

Disclosure Information

Mary L. Disis

I have the following financial relationships to disclose:

Consultant for: VentiRx, Celgene, Emergent, EMD Serono

Speaker's Bureau for: N/A

Grant/Research support from: VentiRx, Seattle Genetics

Stockholder in: VentiRx, EpiThany

Honoraria from: N/A

Employee of: University of Washington (inventor named on patents)

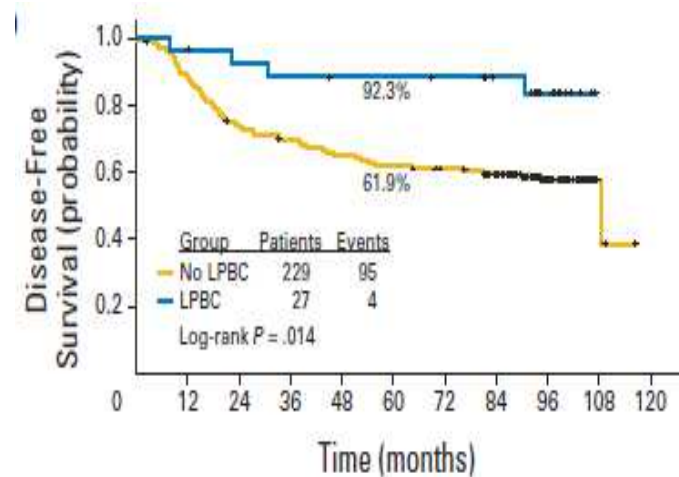
I will not discuss off label use and/or investigational use in my presentation.

Vaccines for triple negative breast cancer (TNBC)

- 15% of all breast cancer.
- High risk relapse within 3 years from diagnosis.
- Risk of visceral relapse.
- From time of metastatic recurrence, median duration of survival 0.5 years. (Kennecke et al, JCO, 2010)
- After 5 years, the risk of relapse is the same as with other subtypes.
- Clinical need: Prevention of recurrence

