Therapeutic Vaccination With HPV-16 Oncoproteins Fused Into a Checkpoint Modifier of Early T-cell Activation Protects Against HPV-associated Tumors in a Preclinical Model

**BACKGROUND**

- There is evidence that early checkpoint modifiers may enhance T-cell activity and improve clinical outcomes.
- However, current checkpoint inhibitors target activated T cells and are not yet effective in HPV-associated sarcomas.

**RESULTS**

- Frequencies of insert-specific CD8+ T cells were determined by ICS for IFN-γ.
- AdC6-gDv2E7652 (HI) and AdC6-gDV1E7652 (SD) were used to induce T-cell responses to the HPV-16 E6 and E7 proteins.
- The resultant antigen-driven responses are more specific to sub-dominant epitopes, which are more resistant to exhaustion.
- AdC6-gD-gag (HI) showed rapid tumor regression and complete tumor regression.

**CONCLUSIONS**

- These are the first preclinical data of a novel early checkpoint modifier construct.
- The addition of the checkpoint modifier to gD-based immunotherapies may improve immunogenicity.
- Therapeutic vaccination in preclinical models and clinical trials are warranted.

**REFERENCES**


**ABBREVIATIONS**

- AdC6: chimpanzee adenoviral vector
- CD: cluster of differentiation
- gD: glycoprotein D
- IFN: interferon
- ICS: interferon gamma
- HPV: human papillomavirus
- IM: intramuscular
- HI: high-dose
- SD: standard-dose
- HPV-16 E6 and E7: human papillomavirus type 16 E6 and E7 proteins
- HPV-16 TC1: HPV-16 transgenic tumor model
- BTLA-HVEM: B-cell lymphoma-6 activating receptor
- LIGHT-HVEM: lymphotoxin-like, exhibits inducible T-cell costimulator
- CD, C57Bl/6 Mice HLA-A2 Transgenic Mice
- E5, E6, E7: HPV-16 E5, E6, and E7 proteins
- EXECerp: Express conformational epitopes of HPV antigens
- MHC, major histocompatibility complex

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**FOR MORE INFORMATION**

- Visit www.viriontx.com for more information.