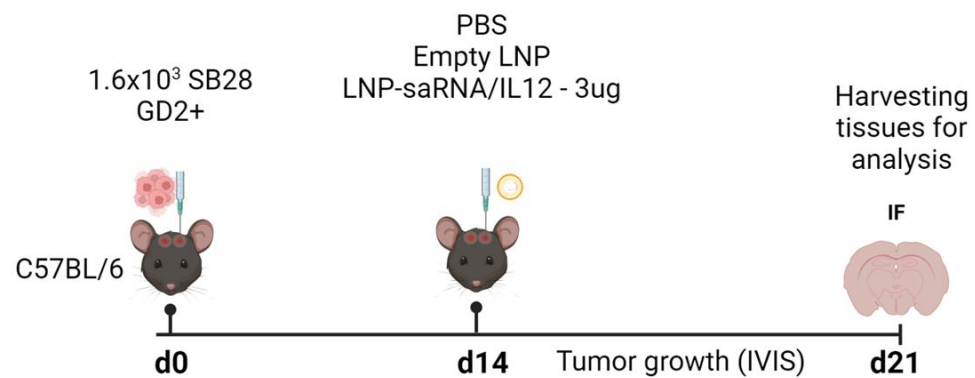


SB28



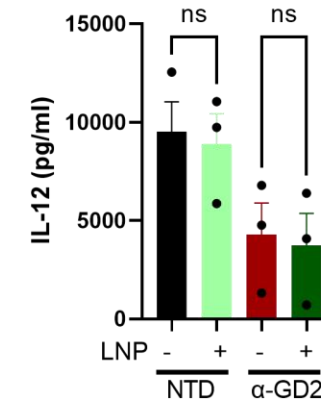
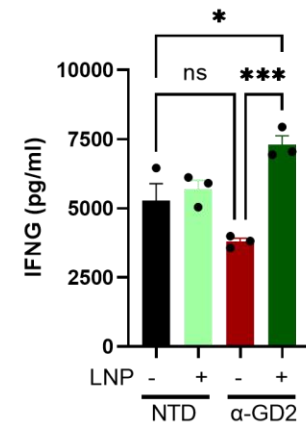
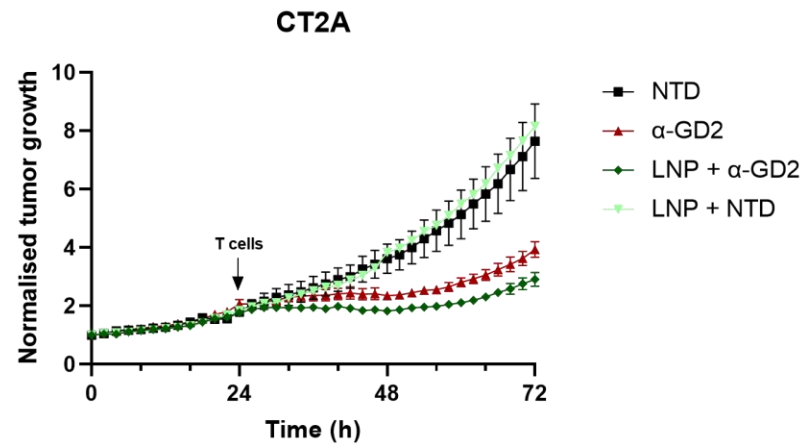
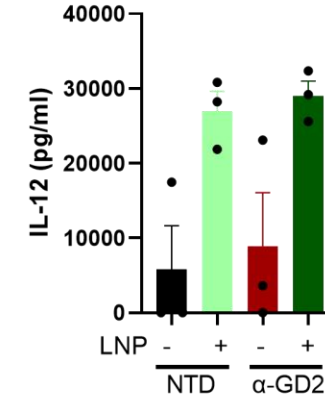
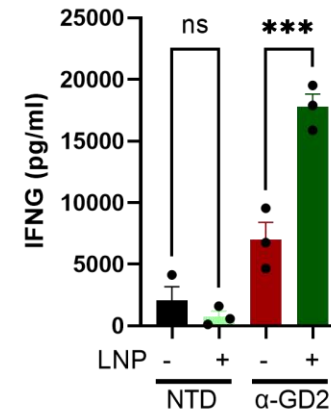
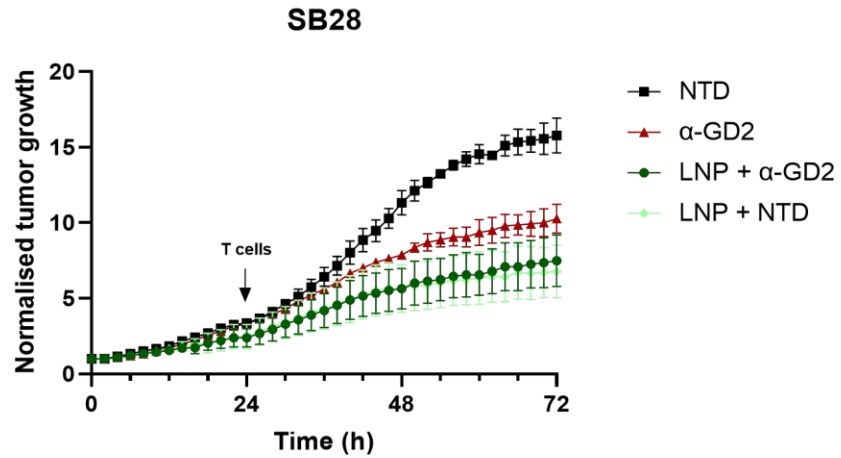
CT-2A

