Immune Impact Of Cyclic STAT3 Decoy Therapy

Tech ID: 34513 / UC Case 2022-104-0

VALUE PROPOSITION

There are approximately 70,000 cases of head and neck squamous cell carcinoma (HNSCC) a year in the US, and ~ 15,000 deaths. FDA-approved immunotherapy, primarily anti-PD-1 antibodies are only effective in about 20% of HNSCC patients. Most cancers, including HNSCC are characterized by STAT3 hyperactivation which contributes to tumor progression. While selective targeting of STAT3 may result in a therapeutic benefit for the patients, STAT3 has historically need considered undruggable like most transcription factors.

TECHNOLOGY DESCRIPTION

UCSF investigators have developed an oligonucleotide therapeutic targeting STAT3 and have demonstrated inhibition of tumor growth in relevant animal models. Preliminary findings also suggested that the antitumor efficacy of the oligonucleotide therapeutic is enhanced when combined with anti-PD1 therapy. The therapeutic has been tested in phase 0 clinical trials.

RELATED MATERIALS

▶ Njatcha, C., Farooqui, M., Kornberg, A., Johnson, D. E., Grandis, J. R., & Siegfried, J. M. (2018). STAT3 Cyclic Decoy Demonstrates Robust Antitumor Effects in Non–Small Cell Lung Cancer. Molecular Cancer Therapeutics, 17(9), 1917–1926.

PATENT STATUS

Patent Pending

CONTACT

Kristin A. Agopian

kristin.agopian@ucsf.edu

tel: 415-340-2619.



OTHER INFORMATION

KEYWORDS

oligonucleotide, DNA/RNA therapeutic, oncology, head and neck squamous cell carcinoma

CATEGORIZED AS

▶ **Biotechnology**

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▶ **Medical**

▶ Disease: Cancer

▶ New Chemical Entities, Drug Leads

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UCSF

Innovation Ventures

600 16th St, Genentech Hall, S-272,

San Francisco,CA 94158

innovation@ucsf.edu

https://innovation.ucsf.edu

Fax:

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