



OFFICE OF SPONSORED RESEARCH



TECHNOLOGY OPPORTUNITY

Vaccine Adjuvant Platform

McGill University is seeking to out license a novel potent vaccine adjuvant platform that can be used in the development of prophylactic and therapeutic vaccines. The adjuvant platform of the present invention is a novel and inert crystalline synthetic entity that modulates effectively the innate immune response. Its unique and robust composition confers a more stable and longer term protection than other traditional adjuvant. In addition, its unique composition permits it to be utilized in various vaccination profiles.

Applications

This vaccine adjuvant platform has commercial utility in both therapeutic and preventive vaccination development and can be engineered for many indications/applications (e.g. cancer vaccines, HIV, anti-toxin vaccine, *Leishmania* and other infectious agents vaccine). The properties of the composition permit it to be customized with one or more third party proprietary antigen candidates.

Advantages

- In proof of concept studies, the adjuvant platform has been validated in many cellular and rodent models.
- The composition favors a Th1 type cellular immune response and such stimulation was shown to be long lasting.
- The composition can also activate the NLRP3-inflammasome resulting in the production of IL-1b by macrophages, similarly to Alum.
- Tested with ovalbumin (OVA), HIV Gp120, melanoma Gp110r, *Leishmania* A2 and LACK to validate that the adjuvant platform can be tailored to a variety of vaccination profiles.

Technology

The discovery of potent novel adjuvant is of paramount importance to vaccine development. Alum remains the industry benchmark. In animals and in humans, Alum is skewed to elicit a Th2 response; therefore alternative adjuvant are widely being sought, especially in the context of subunit vaccines with inherent low immunogenicity. The adjuvant platform of this invention can be used to increase the immune response of vaccines and has been demonstrated to invoke the innate immune response as opposed to strictly humoral. The adjuvant platform of this invention can also be tailored to a variety of requested vaccination profiles. In addition, the composition of this adjuvant platform permits to confer a more robust and longer lasting immune stimulation, resulting in a vaccine that will confer prolonged immunity to the individual/animal receiving vaccination. The patent application teaches a novel vaccine adjuvant platform composition and chemical process to prepare same.

The Inventors



Dr. Martin Olivier is an Associate Professor at the Department of Microbiology & Immunology at the McGill University Health Center. He received his Ph.D. from McGill University and pursued post-doctoral fellowships at the University of British Columbia and MGH Research Institute. His research interests focus on immune evasion by parasites (*Leishmania*, *Plasmodium*, *Trypanosoma*), malaria pigment and inflammatory response and signaling mechanisms in host/pathogen interactions and activation of pro-inflammatory mediators.

CONTACT:

Olivia Novac, Ph.D.
Office of Sponsored Research
McGill University
Tel: 514-398-5887
Email: olivia.novac@mcgill.ca
Reference code: ROI10084
Opportunity: Exclusive or non-exclusive
license; R&D partnership



L'Institut de recherche
du Centre universitaire de santé McGill
The Research Institute
of the McGill University Health Centre



McGill