

5TH
World Congress of
Cutaneous Lymphomas



Enhancing the Ability to Diagnose, Interpret and Apply Best Treatment Options for Cutaneous Lymphomas

Tumor Microenvironment | 27

Langerhans cell population expands early after immune checkpoint inhibition in the micro-environment of mycosis fungoides

EORTC-1652-CLTG PARCT Trial

Dr Duncan Murray

BM BCh MA PhD MRCP FRCPath

Consultant Haematologist

University Hospitals Coventry and Warwickshire NHS Trust

University of Birmingham

University Hospitals Birmingham NHS Trust

United Kingdom

Disclosures

- I do not have any relevant financial relationships

This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.

The off-label/investigational use of atezolizumab will be addressed.

MF and the immune system

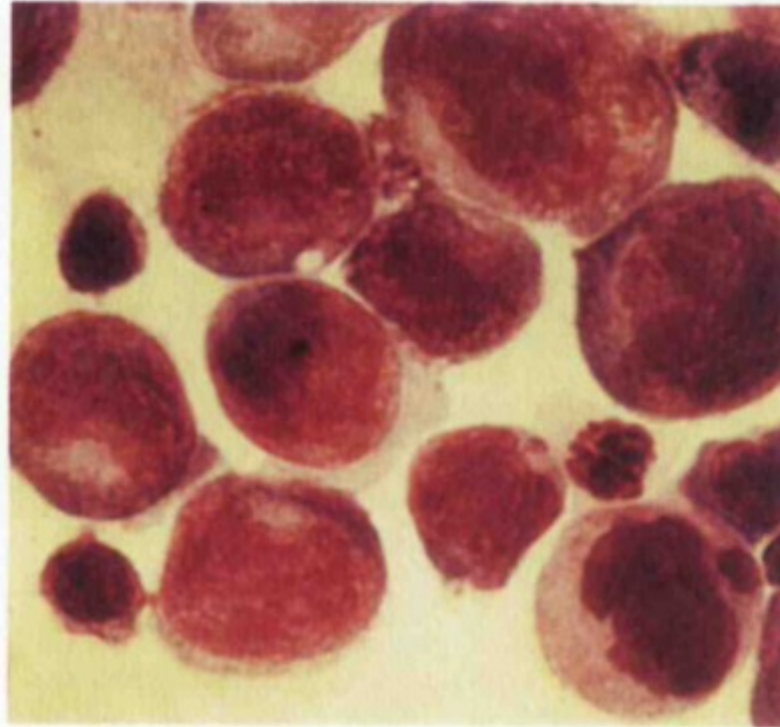
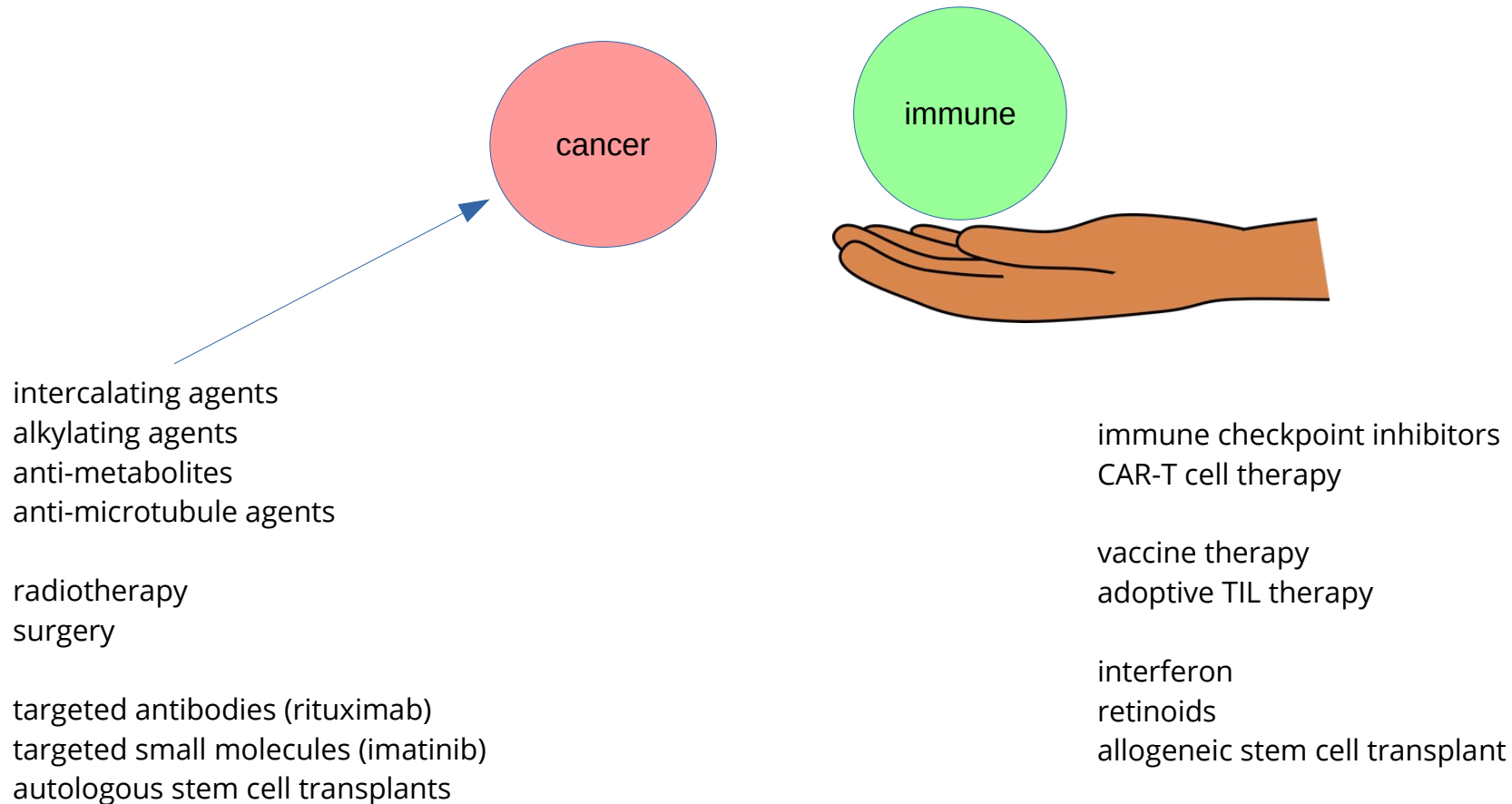


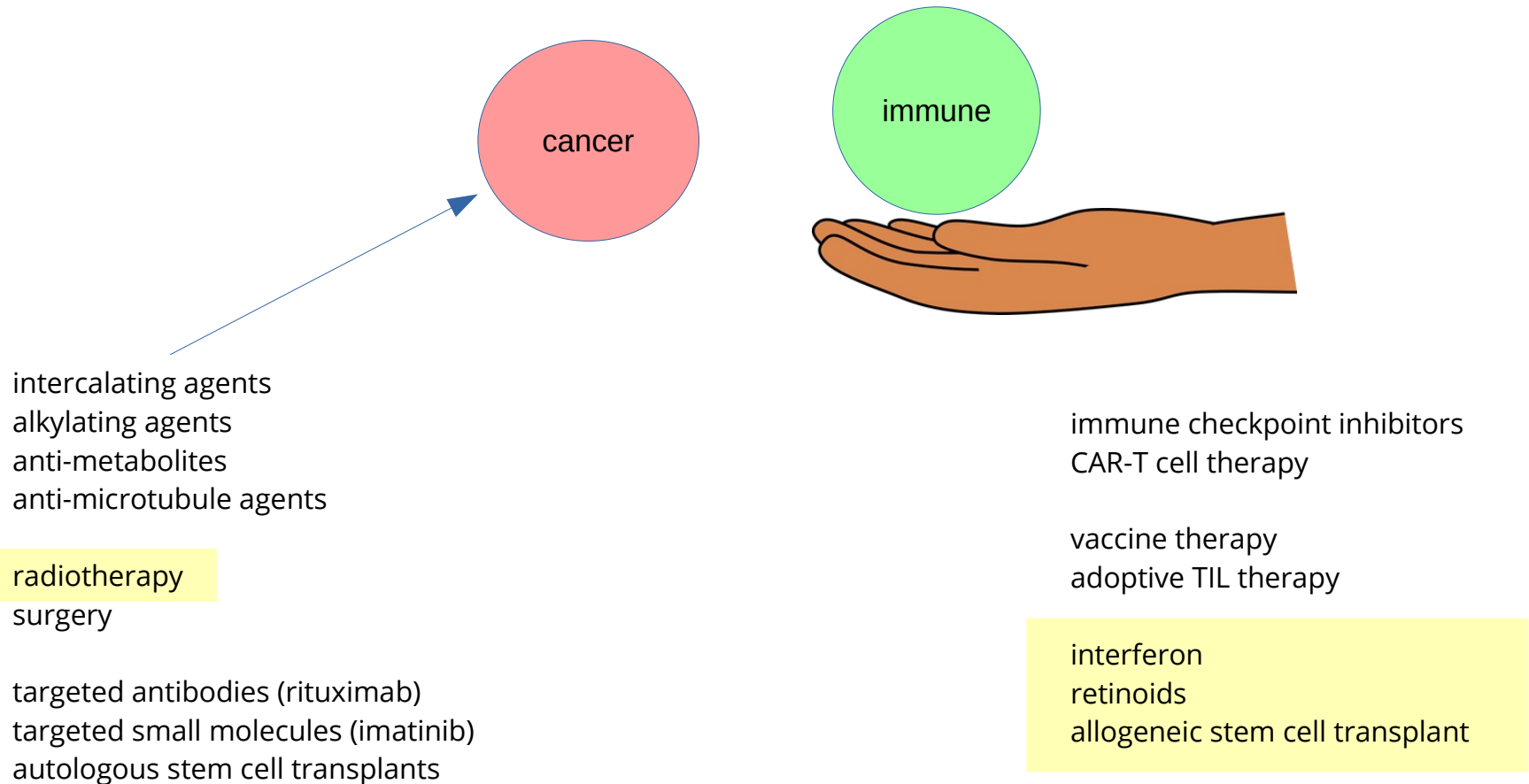
Figure 1. Giemsa-stained tumor cell suspension showing large blastic cells and small tumor-infiltrating lymphocytes. (HLA analysis of large blastic cells: A29, A31, B7, Bw62, Cw3, Bw6; HLA-DR: blank.)

