

Use Of Viral Il-6 To Modulate Monocyte Differentiation To Boost Anti-Tumor Immunity

Tech ID: 33317 / UC Case 2022-582-0

ABSTRACT

Researchers at the University of California, Davis have developed a virally derived homolog to increase the inflammatory response desirable in cancer immunotherapy.

FULL DESCRIPTION

Researchers at the University of California Davis have developed the use of a virally derived homolog of interleukin-6 (vIL-6) to increase the inflammatory response desirable in cancer immunotherapy. The technology promotes dendritic cell differentiation and M1 macrophage differentiation from monocytes, unlike human IL-6, and doesn't trigger anti-inflammatory negative feedback mechanisms. The technology includes the RNA- and viral vector-based delivery of vIL-6-encoding nucleic acids.

Unlike IL-6, vIL-6 does not trigger negative feedback regulation, thus providing a unique benefit when it's used therapeutically as it does not limit its own efficacy by self-downregulation. This new technology aims to enhance cancer therapy by combining the administration of vIL-6 with an anti-cancer therapeutic agent, especially an anti-cancer immunotherapeutic agent.

APPLICATIONS

- ▶ Development of new medication and treatments for cancer
- ▶ Potential use in research and development in the medical and pharmaceutical industry
- ▶ Useful in the field of cancer therapeutics, specifically in immunotherapy
- ▶ Potential application in the manufacturing of cell culture mediums
- ▶ May be incorporated into various delivery systems such as viral vector-based delivery, liposomal formulations, transdermal patches, etc for treating cancer

FEATURES/BENEFITS

- ▶ Increases the inflammatory response desirable in cancer therapies
- ▶ Promotes dendritic cell differentiation and M1 macrophage differentiation
- ▶ Utilizes RNA- and viral vector-based delivery for effective implementation
- ▶ Does not self-downregulate which is an issue with existing therapies that are limited by negative feedback mechanisms
- ▶ Can be applied in various formats such as protein form or nucleic acid form
- ▶ Potential supplement for cell culture to enhance the recovery and efficacy of dendritic cells

PATENT STATUS

CONTACT

Prabakaran

Soundararajan

psoundararajan@ucdavis.edu

tel: .



INVENTORS

- ▶ Izumiya, Yoshihiro
- ▶ Shimoda, Michiko

OTHER INFORMATION

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Disease: Cancer
 - ▶ Gene Therapy
 - ▶ New Chemical Entities, Drug Leads
 - ▶ Therapeutics
- ▶ **Research Tools**
 - ▶ Nucleic Acids/DNA/RNA
 - ▶ Protein Synthesis

RELATED CASES

2022-582-0

Country	Type	Number	Dated	Case
---------	------	--------	-------	------

Patent Pending

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Transcription Active Complex Targeting Cancer Drug From Viral Protein Sequence](#)
- ▶ [CHD4 Targeting Peptide Isolated From Viral Protein For Cancer Therapeutics](#)
- ▶ [Cellular Protein CDH4 Inhibiting Peptide](#)

University of California, Davis
Technology Transfer Office

1 Shields Avenue, Mrak Hall 4th Floor,
Davis,CA 95616

Tel: © 2023, The Regents of the University of California
530.754.8649 [Terms of use](#)
techtransfer@ucdavis.edu [Privacy Notice](#)
[https://research.ucdavis.edu/technology-](https://research.ucdavis.edu/technology-transfer/)
[transfer/](https://research.ucdavis.edu/technology-transfer/)
Fax:
530.754.7620