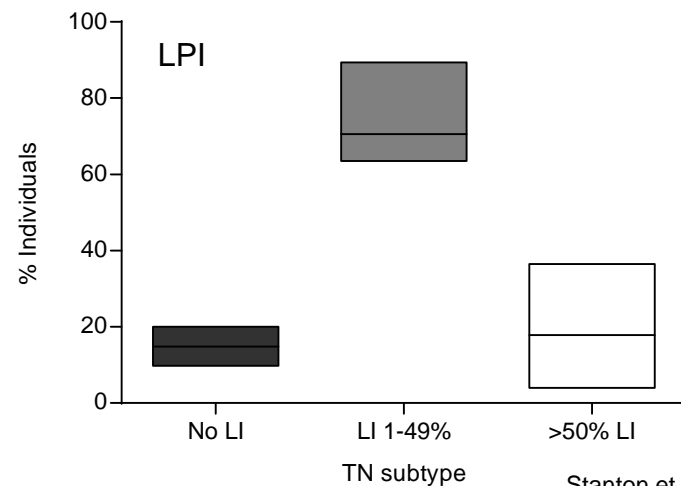


Role of immunity in secondary prevention



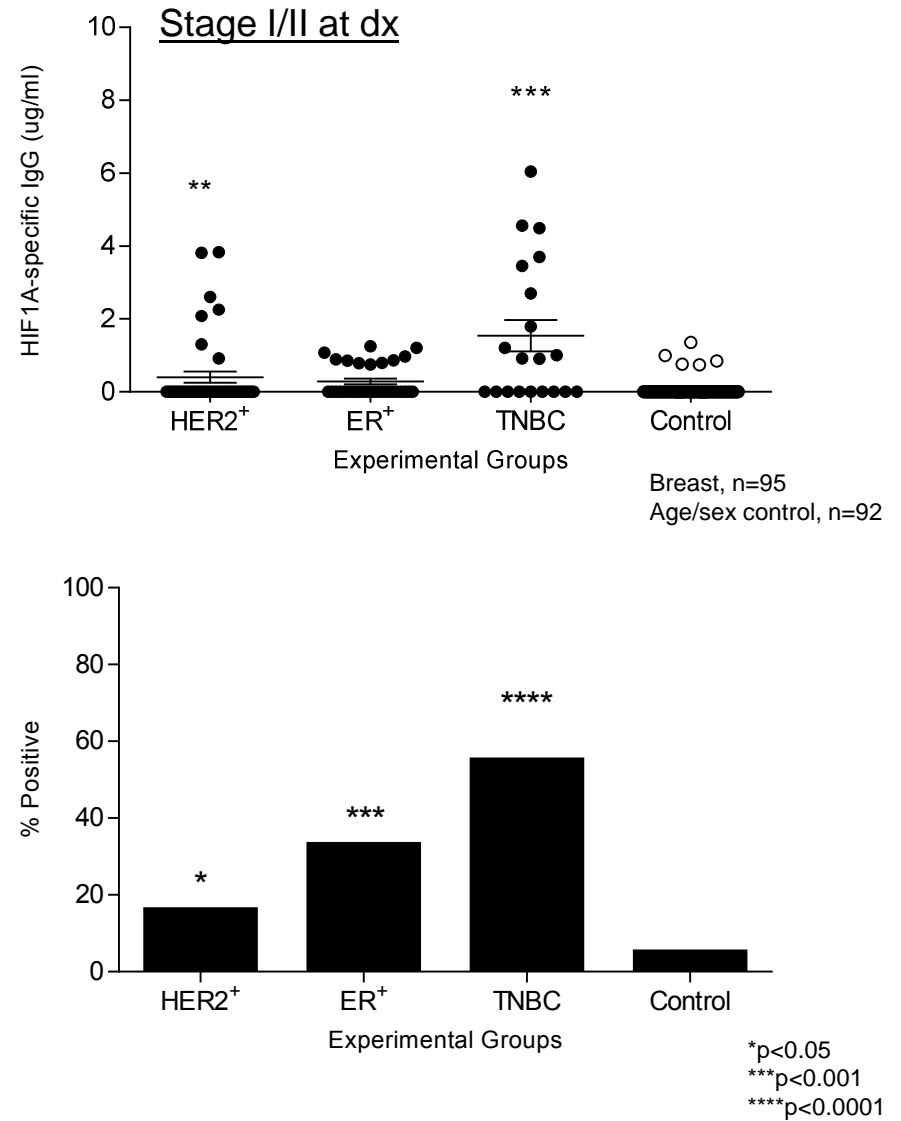
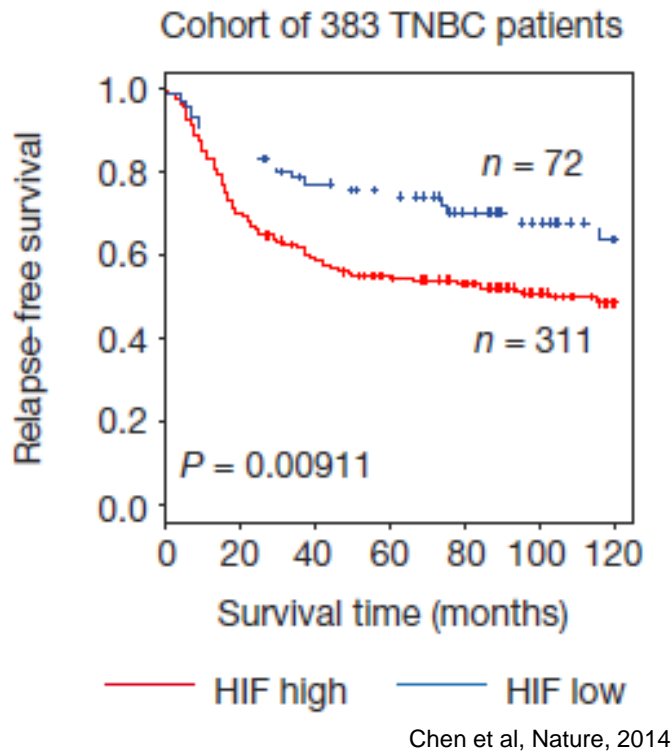
No. at risk	0	12	24	36	48	60	72	84	96	108	120
No LPBC	229	202	167	156	146	138	134	116	41	3	0
LPBC	27	26	24	23	22	22	21	18	11	0	0