Reinhold et al, 1990

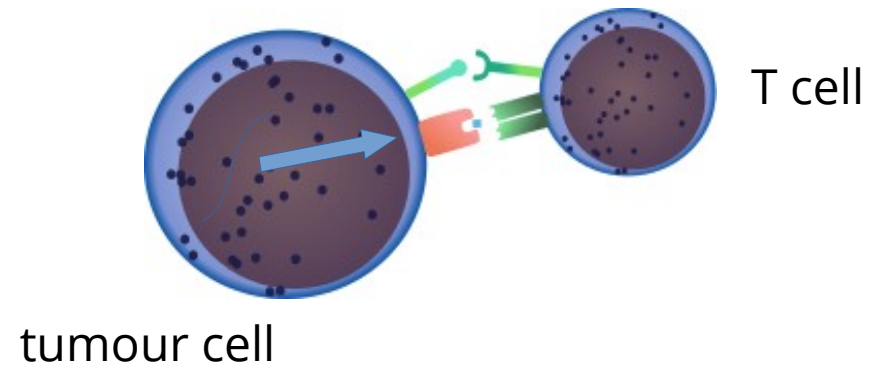
Cancer treatments



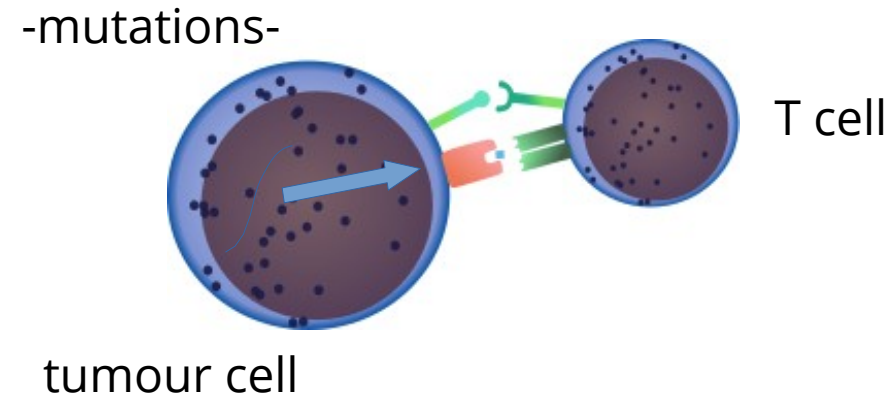
Cancer treatments



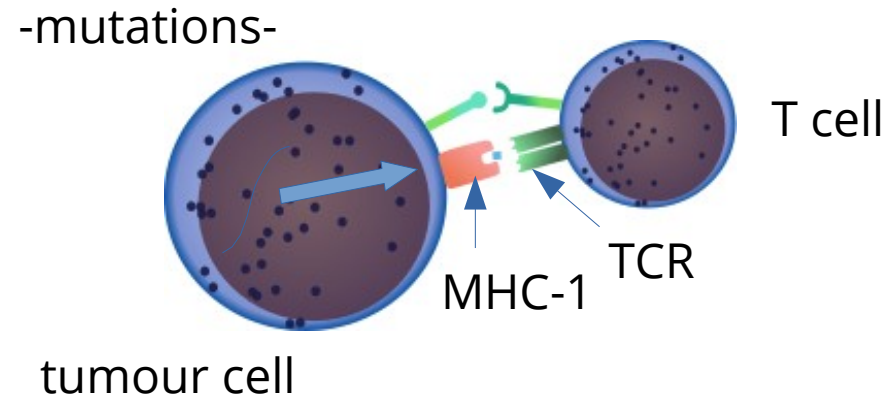
Cancer and the immune system



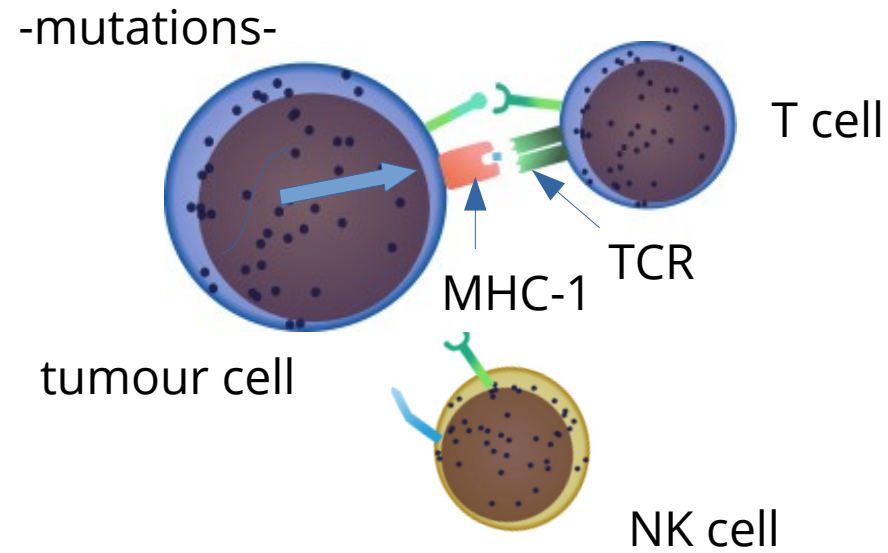
Cancer and the immune system



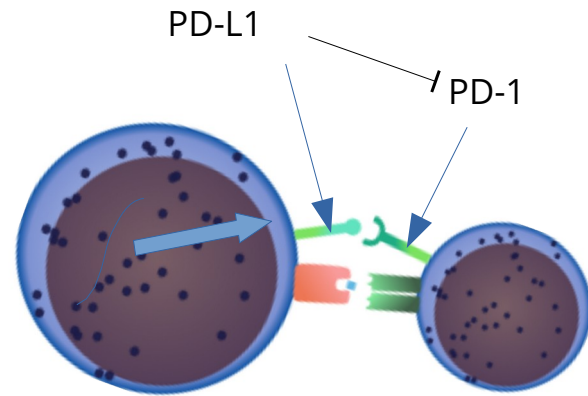
Cancer and the immune system



Cancer and the immune system



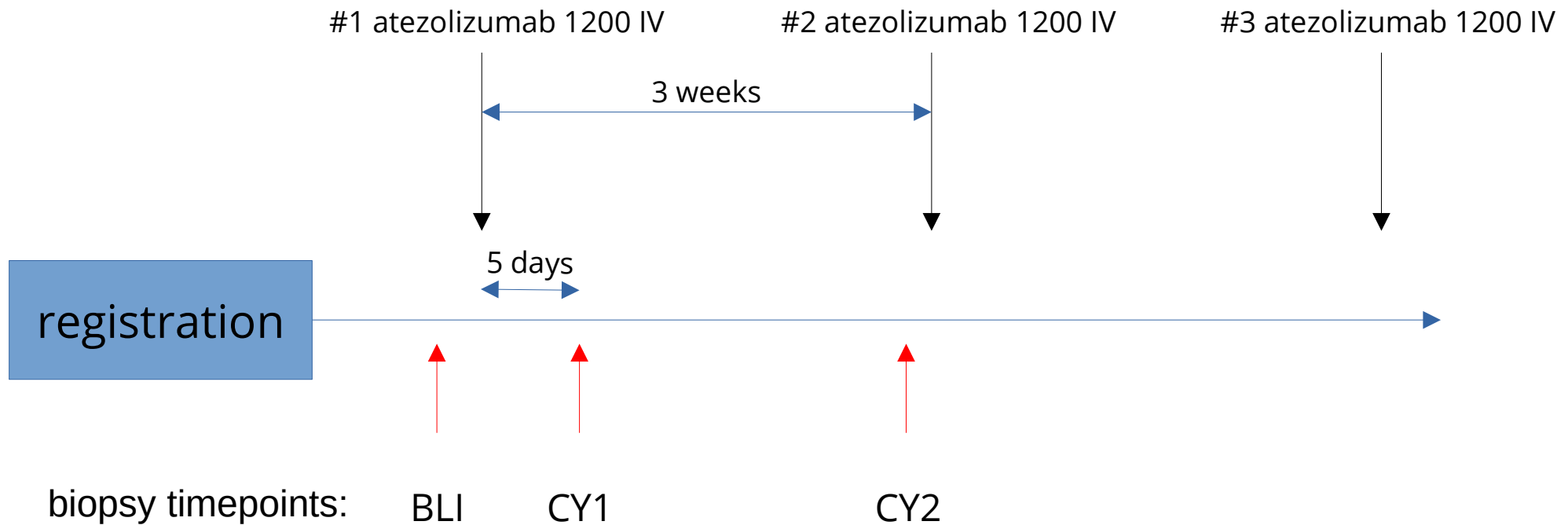
Cancer and the immune system



decreased function:

