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Viagenpumatucel-L (HS-110) Bolsters Response to Nivolumab Therapy in Advanced Lung Adenocarcinoma: Preliminary Data From The DURGA Trial

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Disclosures:

Advisory Board: Bristol-Myers Squibb

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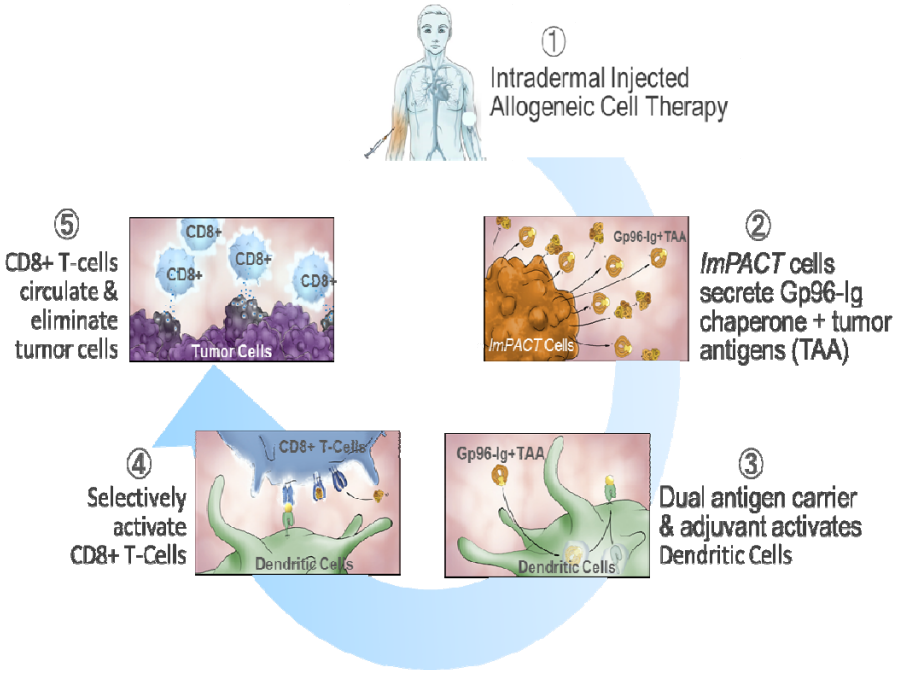
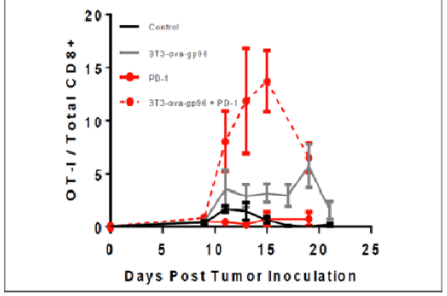
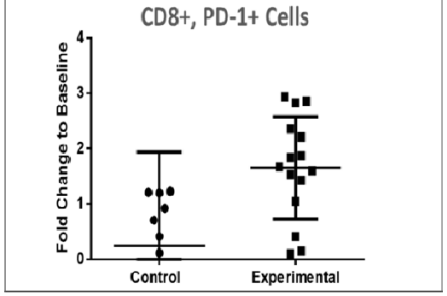
Viagenpumatucel-L Vaccine Background



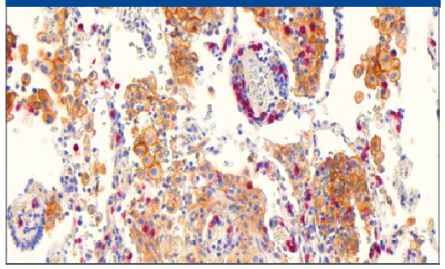
1 Synergy between *ImPACT* + anti-PD-1 Mab



2 HS-110 upregulates PD-1 on CD8+ T cells



3 Strong PD-L1 staining post HS-110



1. Schreiber T.H., et al. *Keystone 2014;* 2. Cohen, R.B. et al, *ASCO 2015;*

1. Preclinical studies combining ImPACT (gp-96) + Anti-PD-1 Mab
2. Clinical data: vaccine upregulates PD-1 on CD8+ T cells in patients
3. Patient tumor biopsies show strong PD-L1 staining post vaccine

