

Intravenous delivery of oncolytic adenovirus TILT-123 results in systemic tumor transduction and accumulation of lymphocytes

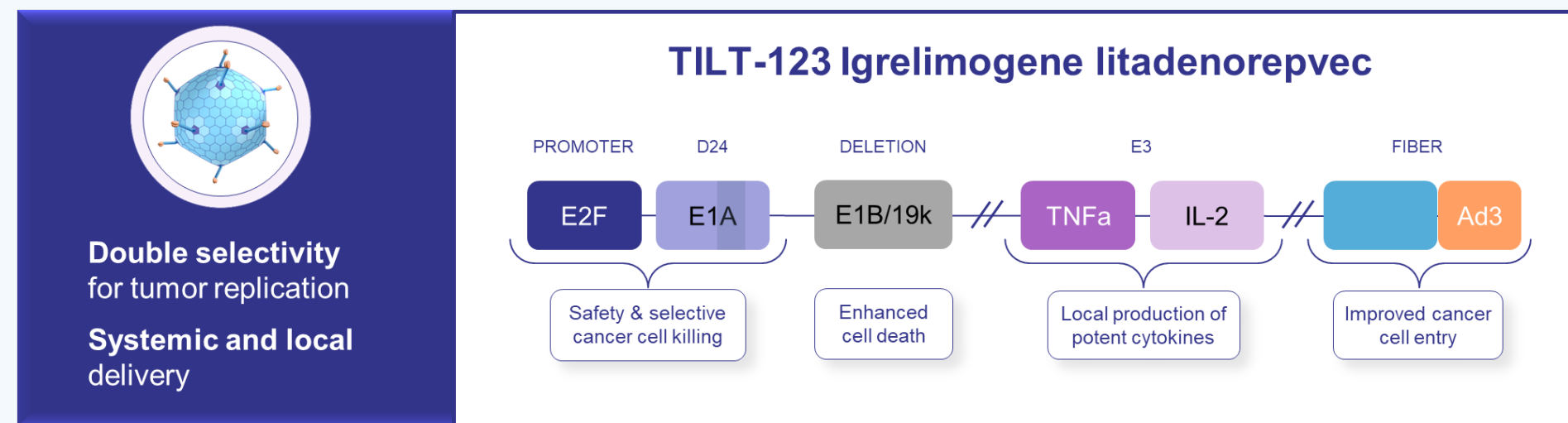
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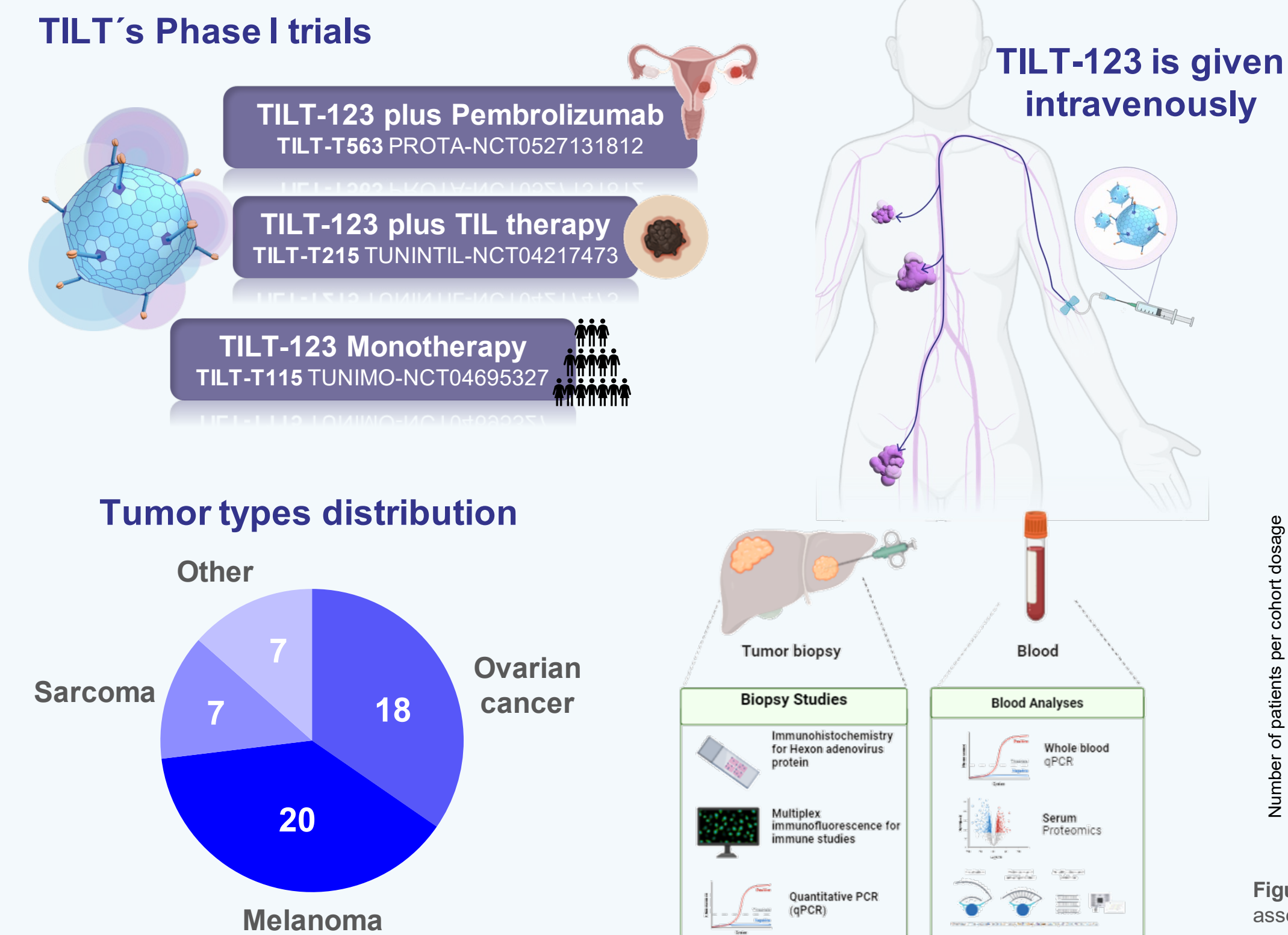