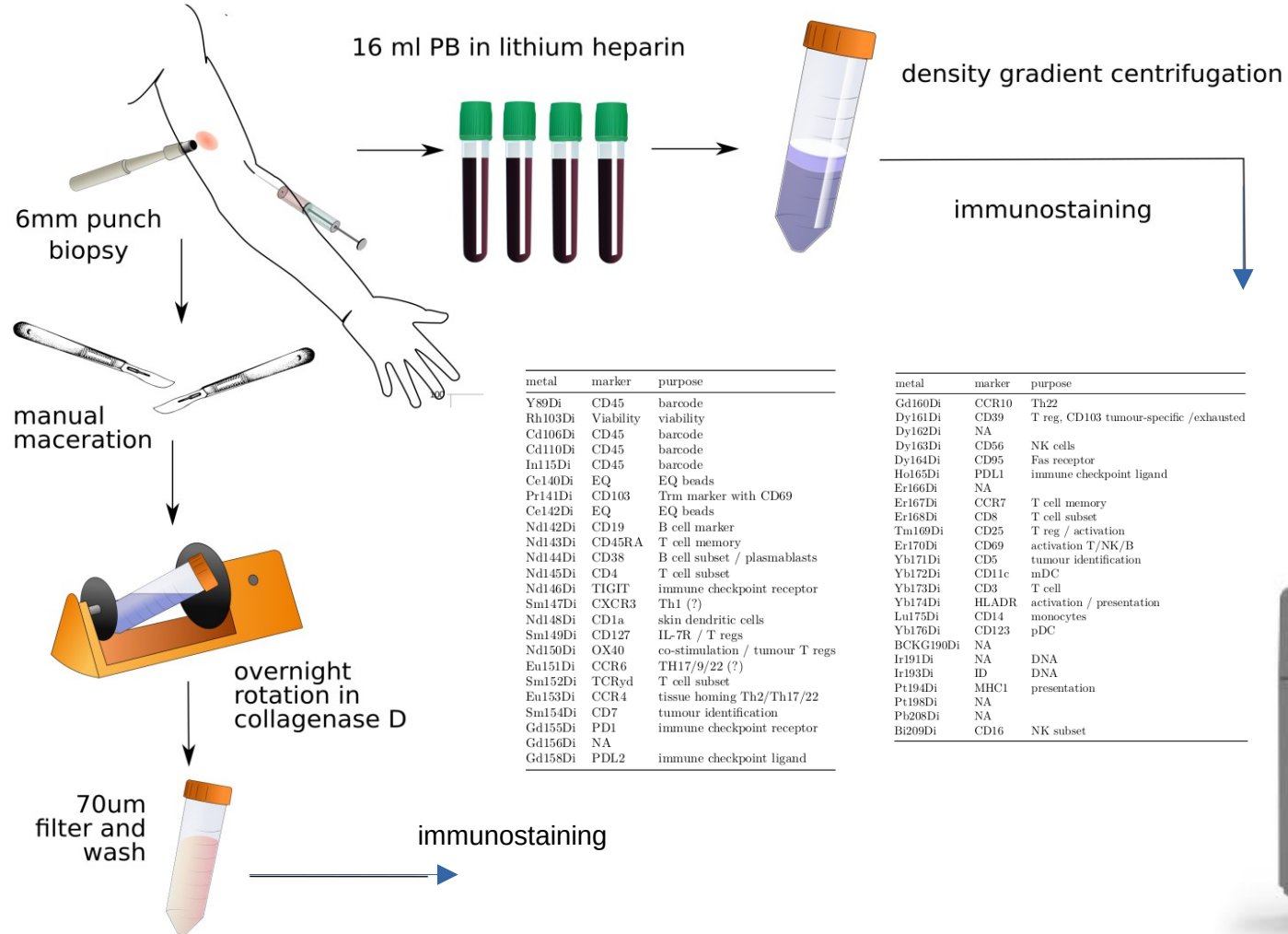
decreased killing
decreased proliferation
decreased cytokine production

EORTC 1652 PARCT Trial Translational Study

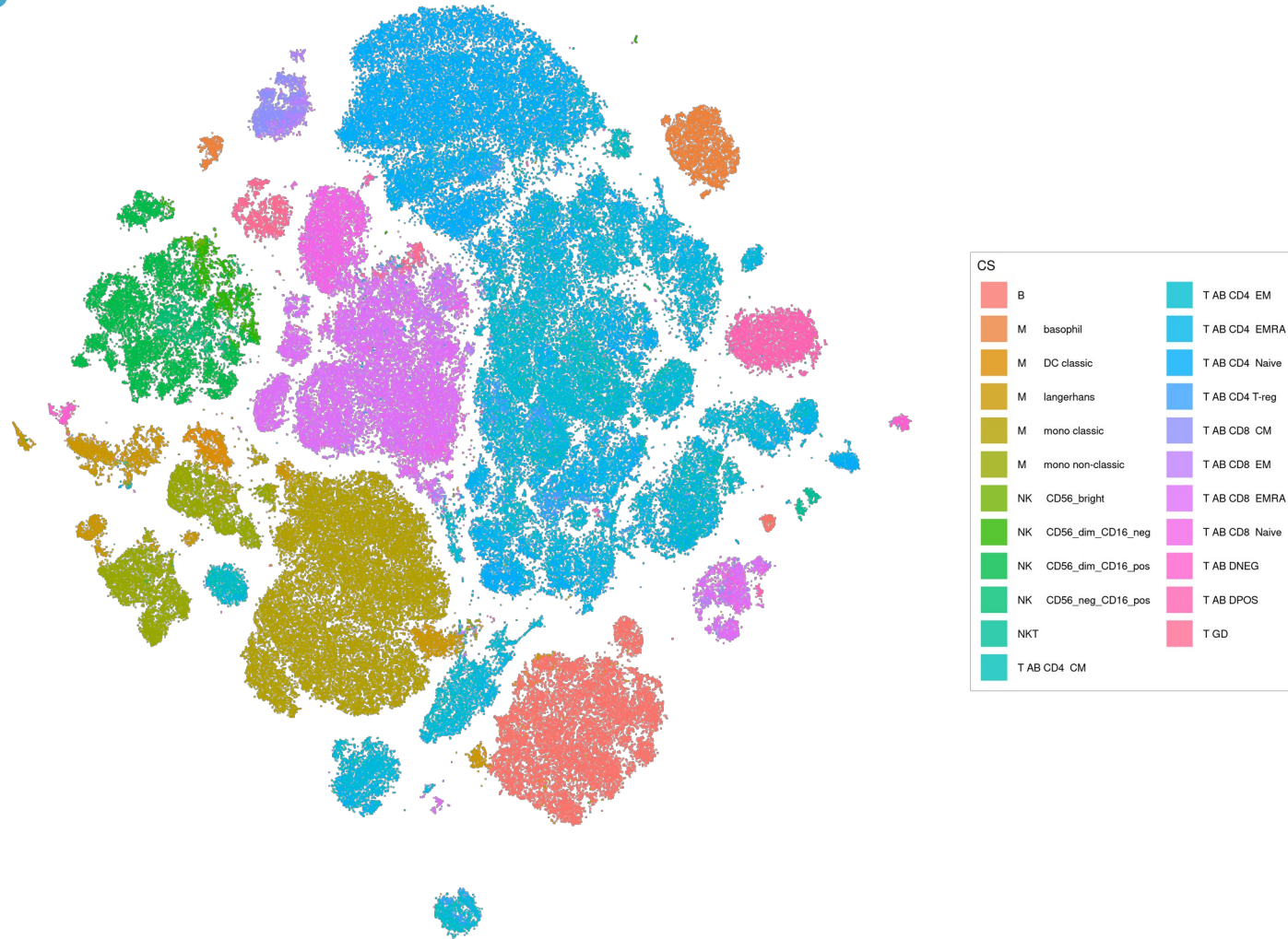


International multicentre phase II study, mycosis fungoides stage IIB-IVB
Atezolizumab (PD-L1 blocker) administered every 3 weeks

