

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

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	WO 2023/200897	10/19/2023	2022-582

Additional 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](#)

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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

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