

Viagenpumatulcel-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

Viagenpumatucl-L Vaccine Background

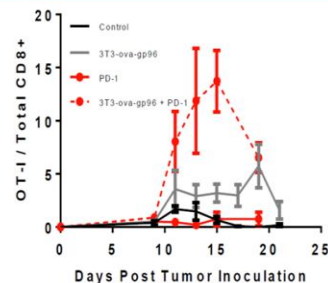


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Intradermal Injected
Allogeneic Cell Therapy

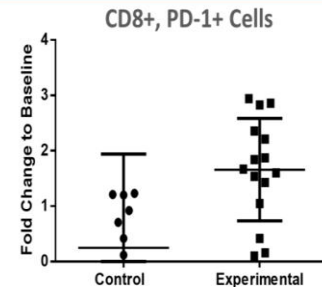
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Synergy between *Im*PACT + anti-PD-1 Mab



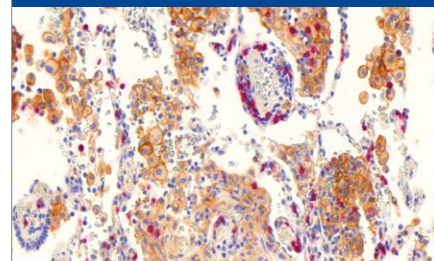
2

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
*Im*PACT (gp-96) + Anti-PD-1 Mab

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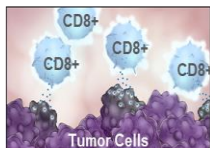
Clinical data: vaccine upregulates
PD-1 on CD8+ T cells in patients

③

Patient tumor biopsies show strong
PD-L1 staining post vaccine

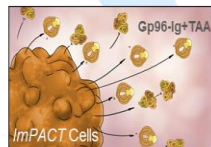
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CD8+ T-cells
circulate &
eliminate
tumor cells



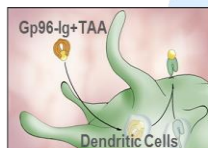
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*Im*PACT cells
secrete Gp96-Ig
chaperone + tumor
antigens (TAA)



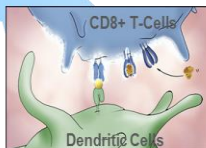
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Dual antigen carrier
& adjuvant activates
Dendritic Cells



④

Selectively
activate
CD8+ T-Cells



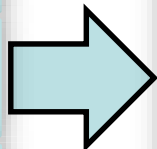
DURGA Design

Phase 1b

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

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

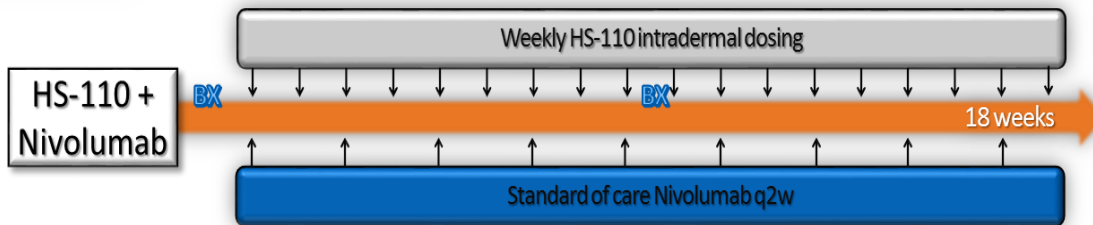
HS-110 + nivolumab
(TIL uneval.)