Methods



Methods

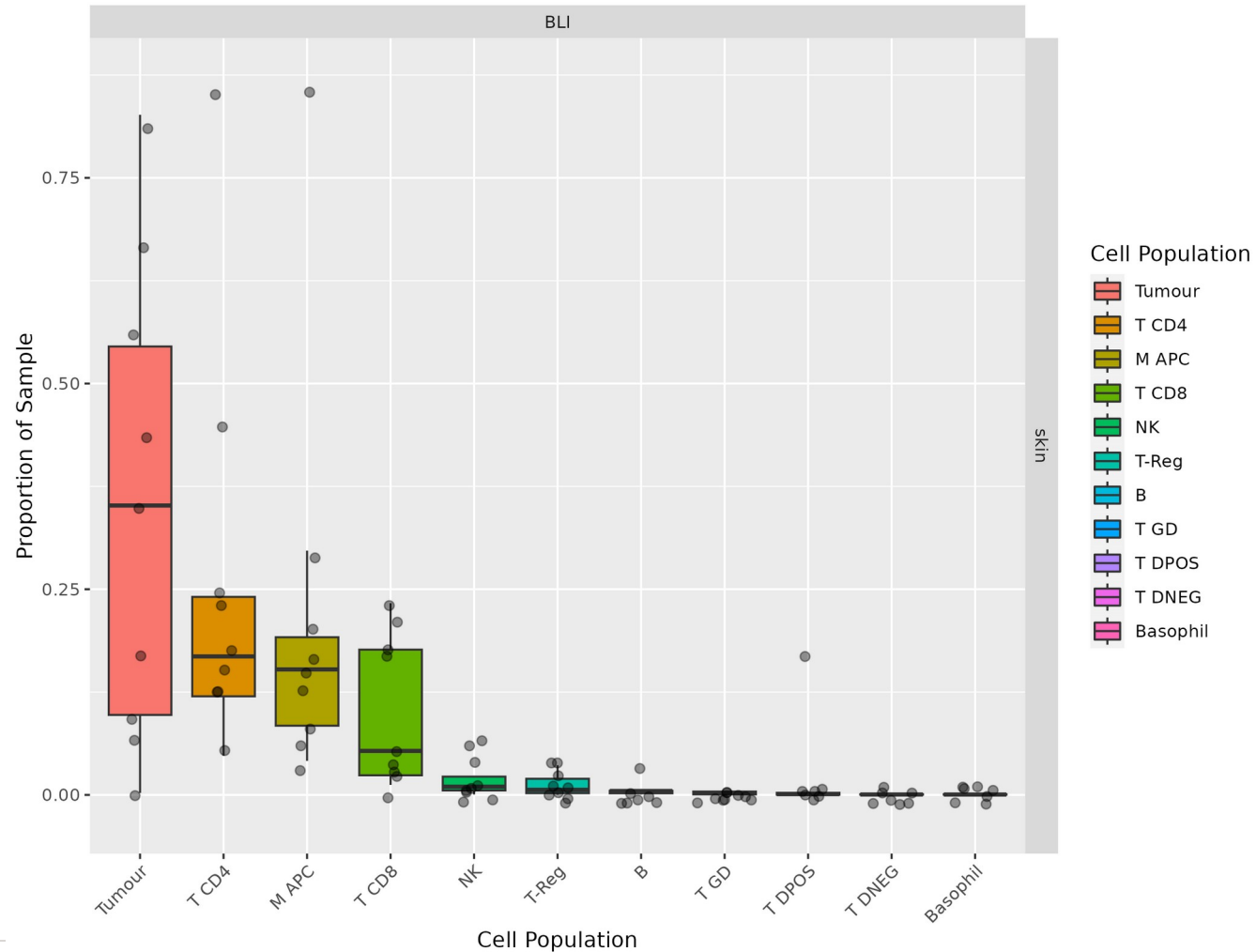


Results

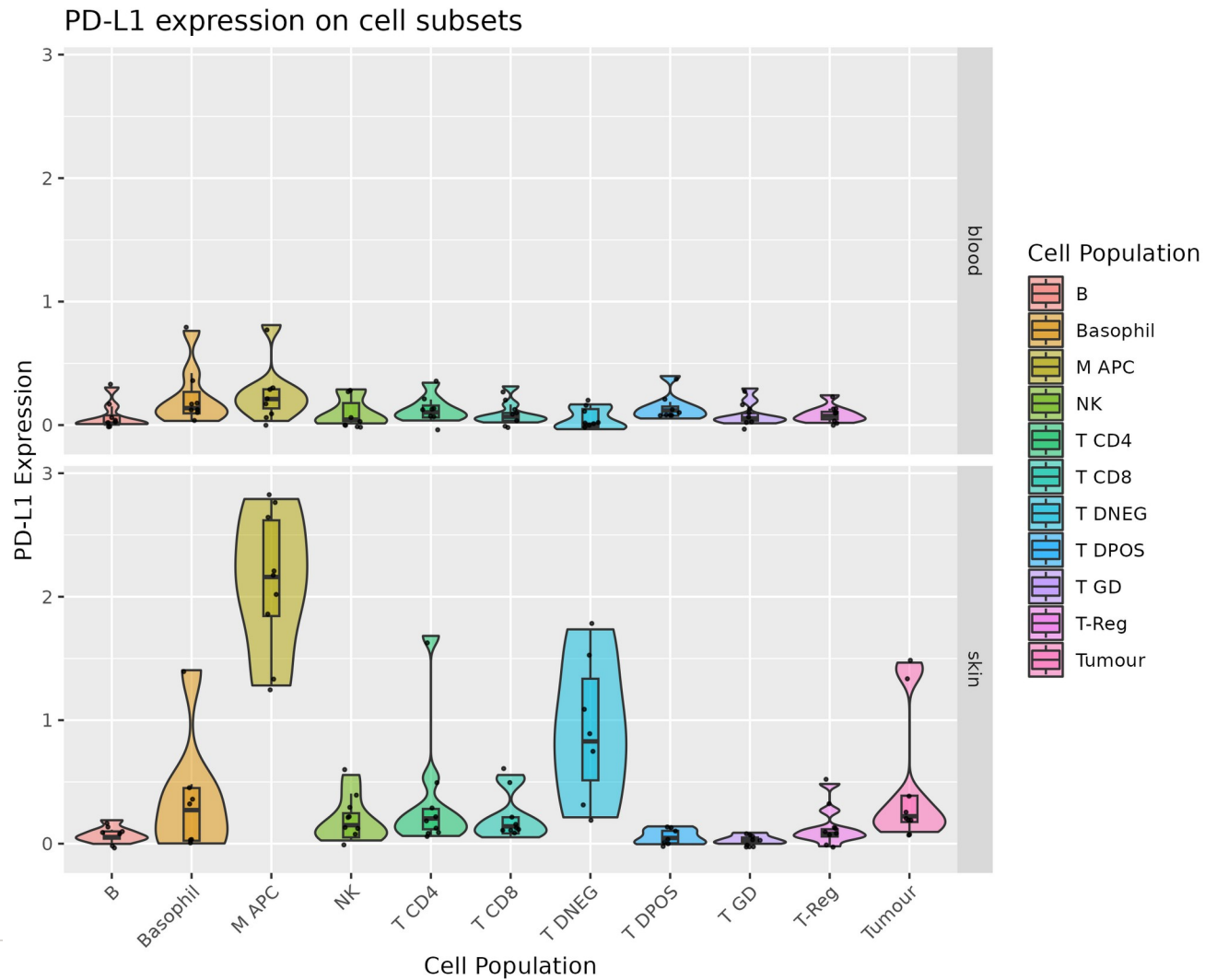
- 27 skin biopsies from 10 patients
- 25 blood samples from 9 patients