Background

- Immune checkpoint inhibitors provide limited benefit in patients with immunologically cold tumors.
- TILT-123 (Ad5/3-E2F-D24-hTNFa-IRES-hIL2) is an oncolytic adenovirus armed with TNFa and IL-2 cytokines, able to make cold tumors hot.
- TILT-123 capsid modification, and double selectivity devices for virus replication in cancer cells only, allow intravenous use of TILT-123.



Methods



Conclusions

- Tumor transduction** studied on day 8 was observed in **75% of patients** following a **single intravenous** administration of TILT-123.
- TILT-123 detection** in tumors on day 8 correlated with **overall survival**.
- TILT-123** could be developed as an **intravenous** therapy.
- Further **increases** in **virus** delivery to **tumors** might be achievable by using **multiple intravenous injections** of TILT-123.

Results

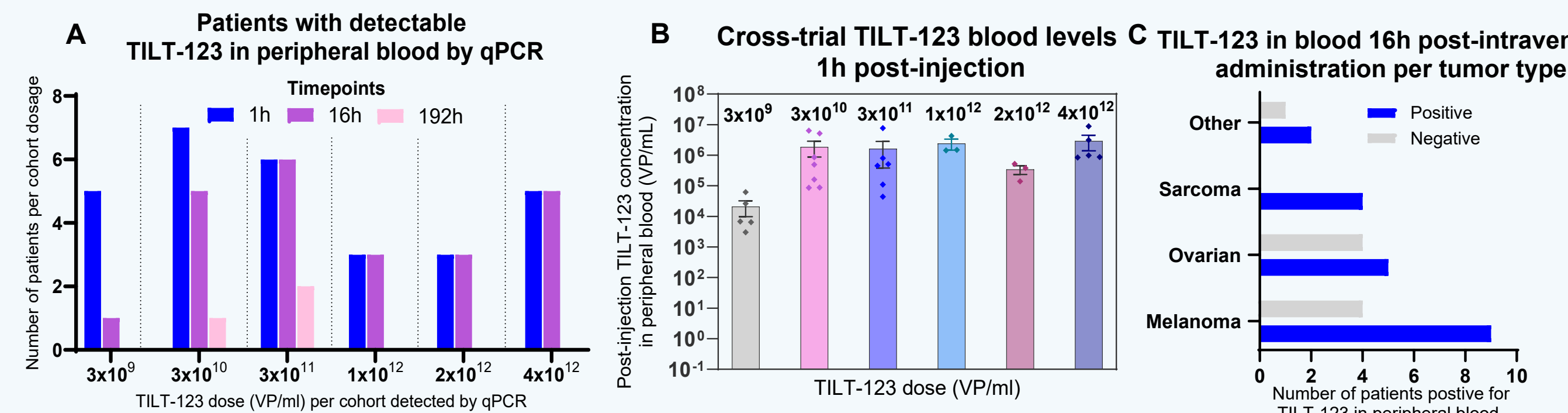


Figure A. Patients with detectable TILT-123 nucleic acid by qPCR in peripheral blood at 0h, 1h and 16h post TILT-123 intravenous injections in the virus treatment doses assessed. Figure B. TILT-123 concentration in peripheral blood by qPCR 1h post TILT-123 intravenous injection across the virus treatment doses assessed. Figure C. Patients per tumor type positive for TILT-123 detection in peripheral blood after 16h of virus systemic administration.

