Innovations
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

MCL1 Inhibitor Combination Therapy for the Treatment of Melanoma

Product

MCL1 Inhibitor Immunotherapy Combination Therapeutic

Indication

Melanoma

Value Propositions

- Effective in treating resistant and relapsed disease
- Treatment of uveal melanoma

Market

- $5.6 Billion—Global Melanoma Therapeutic Market (Estimated 2.9% CAGR through 2029)

Intellectual Property

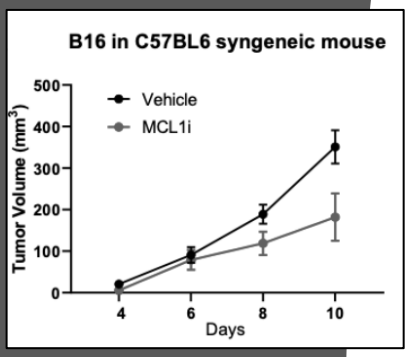
- Patent pending*
- Available for licensing

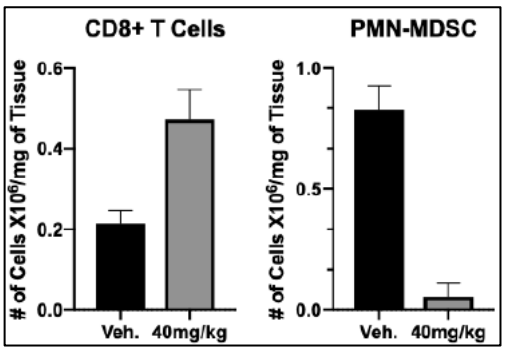
Background on CU4999H

While melanoma accounts for about 1% of skin cancers in the US, the disease causes the majority of skin cancer related fatalities. It is estimated that 96,000 people will be diagnosed with melanoma and 7,180 individuals will die of the disease in 2021. Despite improvements in the treatment of melanoma, the 5-year survival rate among those with metastatic disease remains at about 27%. Most patients will receive some form of immunotherapy as first line therapy, but 50% of these individuals will progress. Few therapies are available to treat these patients, and resistance to targeted therapies is common.

Technical Innovation

A team led by Dr. Shellman at the University of Colorado have identified a MCL1 inhibitor that may improve the efficacy of melanoma treatment when combined with an existing immunotherapy. The therapeutic potentiates the efficacy of immunotherapies by blocking MCL1 driven cancer resistance. The combination has the potential to decrease the activity of immunosuppressive cells, increase activity of immunostimulatory cells, and increase the number of tumor-infiltrating immune cells. The therapy is expected to be especially beneficial in patients who have failed to respond to or relapsed after standard of care. Additionally, uveal melanoma is a promising subset of melanoma cases that may be particularly susceptible to the MCL1 inhibitor treatment due to their distinct expression pattern of BFL1 and PUMA.





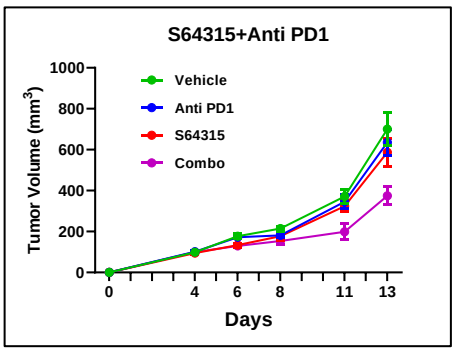


Figure: (Left) MCL1i alone reduced tumor growth of B16 melanoma cells *in vivo.* (Middle) MCL1i increases the frequency of tumor-infiltrating CD8+ T cells and reduces myeloid-derived suppressor cells—a significant source of immuno-suppression in tumors. (Right) MCL1 inhibitor combined with anti-PD1 therapy suppressed tumor growth, better than either drug alone.

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Ref# CU4999H

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Resources & Documents:

**PCT/US2020/052790—"Enhancing Cancer Therapy Treatment With BH3 Mimetics"*