tissue	BLI	CY1	CY2
blood	8	8	9
skin	9	8	10

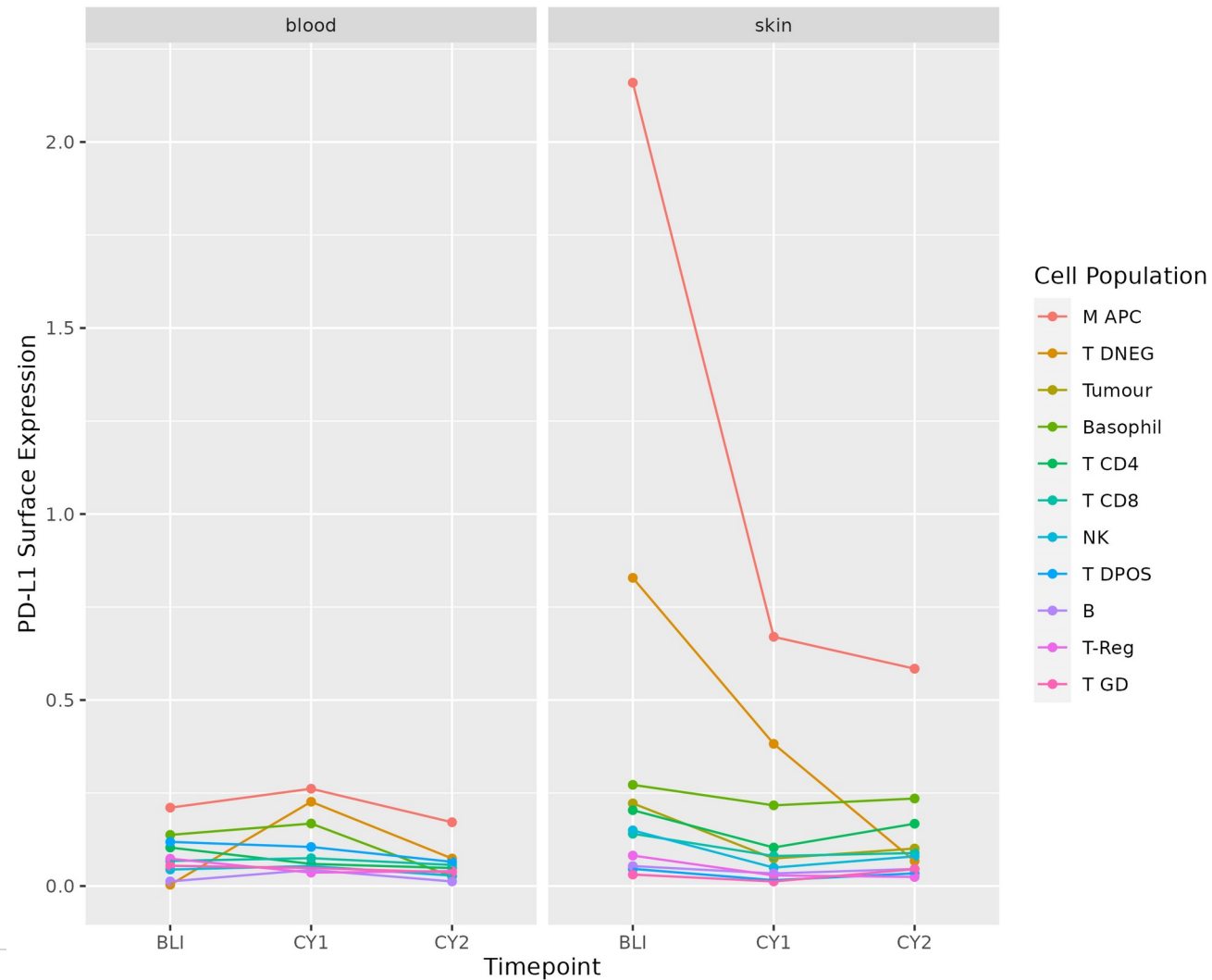
Micro-environment demographics



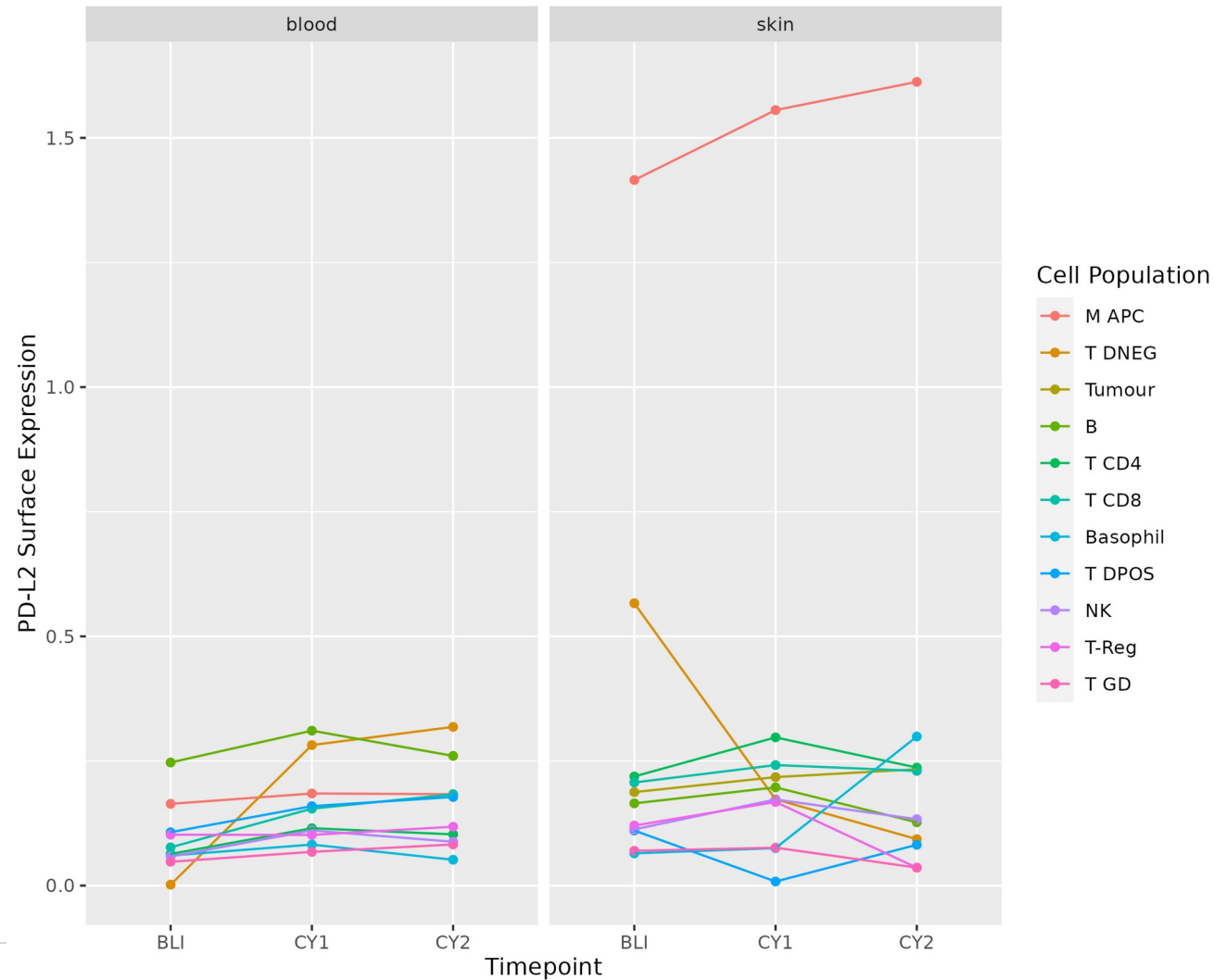
PD-L1 expression



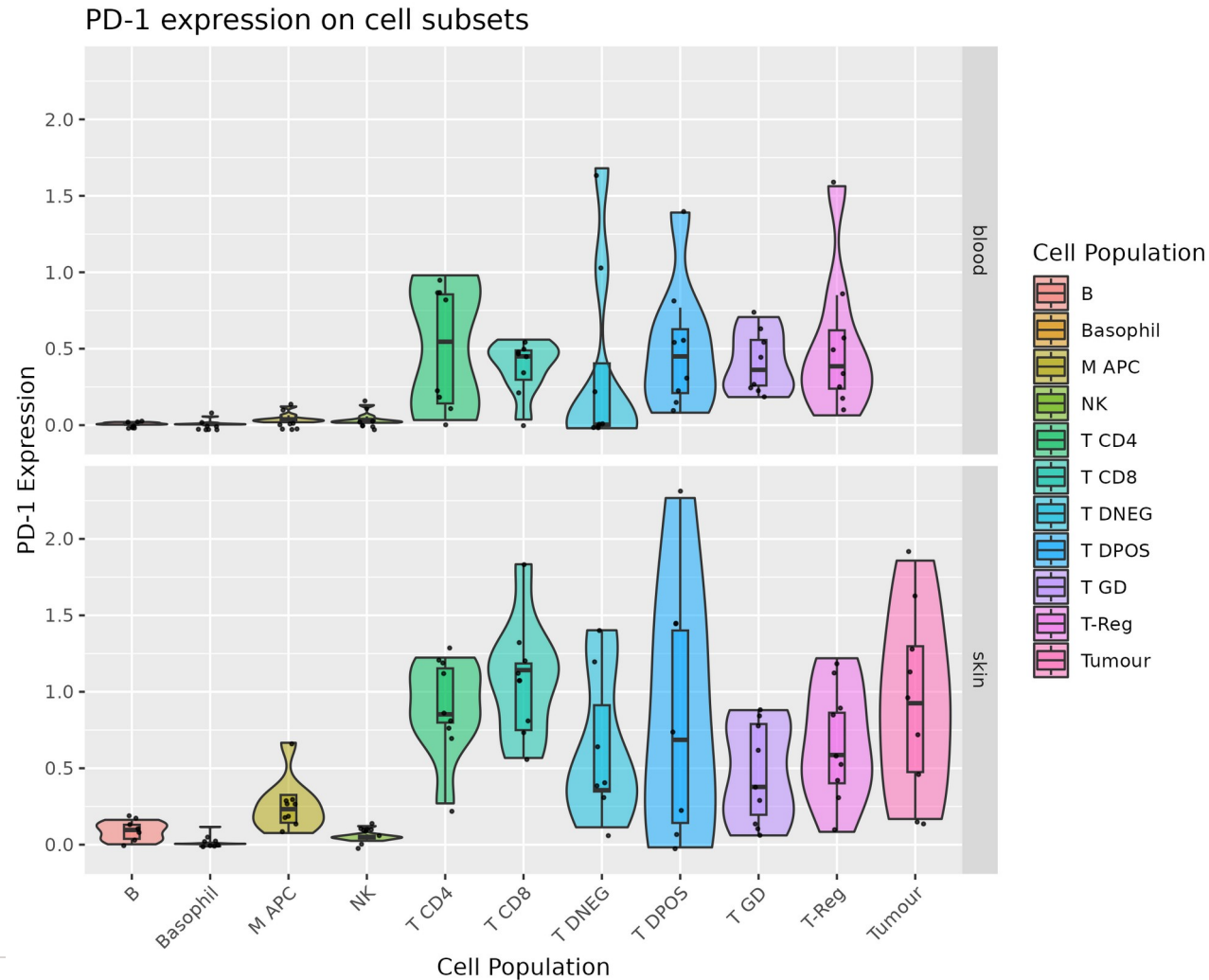
