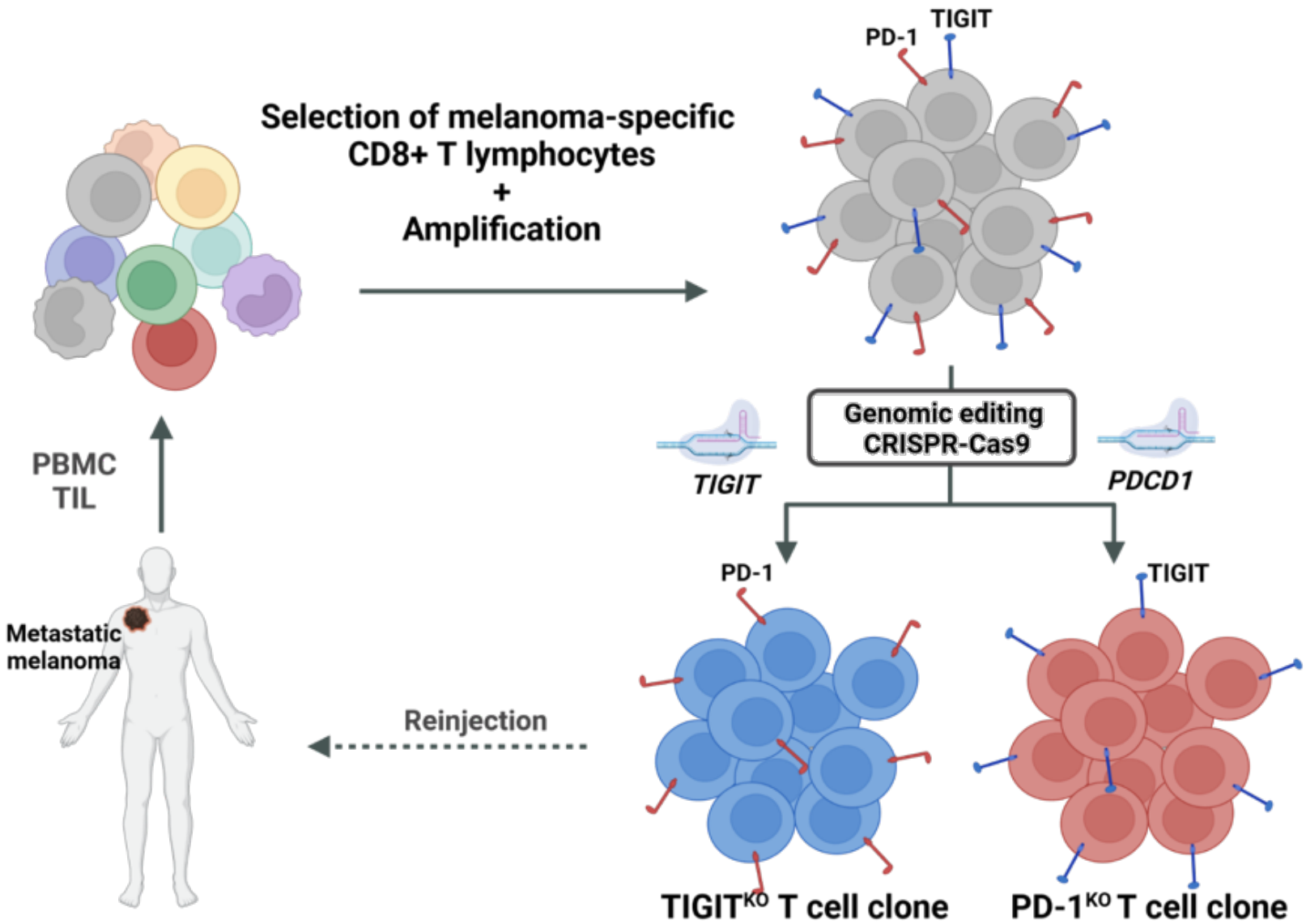


Anti-tumor reactivity	✓	✓
Proliferative abilities	✓	✗
PD-1 expression	Reduced	No expression
TIGIT expression	No expression	Maintained

BME PARIS
BioMedical Engineering
MASTER'S PROGRAM

Immune checkpoints: friends or foes for immunotherapy?

Open Your Mind Seminar

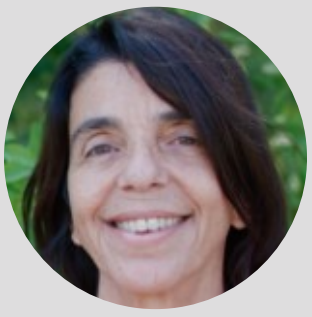
Friday, Nov 22 2024
1.30 pm – 3.00 pm

Amphitheater FOURNEL
Arts et Métiers Institute of Technology
155 boulevard de l'Hôpital, 75013 Paris

Optimizing tumor reactivity and function of therapeutic T cells

Although Immune Checkpoint inhibitors (ICIs) have a predominant place in current immunotherapy approaches, adoptive cell transfer (ACT) strategies remain a promising alternative in monotherapy or in therapeutic combination with them. Recent results have once again documented the therapeutic efficacy of TIL injection in melanoma patients, leading to FDA approval of this therapeutic strategy in patients refractory to ICI and targeted therapies.
However, although TIL therapy has demonstrated relative efficacy in solid tumors, particularly in melanoma, this efficacy could still be greatly improved, by selecting subpopulations of TILs on the basis of their anti-tumor reactivity. In this respect, a recent study documented the association between clinical responses and the infusion of TIL enriched in tumor-specific CD8+ T lymphocytes. Furthermore, promoting TIL potential for infiltration into tumors and optimizing their effector functions and persistence in an immunosuppressive TME are also crucial issues to improve the efficacy of TIL therapy. This could be achieved through the deletion of membrane or intracellular immune checkpoint by CRISPR/Cas9 gene editing, provided that this gene editing has not unexpected additional impact on T-cell functions.

Nathalie LABARRIERE
Inserm UMR1302
INCIT, Nantes Université



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