Vaccines in development often consist of protein or carbohydrate antigen subunits with safety advantages over intact or inactivated pathogens. However, these antigen subunits can be insufficient to induce protective immunity. Strategies to stimulate immune responses include coupling antigens to carrier molecules, formulating vaccines with adjuvants, and using immune targeting vectors to deliver antigens.

Eliciting robust, sustainable immunity

Key challenges of vaccine development include eliciting robust and sustainable immunity against hard-to-control infections caused by invasive pathogens; this challenge is greater when vaccinating vulnerable populations with weakened immune responses. Building on over 30 years of vaccine research and development, we offer key expertise in antigens, adjuvants and vectors to our clients.

Our expertise

• Physicochemical isolation, analysis, selection, production and engineering of carbohydrate, protein and lipid antigens;
• Glycoconjugation of carbohydrate antigens to protein carriers to enhance immunogenicity;
• Novel immunomodulators such as archaeosome lipid-based adjuvants and saponin-based adjuvants;
• Recombinant vector delivery to induce robust cell-mediated immunity; and
• Production of vaccine candidates and virus-like particles (VLPs).

Interested?

Attuned to the needs and challenges that industry faces in bringing vaccines to market, our team has the proven ability to partner successfully with companies to develop new vaccines that improve human health. Contact us today to discover how we can help you!

www.nrc-cnrc.gc.ca/eng/rd/hht/expertise/antigens_adjuvants.html

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