

Immunology

Small molecule perforin inhibitors to enhance vaccine efficacy

Brief Description of Technology

Perforin inhibition during vaccination can improve vaccine success against a variety of infections and diseases for which sufficiently efficacious immune response has proven difficult

TECHNOLOGY ID

2019-0108

BUSINESS OPPORTUNITY

Non-Exclusive License or
Sponsored Research

TECHNOLOGY TYPE

Small Molecule

PATENT INFORMATION

PCT Filed

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Technology Overview

Vaccines must elicit immune responses of a sufficient magnitude and quality to prevent or treat disease. While existing vaccine technologies are capable of achieving this goal for many diseases, these strategies have thus far proven inadequate against global threats like HIV and malaria.

Cincinnati Children's has discovered a key role for the protein perforin in restraining immune responses after vaccination. They have identified a selective small molecule inhibitor of perforin that enhances the scope and caliber of vaccine-elicited immune responses. The capacity of this invention to bolster the efficacy of emerging vaccines for difficult to prevent diseases represents a new tool for combating threats to human health.

Applications

Use as an adjuvant to enhance the capacity of vaccines to prevent or treat disease.

Advantages

- Can be combined with existing vaccine regimens to enhance suboptimal efficacy.
- Broad utility, most notably in the infectious diseases and cancer vaccines fields.

Market Overview

- Over 37 million people worldwide are currently infected with HIV and an estimated 5K people become newly infected each day.
- Malaria remains a primary cause of childhood illness and death in sub-Saharan Africa. More than 260K African children under 5 die from malaria annually.
- Cytomegalovirus infection is a leading cause of birth defects, and a fatal complication of transplant or other acquired immune deficiency conditions.

Investigator Overview

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