Monocytes Associated With Immunotherapy Resistance

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TECHNOLOGY DESCRIPTION

Recent advances in immune checkpoint inhibition (CPI) have led to positive therapeutic responses in certain cancers. However, several cancers including advanced biliary tract cancers, are unresponsive to CPI treatment and the surrounding microenvironment may play a crucial role in this resistance. For example, monocytes, a class of immune cells known to contribute to immunotherapy suppression, may also specifically drive CPI resistance. Understanding the potential mechanisms for treatment resistance are essential to distinguish patients who would benefit from CPI and may lead to novel approaches for cancer treatment.

For these reasons, UCSF scientists have recently identified a subpopulation of monocytes which confer CPI resistance and are associated with poor survival in several refractory cancers. Moreover, immunosuppressive molecules expressed by these monocytes can be targeted to enhance treatment. Therefore, these findings can help to select patients who will respond to CPI treatments for various cancers and may benefit from additional therapies.

This invention is currently in the pre-clinical stage.

APPLICATION

- Provides novel approach to select patients who will benefit from CPI immunotherapies
- Increases treatment approaches for many cancers

RELATED MATERIALS

- Circulating monocytes associated with anti-PD-1 resistance in human biliary cancer induce T cell paralysis - 09/20/2022

PATENT STATUS

Patent Pending

CONTACT

Gemma E. Rooney
Gemma.Rooney@ucsf.edu
tel: 415-625-9093.



OTHER INFORMATION

KEYWORDS

monocytes, checkpoint inhibition resistance, companion diagnostic, immunotherapy, PD-1

CATEGORIZED AS

- Medical
- Diagnostics
- Disease: Cancer

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600 16th St, Genentech Hall, S-272,
San Francisco,CA 94158

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