Glycosylated Nanoparticles for Vaccines

The solution is a method to engineer glycoproteins onto the surface of protein nanoparticle vaccine scaffolds to enhance vaccine-elicited immune responses.

What is the Problem?

Protein nanoparticles have been increasingly used in vaccine design due to its ability to enhance humoral immune responses and promote protective immunity. To maximize nanoparticle immunogenicity, there is a need to design nanoparticle vaccine antigens that target the germinal center of lymphoid tissues, where interactions with B cells are essential for the development of high-affinity antibodies.

What is the Solution?

The solution is a method to engineer glycoproteins onto the surface of protein nanoparticle vaccine scaffolds to enhance vaccine-elicited immune responses. The innate immune system recognizes surface glycans on the protein nanoparticle vaccine which drives humoral immunity through accumulation of antigens in the lymph node germinal center and antigen-specific germinal center responses.

What is the Competitive Advantage?

The competitive advantage of this technology lies in its ability to target delivery of antigens to lymph node germinal centers, increasing vaccine efficacy. Localization of antigens within the germinal center will enable increased humoral responses. This technology can be broadly used for vaccine design to develop effective vaccines that elicit protective antibody responses.

Patent Information:

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References

Technology ID

BDP 8719

Category

Therapeutics/Platform Technology

Selection of Available Technologies

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