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# Distinct Metabolic States Guide Maturation of Inflammatory and Tolerogenic Dendritic Cells

Tech ID: 32933 / UC Case 2022-079-0

## INVENTION NOVELTY

Scientists at UCSF and the Parker Institute of Cancer Immunotherapy have developed methods for characterizing dendritic cells as well as methods for identifying a dendritic cell as either an inflammatory or a tolerogenic dendritic cell. Their results provide important insights into previously obscured metabolic heterogeneity impacting immune profiles of immunogenic and tolerogenic dendritic cells (DC).

## VALUE PROPOSITION

There have been over 200 clinical trials testing dendritic cell-based vaccines; however, there have not been much commercial successes to date. The proposed invention offers researchers approaches to identify potential biomarkers and key pathways for monocyte-derived dendritic cell-based vaccines against cancer or vaccines to inhibit autoimmunity. Researchers can use their signaling pathway findings ratio to direct drug treatments that will reprogram DC in 1) cancer towards more effective inflammatory DC activity, and 2) in autoimmunity to suppress unwanted immunity by using drugs to skew DC to tolerance.

This novel invention provides the following advantages:

- Identification of potential mechanism to allow for superior and more reliable cellular vaccine preparation
- More reliability
- Reduced variability

## RELATED MATERIALS

- [Distinct metabolic states guide maturation of inflammatory and tolerogenic dendritic cells](#) - 09/02/2022

## PATENT STATUS

Patent Pending

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### OTHER INFORMATION

#### KEYWORDS

Dendritic Cells, Biomarkers, Vaccine

#### CATEGORIZED AS

- [Medical](#)
- [Diagnostics](#)
- [Disease: Autoimmune and Inflammation](#)
- [Disease: Cancer](#)
- [Vaccines](#)

#### RELATED CASES

2022-079-0

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