PD-L1 expression with treatment



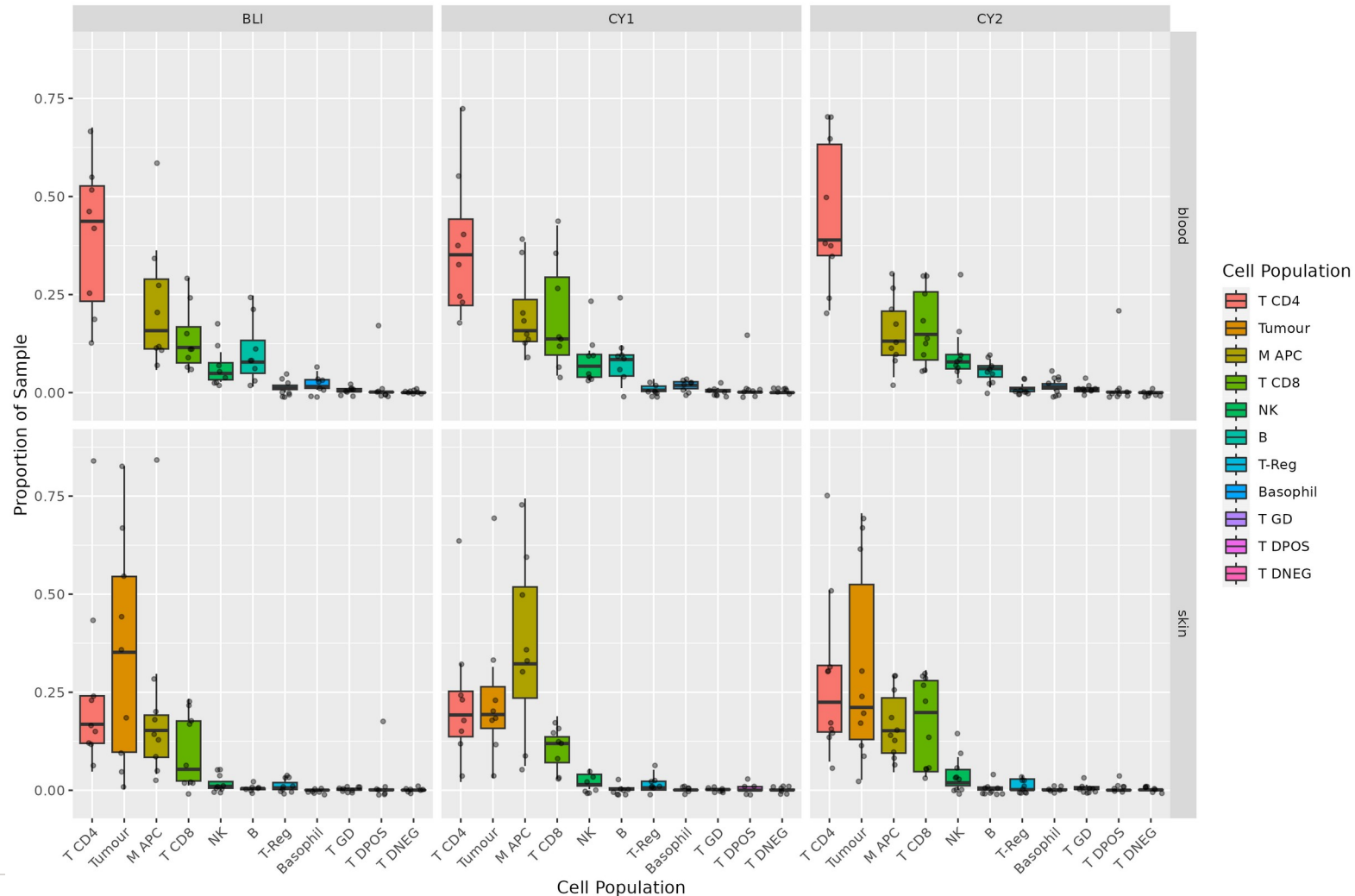
PD-L2 expression with treatment



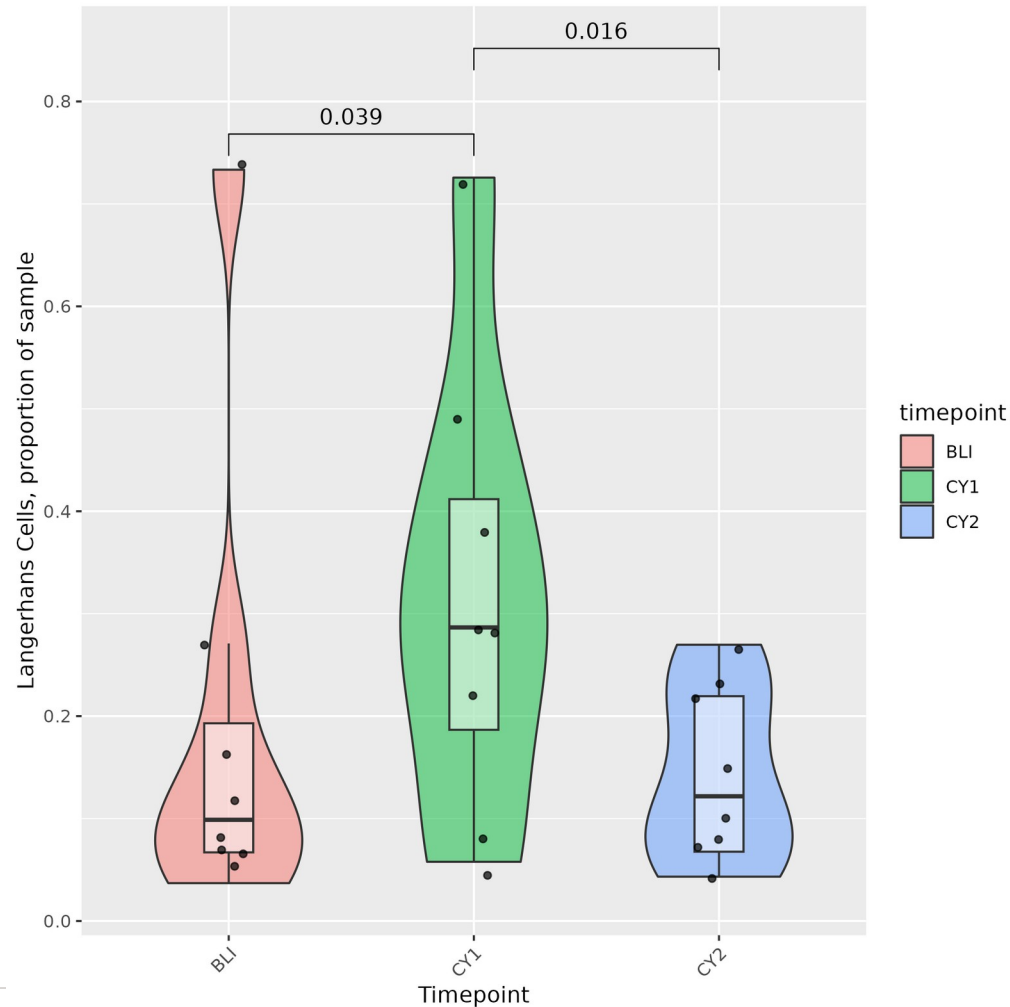
PD-1 expression



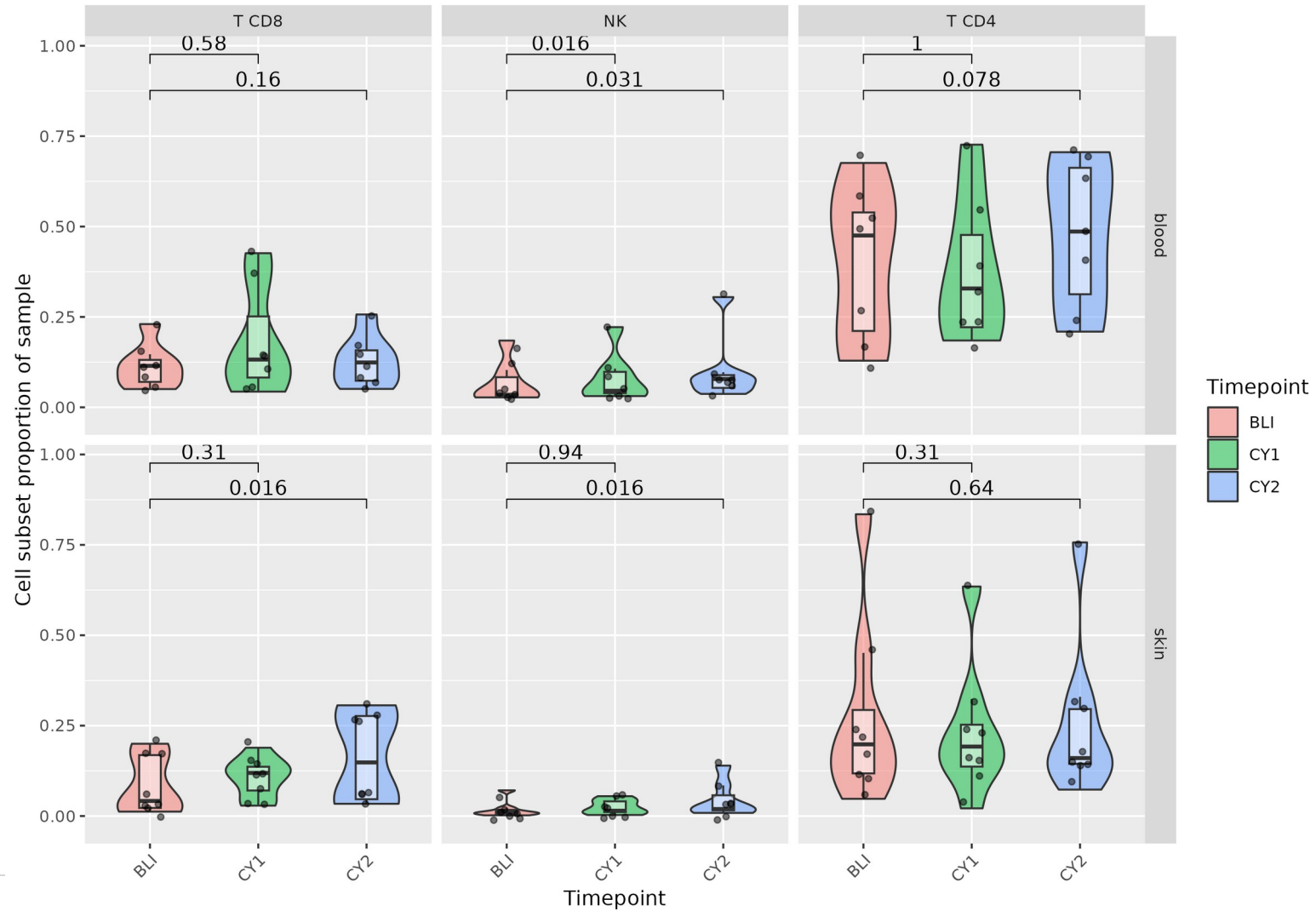
