Intra-tumoral IL-12 promotes CD8+ T Effector/Memory Cell-mediated, IFN-gamma and FASL dependent elimination of CD4+CD25+Foxp3+ T-suppressor cells from tumors.

Mehmet Okyay Kilinc, Ph.D.
Immunology and Microbiology
School of Medicine, SUNY/Buffalo
Tumors are Infiltrated by CD8+/CD4+ CD25- Tem and CD4+CD25+ T-effector/suppressor Cells
CD8+/CD4+ Tem are Functionally Impaired Whereas CD4+ CD25+ T-cells Demonstrate Suppressive Activity
Intra-tumoral IL-12 Induces CD8+ T-cell Activation and Tsuppressor Cell Elimination

**Post-Rx CD8+ T-cell Activation**

- **Day 0**
- **Day 2**

**CD69**

- CD43

**IFNγ**

- Graph showing counts over days.

**Granzyme B**

- Graph showing counts over days.

**Post-Rx T-cell kinetics**

- CD8+
- CD4+ CD25+

**Post-Rx Foxp3+ Tsuppressor kinetics**

- Graph showing Foxp3+ cells over days.
Tsopp Loss is Associated with Apoptotic Cell Death

Annexin V binding to Tsopp

Graph showing the percentage of Annexin V+ CD4+ CD25+ T-cells and Foxp3+ cells over days post-treatment.
IL-12-induced T-suppressor Cell Apoptosis is CD8+ T-cell, IFNγ and FasL-dependent

CD8+ T-cells

IFNγ

FasL
Summary

- Tumors are infiltrated by functionally-impaired CD8/CD4 Tem and fully-active Tsupp.

- Intra-tumoral IL-12 induces the activation of pre-existing Tem, elimination of Tsupp and infiltration of CD8+ Teff.

- Elimination of Tsupp is due to apoptotic death and is dependent on pre-existing CD8+ Tem, IFNγ and FasL.
I would like to thank to P.I of the lab; Nejat Egilmez (Associate Prof.) and other lab members; Tao Gu (Post- doc), Rachael Rowswell (Ph.D student), Jamie Harden (Ph.D student), Lauren Virtuoso (Lab tech.), Maryann Hochberg (Lab tech.) and Wyeth Pharmaceuticals.

-----------------------------

-Mehmet Okyay Kilinc (Res. Asst. Prof.)

-E-mail:mokilinc@buffalo.edu