Loi et al, JCO, 2013

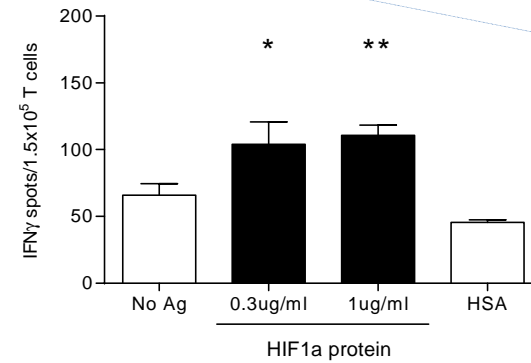
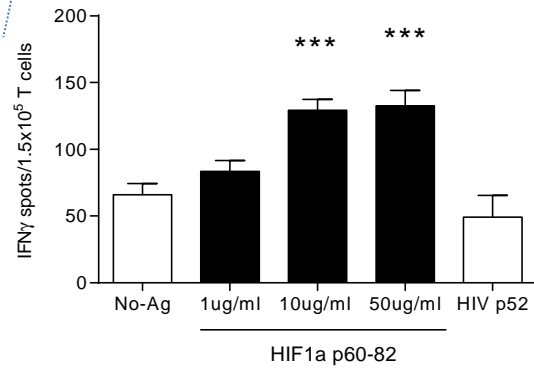
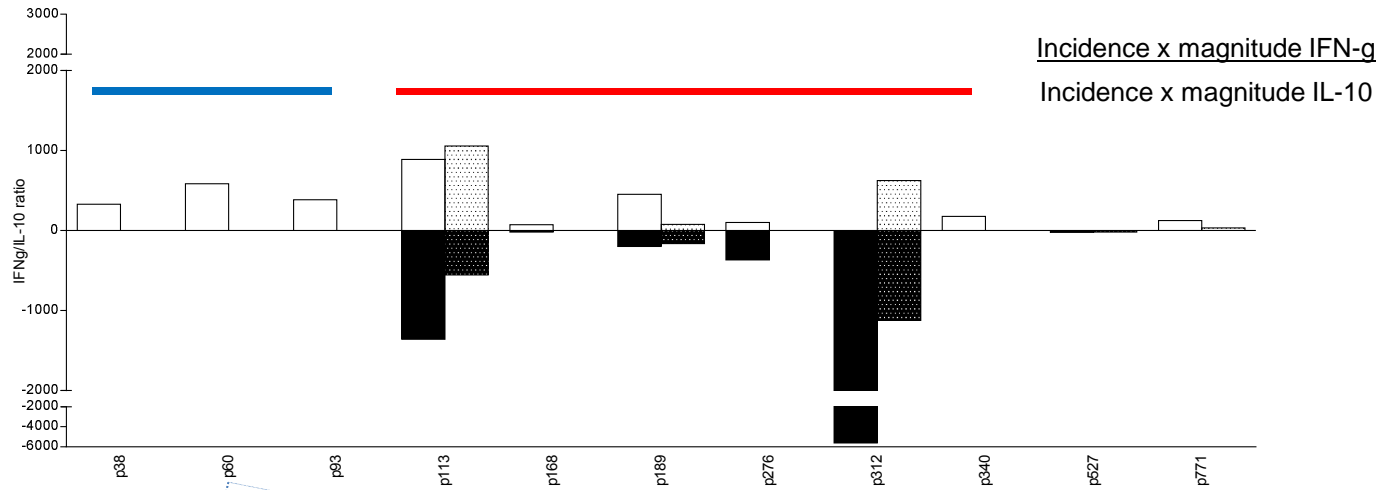


