

Humanized Anti-Integrin α V β 8 mAb to Inhibit TGF β Activity and Enhance Anti-Tumor Immunity for Immunotherapy

Tech ID: 32904 / UC Case 2021-075-0

TECHNOLOGY DESCRIPTION

Researchers at UCSF have generated ADWA-16, a next-generation fully humanized monoclonal antibody that binds to alpha V beta 8 (AVB8). Cell adhesion assays demonstrate that ADWA-16 binds to cells expressing human AVB8 with high affinity. Results show that ADWA-16 blocks LAP adhesion and TGF β activation in vitro, blocks immunosuppression by human Treg in vivo, and reduces posterior capsular opacification in murine models. Work is ongoing to humanize two additional AVB8 blocking antibodies as backups. All three antibodies were developed by immunizing integrin B8 knockout mice, a process expected to reduce cross-reactivity with other integrins and reduce off-target toxicity. Further work will identify mechanisms underlying the synergy between anti-AVB8 antibodies and immunomodulators.

ADVANTAGES

- More potent than antibody currently in clinical trials
- Reduced toxicity than other antibodies due to reduced cross-reactivity to integrins
- 2 back-ups under development
- Potentially fewer side effects than other TGF β inhibitors
- Easily engineered for effector function to further enhance tumor cell killing
- Synergistic with immune checkpoint inhibitors or radiotherapy
- Can induce long-term anti-tumor immunity

APPLICATIONS

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OTHER INFORMATION

KEYWORDS

Monoclonal Antibody,

Oncology, Immuno-oncology,

Immunotherapy, combination

treatment

CATEGORIZED AS

- ▶ **Biotechnology**
- ▶ Health
- ▶ **Medical**
- ▶ Disease: Cancer
- ▶ Disease: Ophthalmology and Optometry
- ▶ New Chemical Entities, Drug Leads

- Combination with immune checkpoint inhibitors, radiation therapy or chemotherapy to treat the ~ 50% of cancer patients with highly active TGFβ
- Treatment or prevention of posterior capsular opacification (PCO) of the eye

► [Therapeutics](#)

RELATED CASES

2021-075-0

REFERENCE

Not available at this time

PATENT STATUS

PCT Pending

AVAILABLE FOR LICENSING

Worldwide

INVENTOR PROFILE

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PATENT STATUS

Patent Pending

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