Results

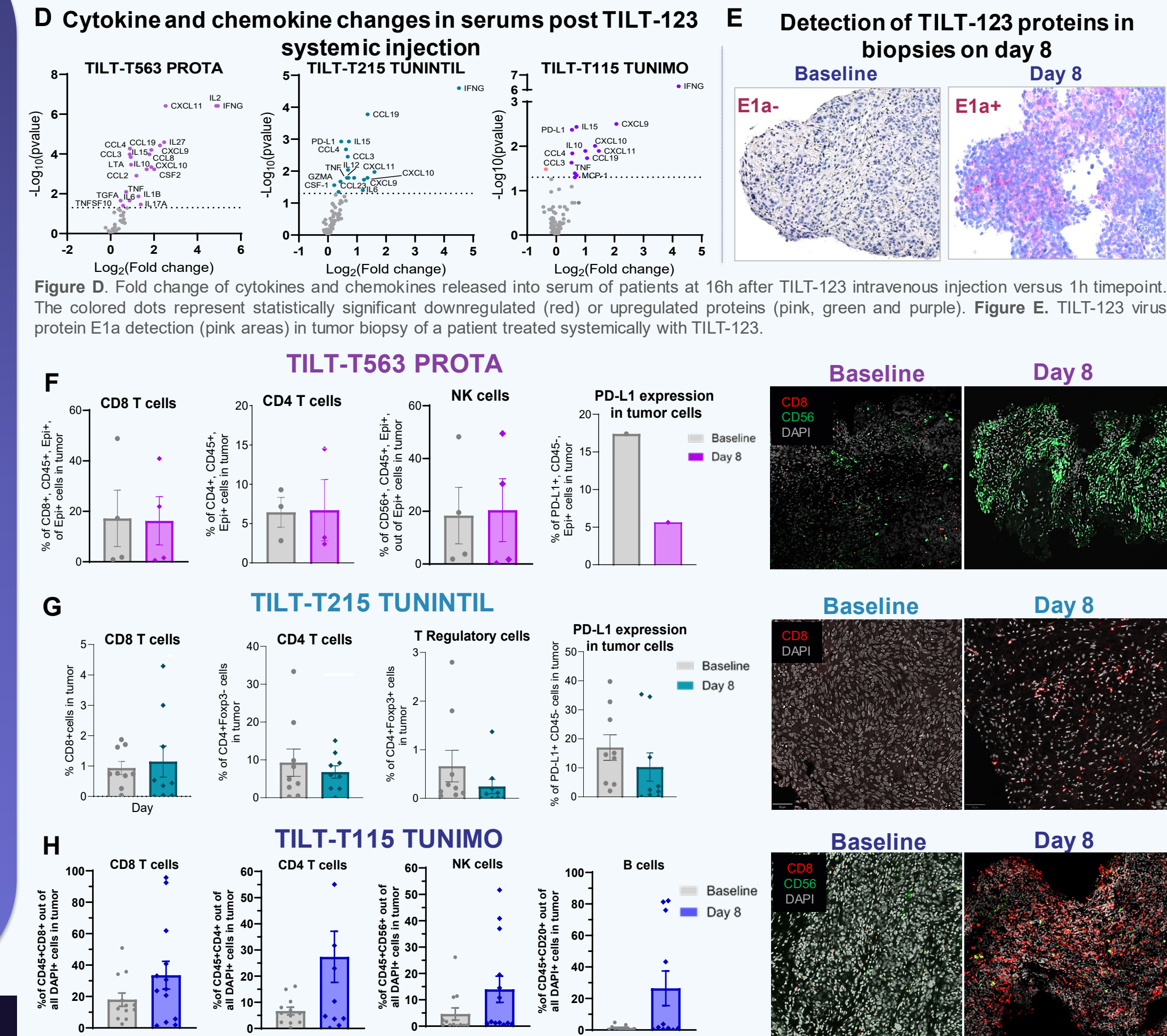


Figure F-H. Quantification of immune cells by immuno-fluorescence in tumor biopsies on baseline and on day 8 of patients treated with a single intravenous injection of TILT-123. CD8 T cells in red, NK cells in green, and tumor cells (DAPI) in grey.

