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Checkpoint modification of BTLA-HVEM-LIGHT signaling by HSV-1 glycoprotein D (gD) improves vaccine-induced CD8+ T cell responses in pre-clinical cancer models

RESULTS

METHODS

The effects of gD on immunogenicity and efficacy of antigens were assessed in a series of preclinical studies in mice:

• HPV-16-associated cancers using early oncoprotein vaccines against transplantable TC-1 tumors in a transgenic adenocarcinoma mouse model2
• Melanoma model using an oncoprotein called Melapoly against transplantable B16F10 tumors3
• Antigens were fused into gD and expressed by adenoviral vectors
• Prime-only4 and PrimeBoost3 vaccinations using heterologous vectors were explored in various studies
• Control vaccinations used either gD alone or a mutated gD without antigen of choice5,6
• Vaccination with gD-Melapoly vaccine was assessed in comparison with control vaccinations described in ref 2,4–7

CONCLUSIONS

Expressing a tumor-associated antigen as a gD fusion protein in preclinical cancer studies shows:

• Consistently enhanced CD8+ T cell frequencies in the draining lymph nodes of gD-Melapoly versus naive:
• Improved clinical outcome, including survival and delayed tumor growth2,5–7

REFERENCES

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DECLARATION OF INTERESTS

In addition to the authors of this poster summary, Dr. Andrew Luber of Virion Therapeutics and Dr. Andrew Luber at virion@viriontx.com