Stanton et al, 2014

“Biologic driver” antigens: HIF1-alpha

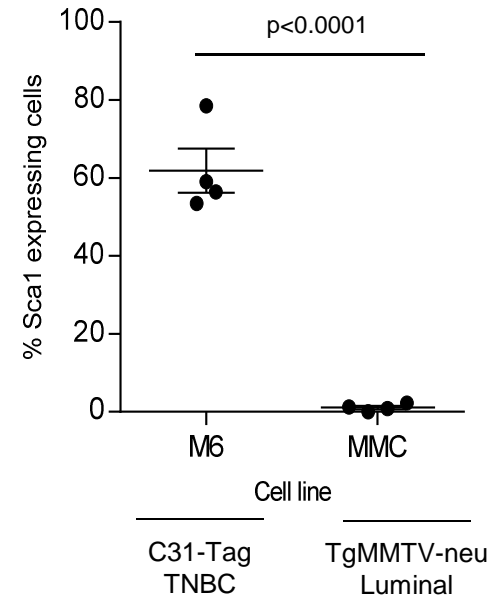
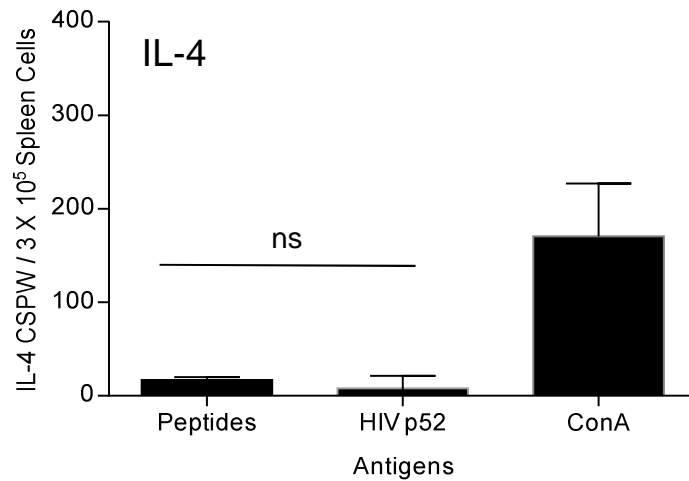
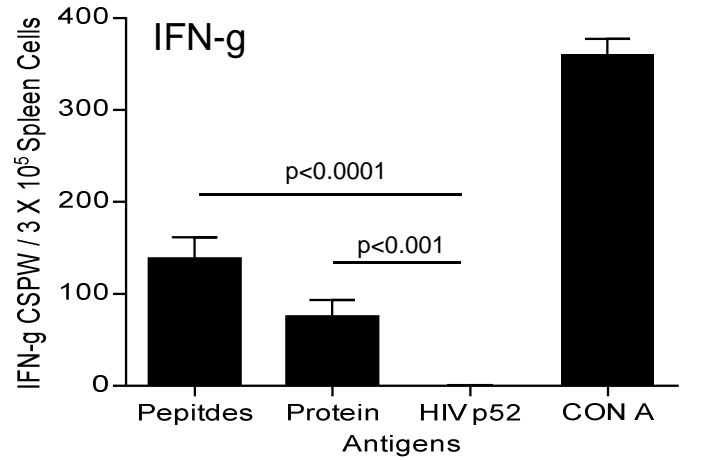