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



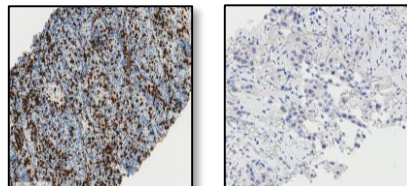
Demographics and Safety

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

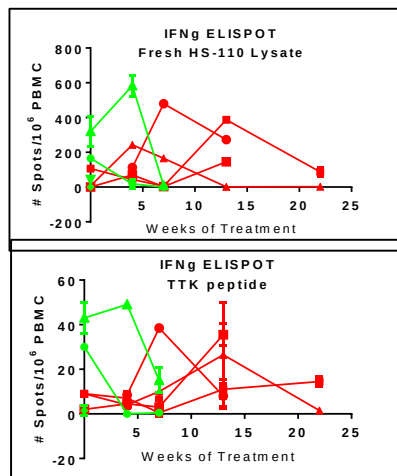
Immune Response

1. Tumor immunohistochemistry



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

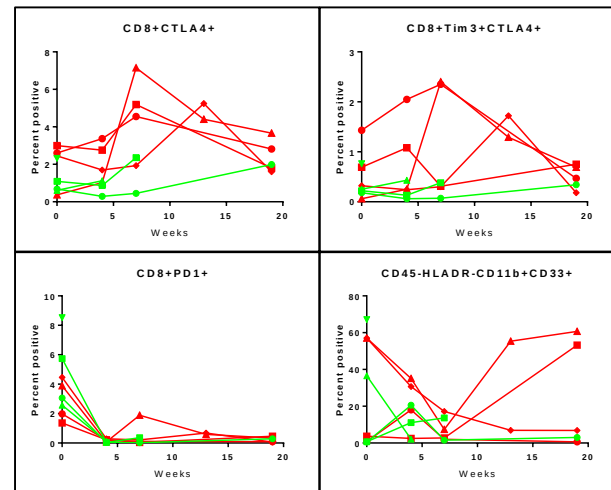
2. Antigen-specific ELISPOT



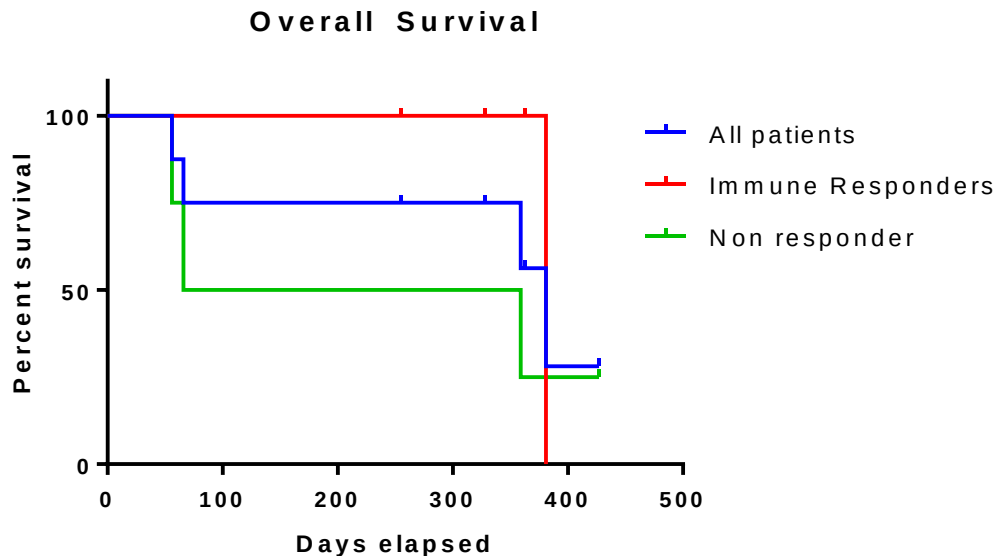
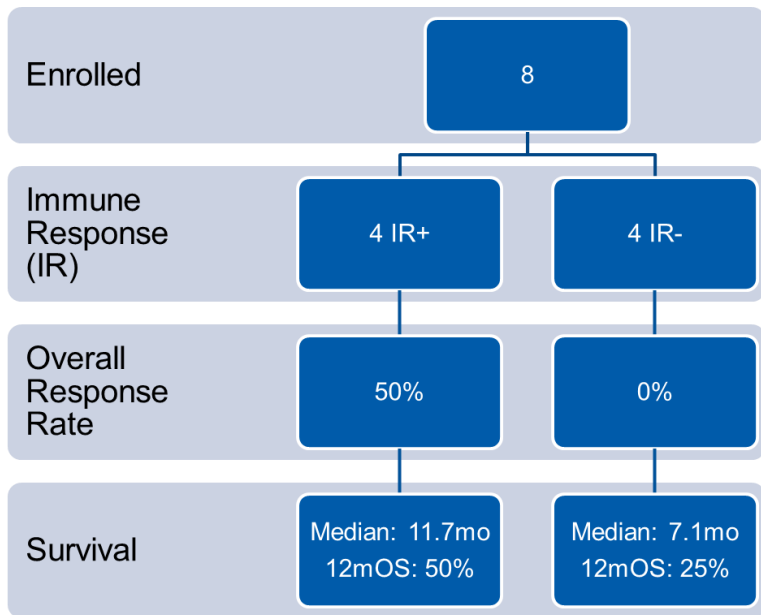
Immune Responder ———
Non immune responder ———

Doubling of IFN γ -secreting CD8 cells by ELISPOT defines “immune responder”

3. Peripheral blood flow cytometry



Efficacy & Survival



Conclusions and Future Directions

- There have been no additional toxicities for combination of Viagenpumatucl-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