Cell populations with treatment



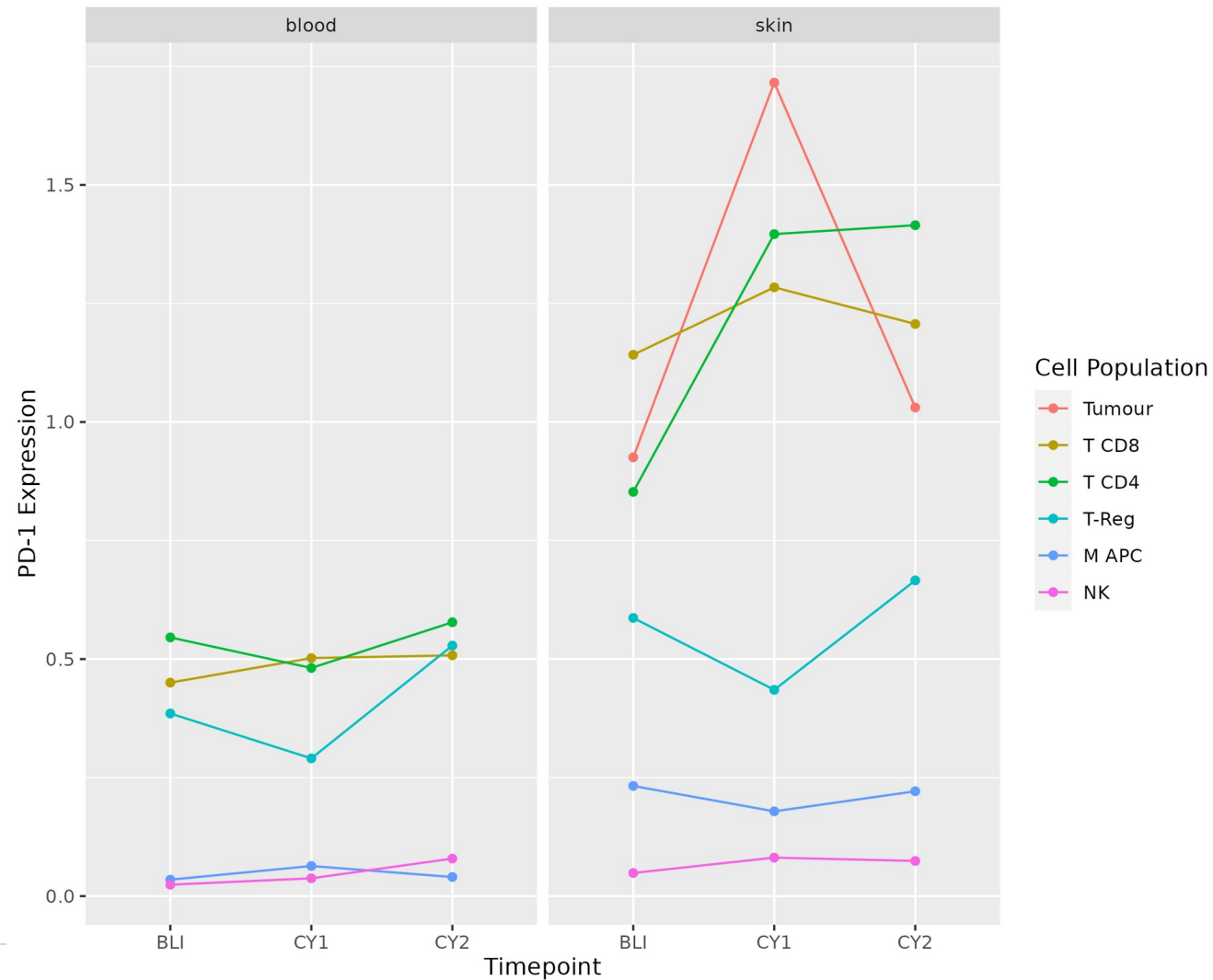
Langerhans population with treatment



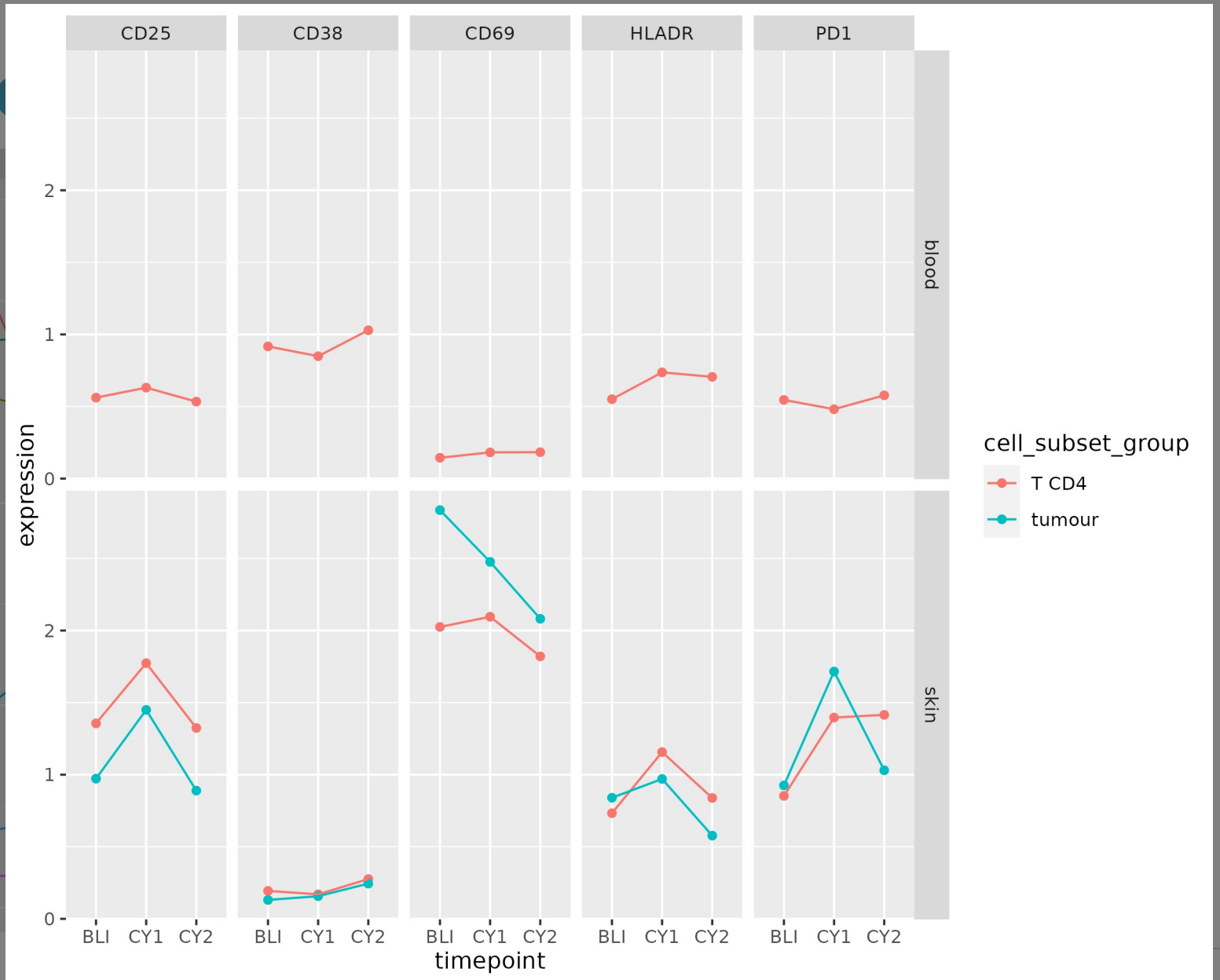
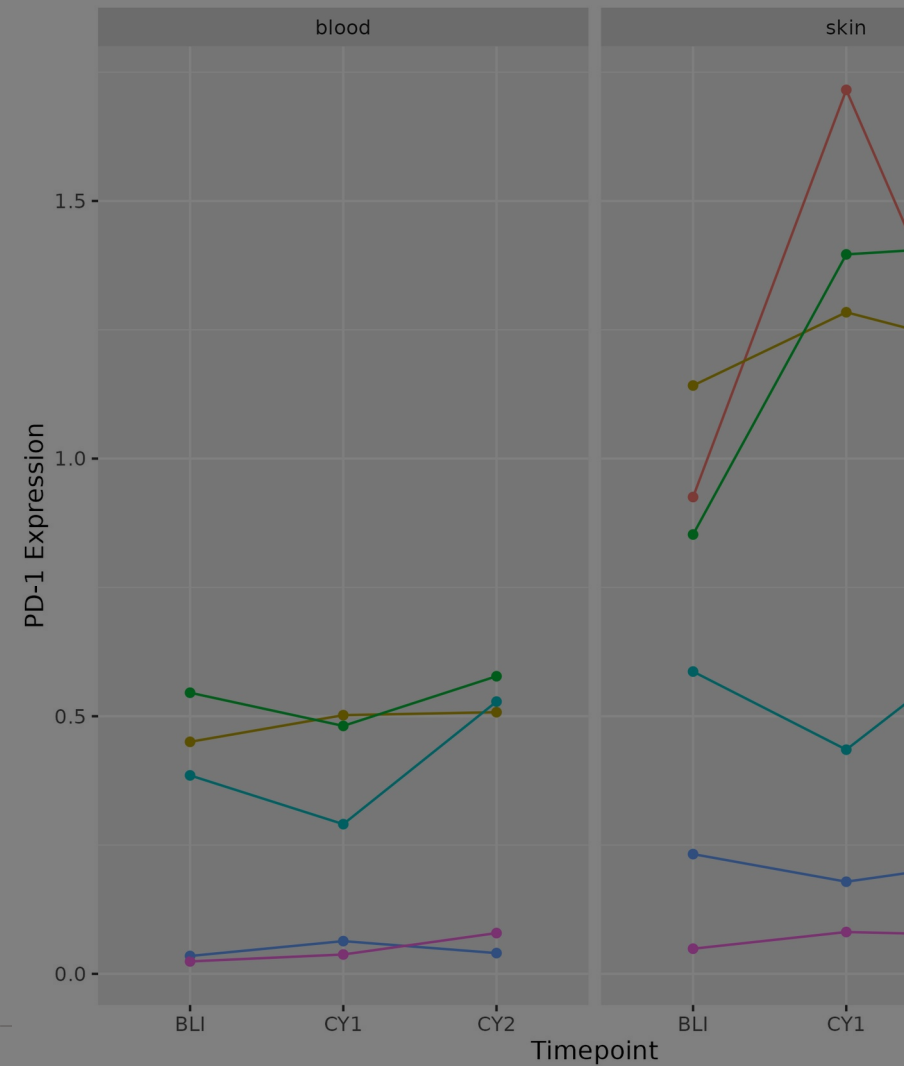
T and NK populations with treatment