Th1 selective epitopes



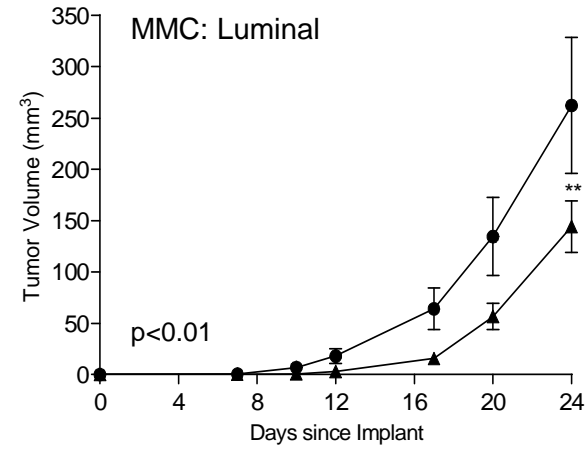
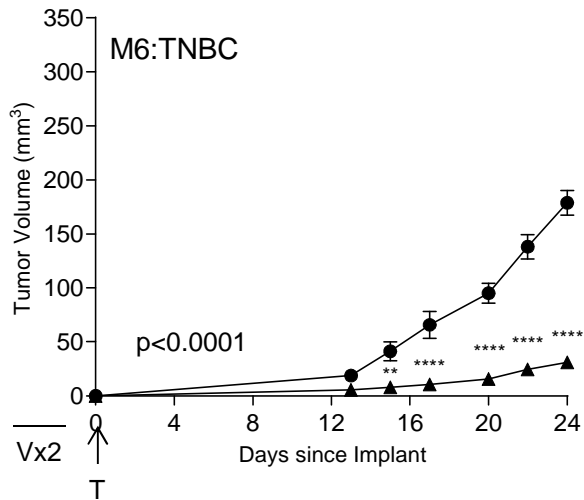
*p<0.05
**p<0.01
***p<0.001

HIF1a vaccination elicits Th1 immunity

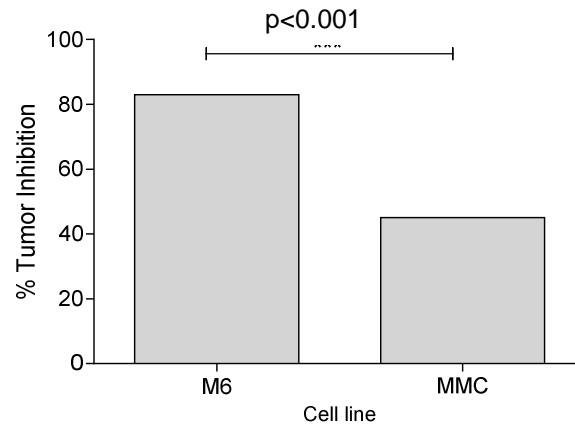


87% cross-species homology
 Th1 epitopes 100% homologous
 T-cells cross reactive

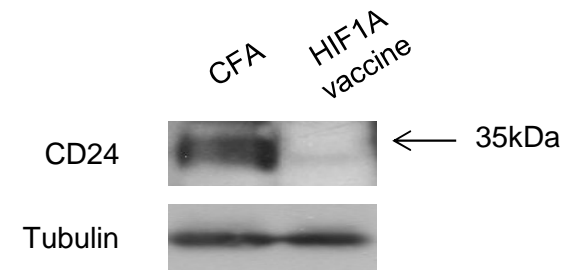
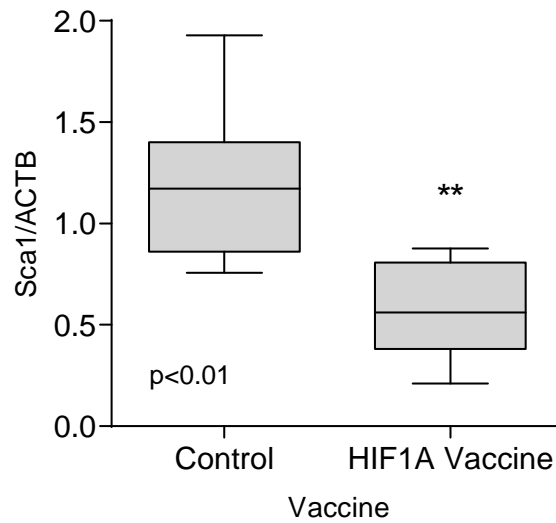
Anti-tumor activity associated with HIF-1a vaccination linked to genotype