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DURGA Design

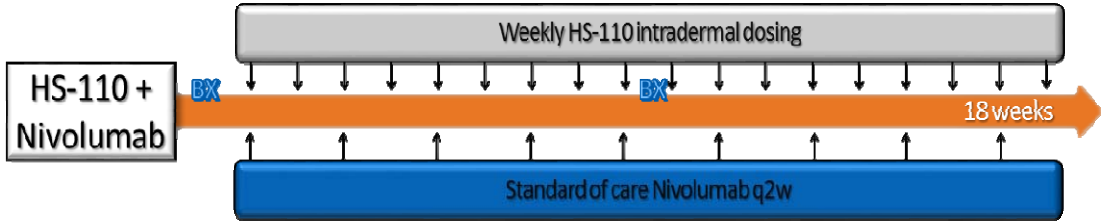
Phase 1b

- HS-110 + nivolumab (Low TIL at baseline bx; n=9)
- HS-110 + nivolumab (High TIL at baseline bx; n=9)
- HS-110 + nivolumab (TIL uneval.)

Phase 2

Expansion cohorts up to 30 patients

- 2L+ lung adenocarcinoma
- No prior checkpoint or cancer vaccine
- Primary Endpoints: Safety (phase 1b) and ORR (phase 2)
- Secondary Endpoints: PFS, OS, and immune response correlates



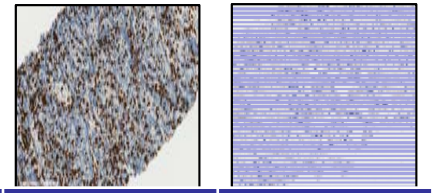
Demographics and Safety

	N = 8
Sex: n (%)	Female: 6 (75.0%) Male: 2 (25.0%)
Age: median (range)	64 (54–87) years
Prior Treatments: n (%) 1 Line 2 Lines 3+ Lines	 5 (62.5%) 0 (0.0%) 3 (37.5%)
Smoking Status: n (%) Current Former Never	 3 (37.5%) 4 (50.0%) 1 (12.5%)

AE Preferred Term	N=8 n (%)
Cough	2 (25%)
Nausea	2 (25%)
Rash	2 (25%)
Sinus congestion	2 (25%)
ALL OTHERS: n=1 (12.5%) each Anemia, atrial fibrillation, constipation, decreased appetite, diarrhea, dizziness, epistaxis, herpes zoster, hyperkalemia, hypokalemia, hyponatremia, pulmonary embolism, rash, thrombocytopenia, vomiting	

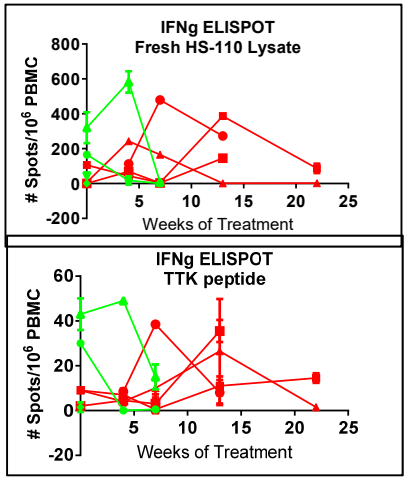
Immune Response

1. Tumor immunohistochemistry



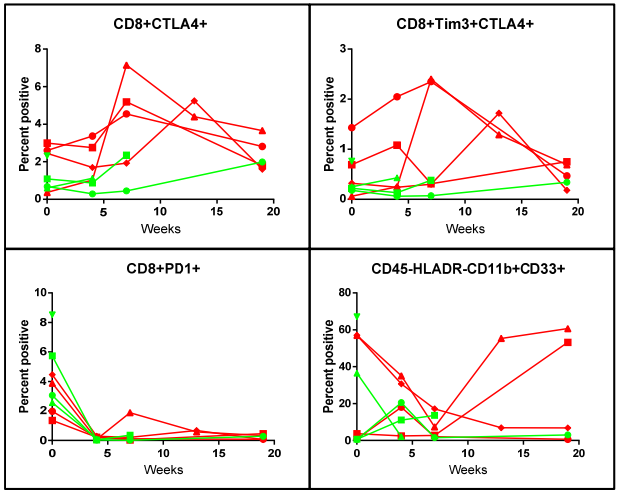
	High TIL (>10% CD8+)	Low TIL (≤10% CD8+)
Baseline	2	2
Week 10	2	0
Unevaluable: 4 baseline; 1 Week 10		

