A Novel Platform for Vaccine Development and Ex Vivo Cellular Immunotherapy

OCR Number: OCR 1663

Description:

Yale researchers have developed a novel platform with the capacity to deliver heterologous antigens to the MHC-class I presentation pathway to stimulate an immune response. OCR 1663 can prime protective CD8+ T cell responses in vivo after exposure to the OVA peptide. Data highlights the ability of OCR 1663 to successfully induce a potent innate immune response that may be important to the generation of acquired immunity. The effectiveness of this system is due to its ability to deliver antigens to the cytosol of antigen-presenting cells, which can be readily and efficiently presented by MHC-class I molecules to generate CD8+ T cells. OCR 1663 provides a safer, non-replicating vehicle for vaccine development and cellular immunotherapy in which this type of response is crucial for protection from a variety of infectious diseases and cancers.

Value Proposition: The use of traditional approaches to develop vaccines for the prevention and treatment of various diseases, specifically cancer and HIV, has been very challenging. Currently, only a few cancer vaccines have received FDA approval and are available on the market to treat a narrow range of cancer types. A clear unmet medical need exists for a method that not only provides an effective strategy to stimulate specific immune responses against the correct target, but one that is also powerful enough to overcome the barriers that cancer cells and viruses use to protect themselves from attack by the immune system. OCR 1663 is a novel antigen delivery platform for the development of vaccines and cellular immunotherapies against a variety of cancers and infectious diseases. A key aspect of this technology is that this delivery system enhances the ability of the immune system to break tolerance when presented with a specific antigen. This technology can also serve as an improved production technique that plays a role in enabling vaccine products to come to market much sooner than conventional methods.

Stage of Development: In vivo proof of concept.

IP Status: Allowance in U.S.

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