n=10/group



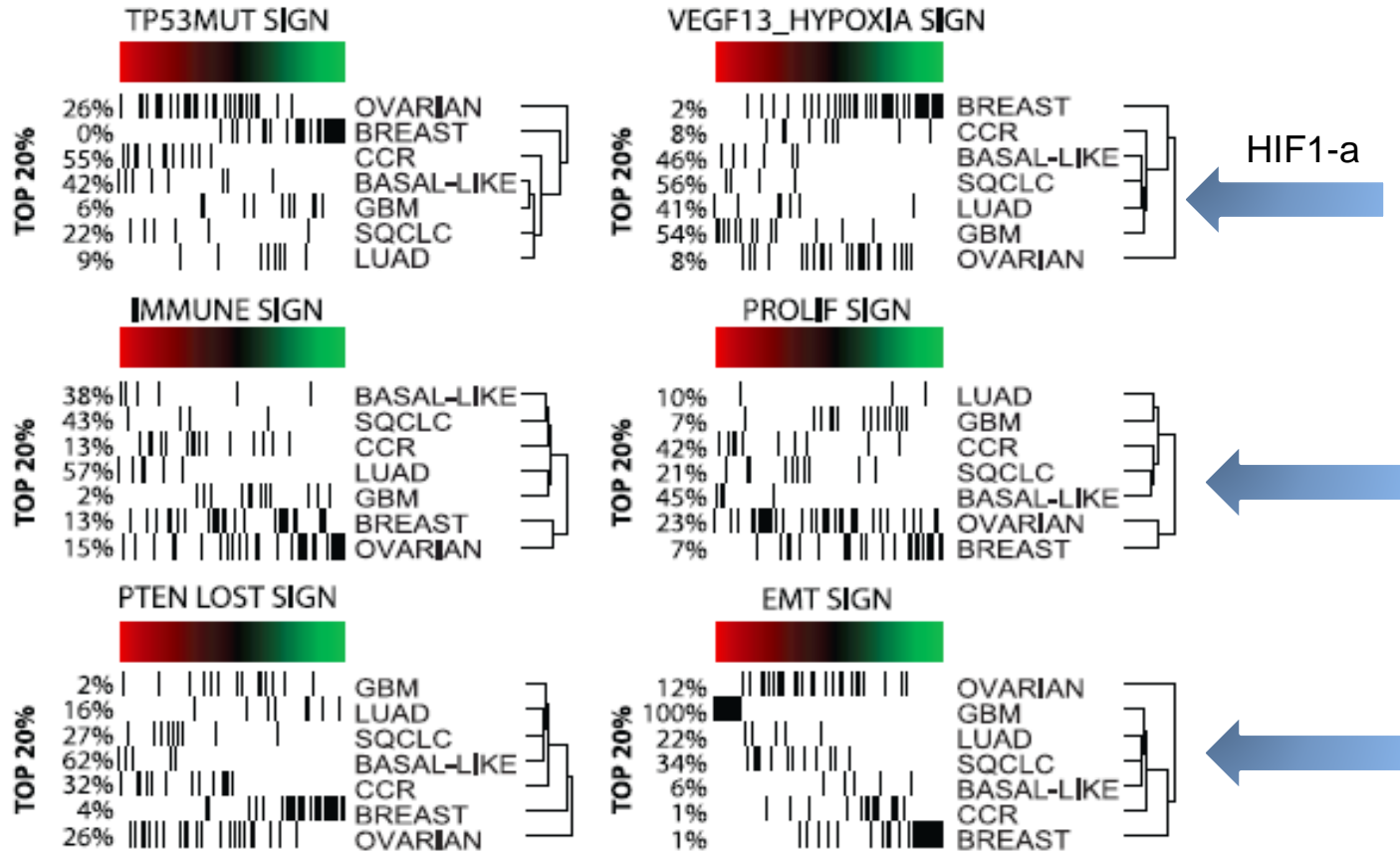
HIF1-a immunization depletes mammary cancer stem cells



Immune targeting pathway specific genotypes: “basal vaccine”

Basal genotype

- Breast**
- Ovarian**
- Brain
- Colorectal
- Lung (Squam)**
- Lung (Adeno)



n=1700

Prat et al, Sci Rep, 2013

- Epitope prediction
- Th activity screening
- Extended epitope plasmid vaccine
- Murine cross reactive immunity

Vaccines for basal tumors

Assess tumor immune environment

Pathway targeted vaccines