2. Antigen-specific ELISPOT



Immune Responder
Non immune responder

3. Peripheral blood flow cytometry



Doubling of IFNγ-secreting CD8 cells by ELISPOT defines "immune responder"

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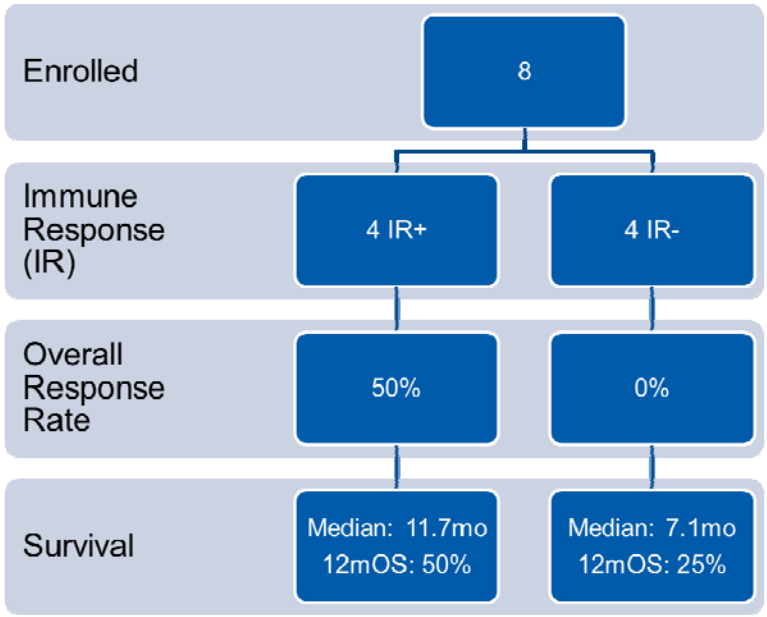
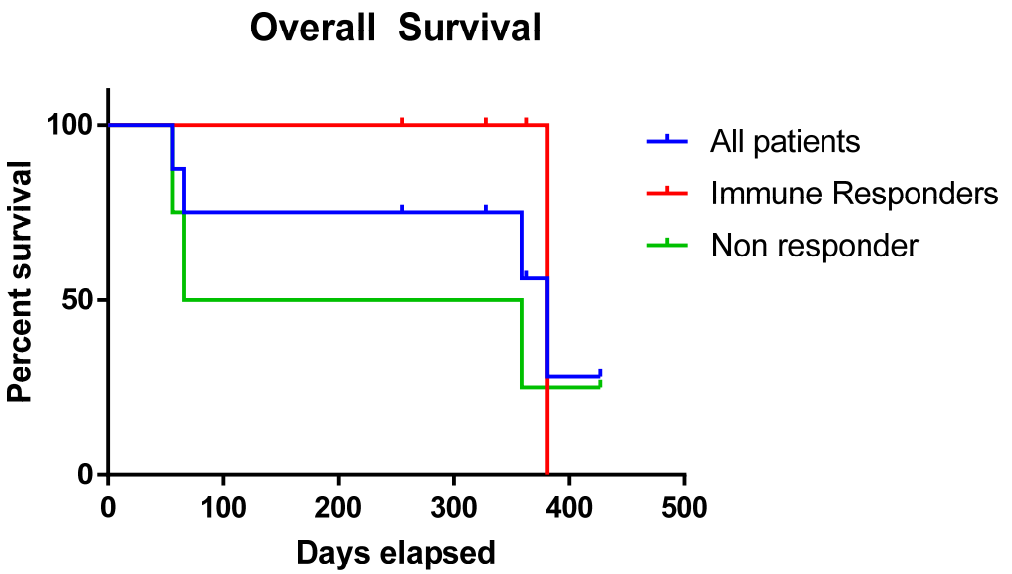
Efficacy & Survival





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Conclusions and Future Directions

- There have been no additional toxicities for combination of Viagenpumatucel-L plus nivolumab compared to existing data on single agent immune checkpoint inhibitors alone.
- Immune responses may correlate with clinical efficacy
- The phase 1b part of the study is still ongoing and the expansion phase will be determined based on the preliminary ORR
- Additional combinations with chemotherapy, anti-CTLA-4 and other T-cell co-stimulators being considered
- Manufacturing started for the second generation vaccine *ComPACT,* which incorporates OX40-L costimulatory molecule