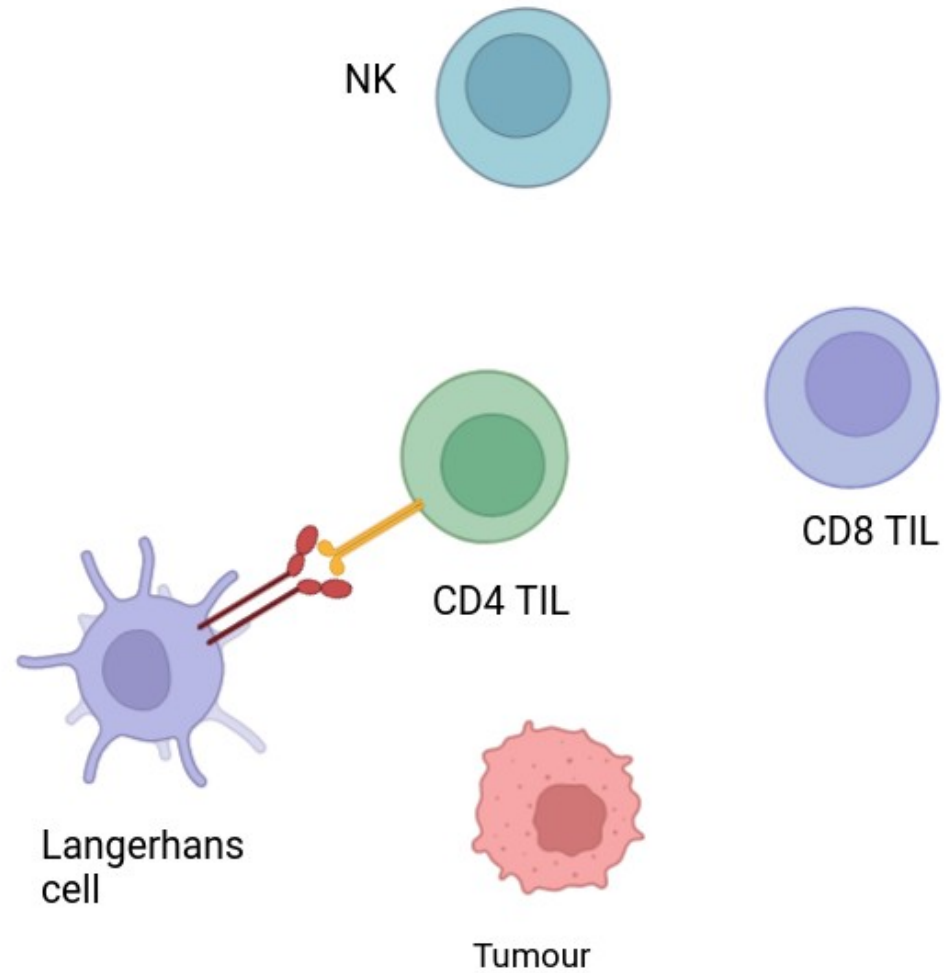
PD-1 expression with treatment



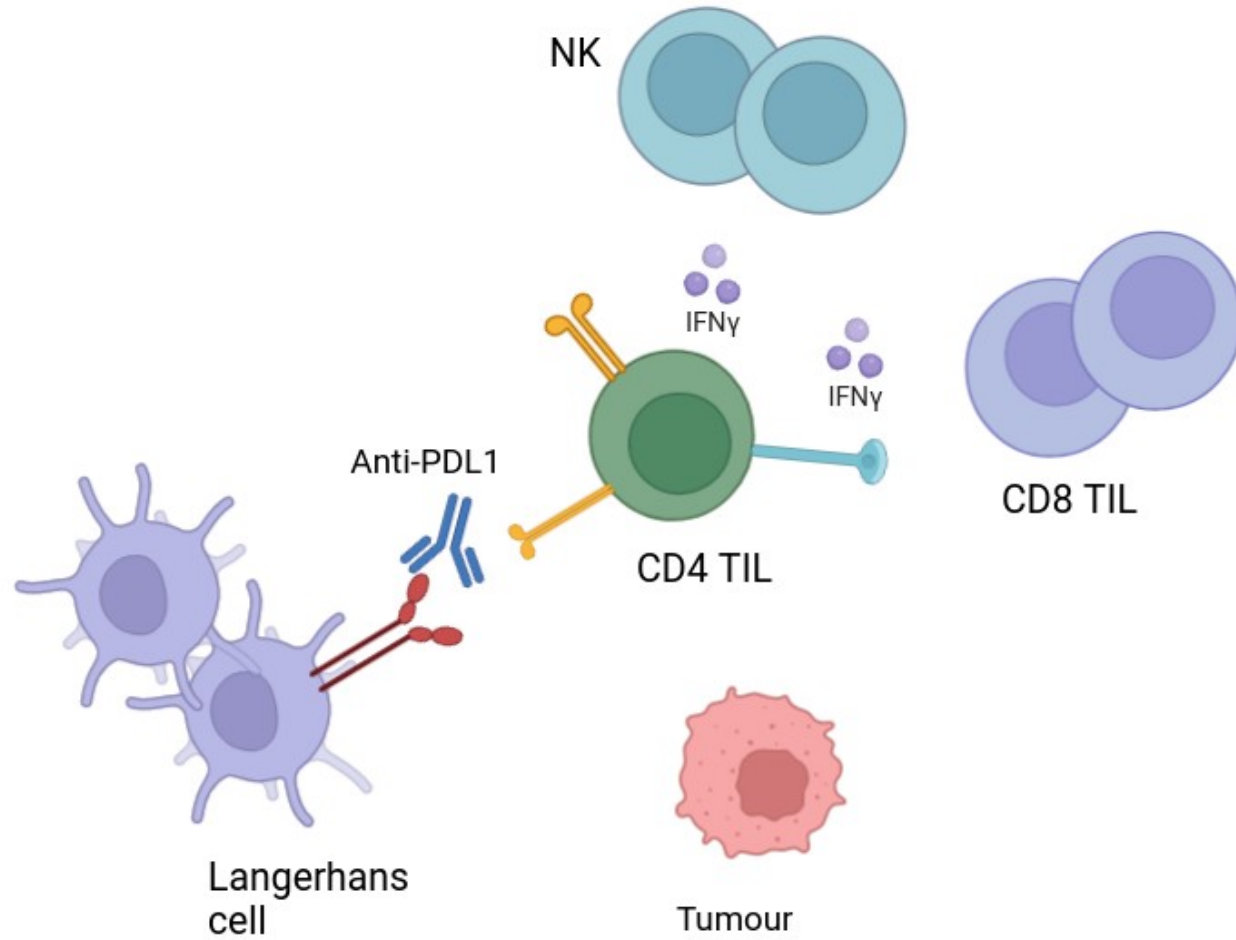
PD-1 expression



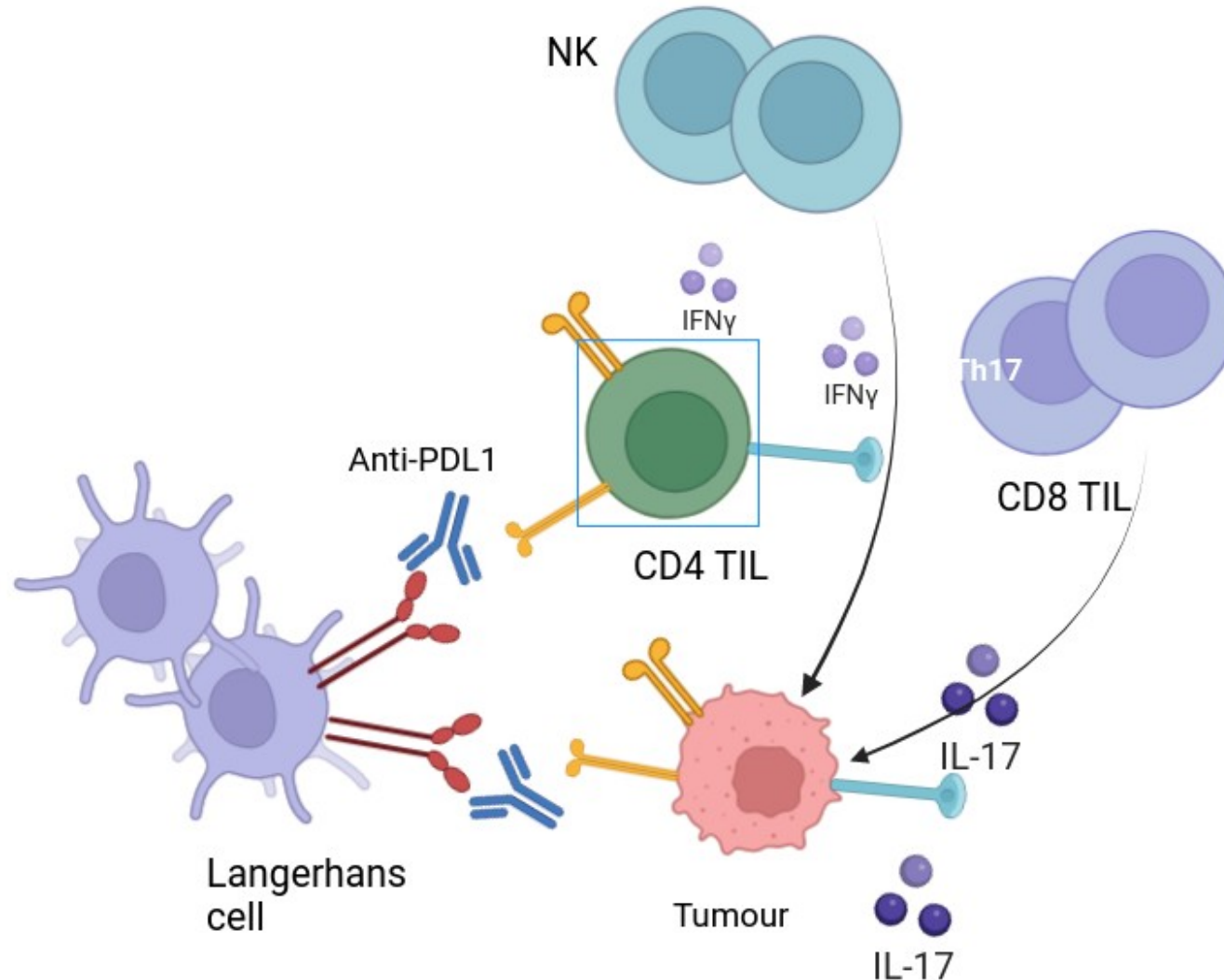
Putting it all together



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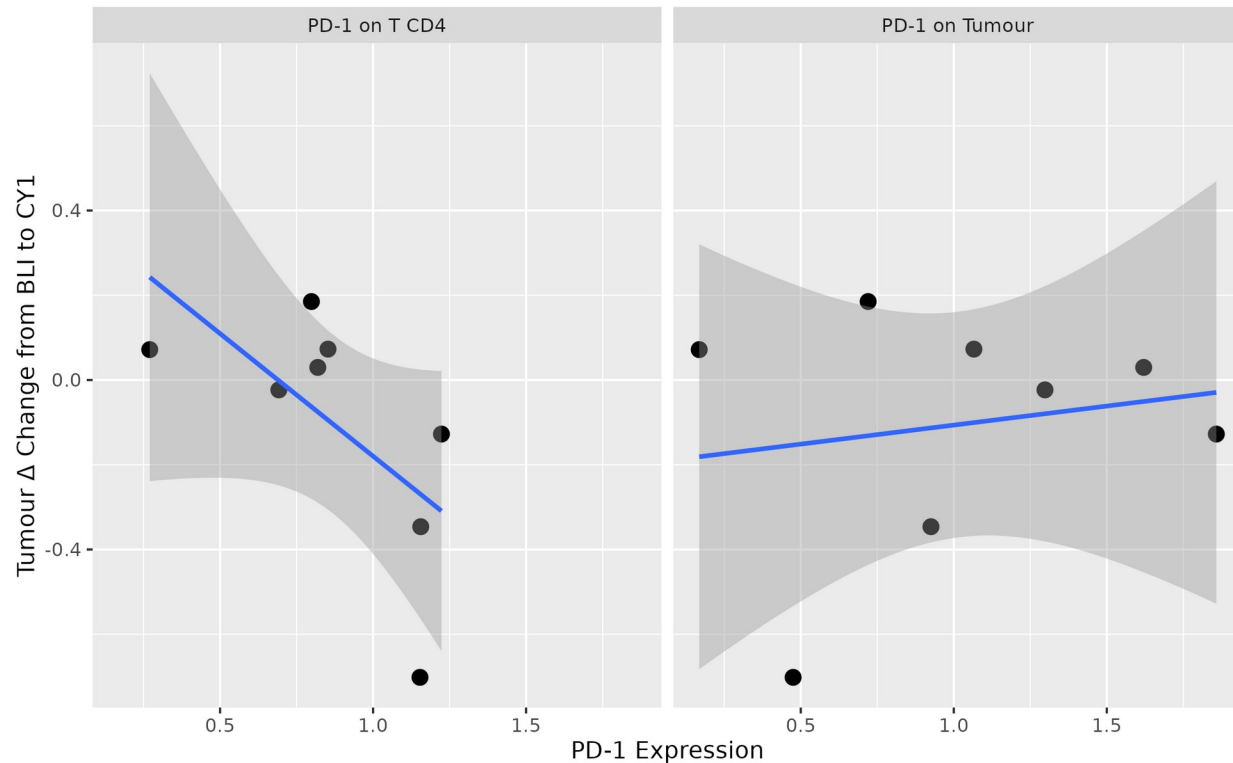


Two diametric pathways

- LCH → CD4 activation → CD8/NK expansion → tumour death
- LCH → tumour activation

Two diametric pathways

- LCH → CD4 activation → CD8/NK expansion → tumour death
- LCH → tumour activation



Conclusions

- PD-L1 mainly expressed on Langerhans cells
- PD-1 mainly expressed on T cells
- Measured PD-L1 expression decreases with treatment
- PD-L2 unaffected
- PD-L1 blockade appears to expand Langerhans cell population
- Followed by activation of T CD4, and expansion of T CD8 and NK

Thank you!



Many many thanks to all the patients who provided extra blood and skin samples for this study.

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