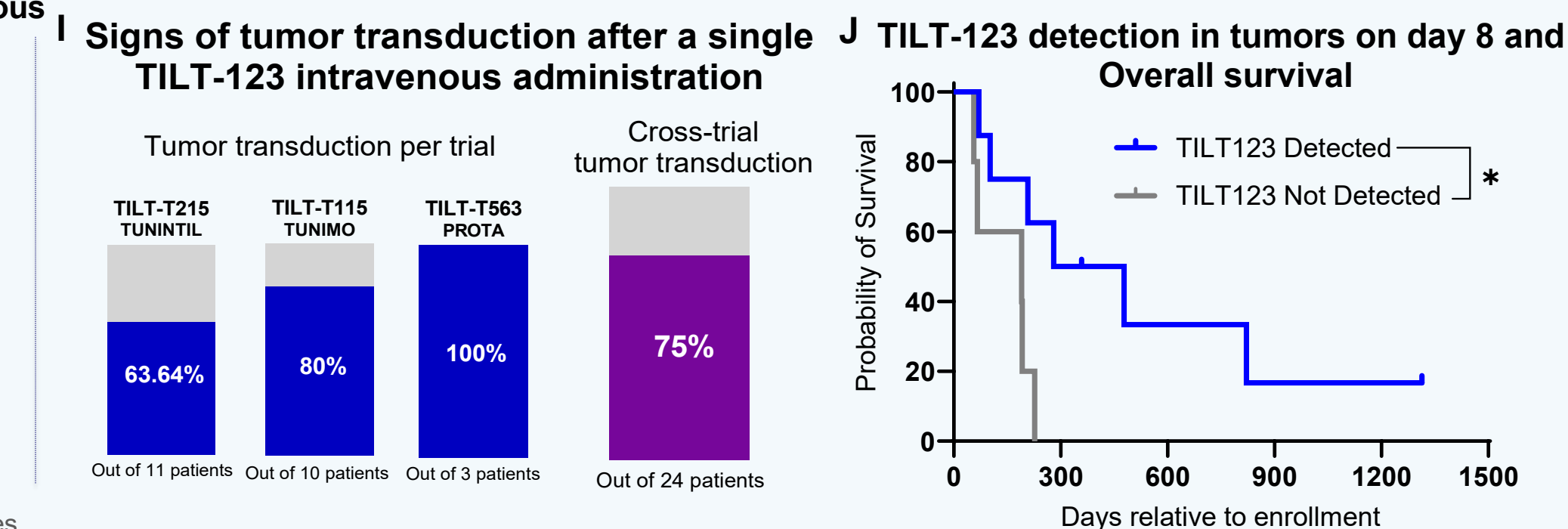


Figure I. Percentage of patients with signs of tumor transduction (qPCR or virus protein staining) per trial (blue bars), and cross-trial values (purple). Figure J. Cross-trial TILT-123 detection in tumors versus overall survival.

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