



Stimulating Phagocytosis Of Cancer Cells By Activating Genes In Macrophages

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BACKGROUND

Current cancer therapy approaches produce an inefficient treatment result where only a small fraction of cell-cell contact events lead to engulfment and death of the tumor cell, and 80% of events lead to a non-lethal cell "nibbling" behavior. Improving macrophages' ability to kill and consume cancer cells would substantially benefit medical efforts to increase patient survivability during cancer treatment.

DESCRIPTION

Researchers at the University of California, Santa Barbara have demonstrated a more efficient approach to Car-P therapy that increases the phagocytic activity of human macrophages toward cancer cells by 20-fold. This approach involves activating specific genetic mutations in macrophages and/or neutrophils. Expression of an activating mutation in the respective gene causes macrophages to prematurely consume B and T cells, improving the immune system's ability to engulf and kill cancerous white blood cells. Thus, activated macrophages improve the efficiency of Car-P by enabling a more productive cancer therapy system.

ADVANTAGES

- ▶ Increases treatment efficiency
- ▶ Increases patient survivability

APPLICATIONS

- ▶ Cancer Treatment
- ▶ Pharmaceuticals
- ▶ Therapeutics

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20240293545	09/05/2024	2020-704

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OTHER INFORMATION

KEYWORDS

cancer, car-p, macrophage, phagocytosis, neutrophil

CATEGORIZED AS

- ▶ **Biotechnology**
 - ▶ Genomics
- ▶ **Medical**
 - ▶ Disease: Cancer
 - ▶ Therapeutics

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2020-704-0

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