PD study

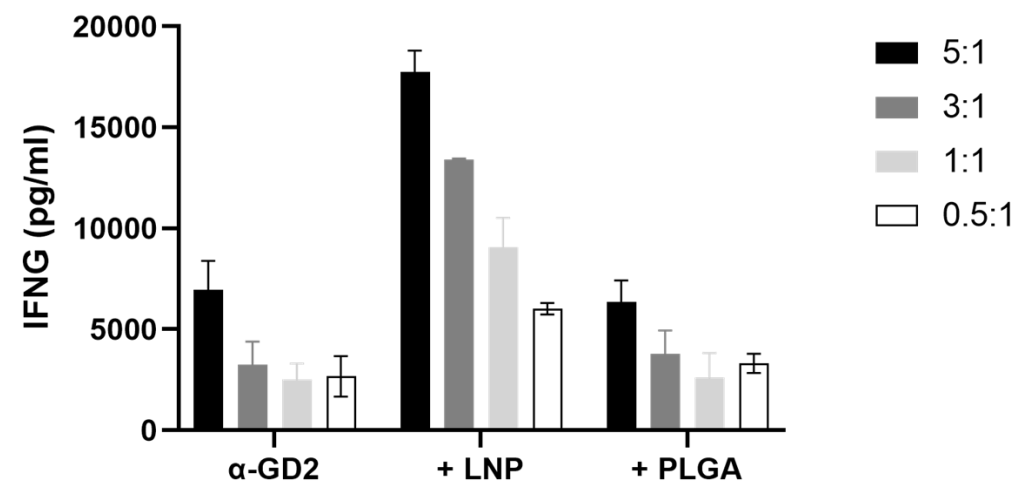
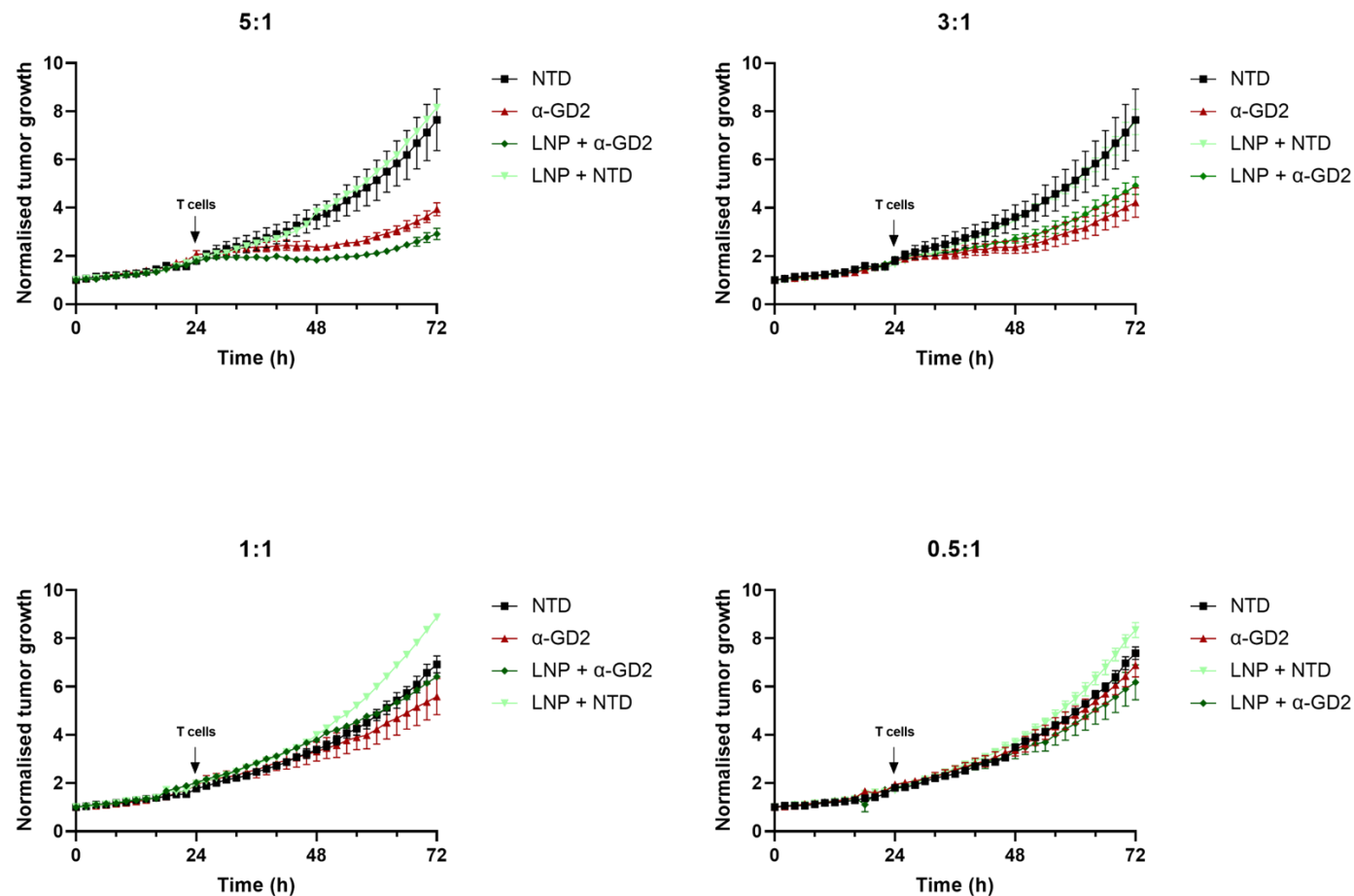


Can nanovaccines enhance PK/PD of **CAR-T**
cells into the brain and kill target cells?

CAR-T killing assay



CAR-T killing assay



**saRNA encoding IL-12 is able to transfect
efficiently GBM cancer cells and macrophages**

**saRNA as a vaccine platform is able to boost
CAR-T therapy**

Our team



Department of Pharmaceutical Technology and Biopharmacy

Dr. Flávia Sousa, Principal Investigator

Dr. Raquel Vilela, Postdoc

Fatima Hameedat, PhD student

Jennifer de Jong, MSc student

Milena Kuhn, MSc student

Shanchana Srinivasan, MSc student

@flaviasousasci  

www.flaviasousasci.com

Funding
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