

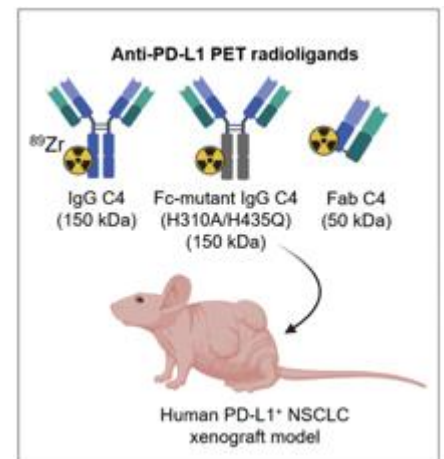
# Optimizing immunoPET imaging of tumor PD-L1 expression

## AIM

Comparing PET imaging characteristics of three PD-L1 radioligands to monitor responses to anti-PD-1/anti-PD-L1 immunotherapies

## METHODS

- Nude mice bearing subcutaneous human nonsmall cell lung cancer (NSCLC) xenografts;
- Labelling of 3 radioligands derived from the anti-PD-L1 IgG1 C4 using  $^{89}\text{Zr}$ ;
- Longitudinal PET/CT imaging (pharmacokinetics, biodistribution and dosimetry).



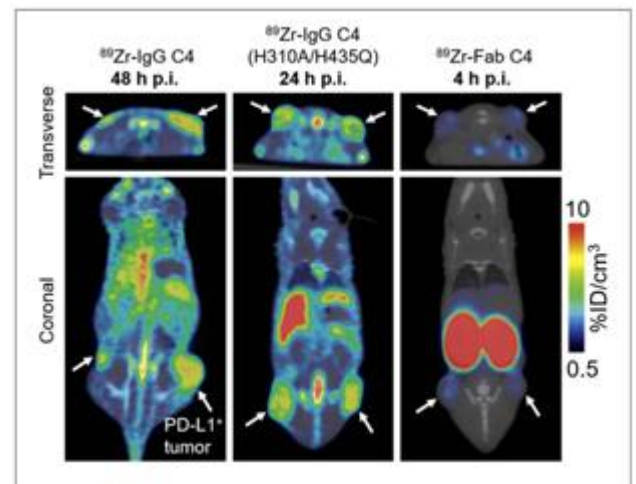
Experimental protocol

## RESULTS

- C4 radioligands substantially accumulated in PD-L1 + tumor;
- Maximal tumor-to-muscle ratios obtained earlier, at 4 h post-injection (p.i.) for [ $^{89}\text{Zr}$ ] Fab C4;
- Absorbed doses tolerable for repeated clinical PET imaging studies

## CONCLUSION

- Design of radioligands with shorter PK for PD-L1 immunoPET imaging in a preclinical model
- Promising for further clinical translation of such radioligands



microPET/CT imaging with the C4 radioligands in a PD-L1+ xenograft model - The three C4 radioligands were able to effectively detect PD-L1 expression in H1975 xenografts, but with different tumor uptakes and kinetics