

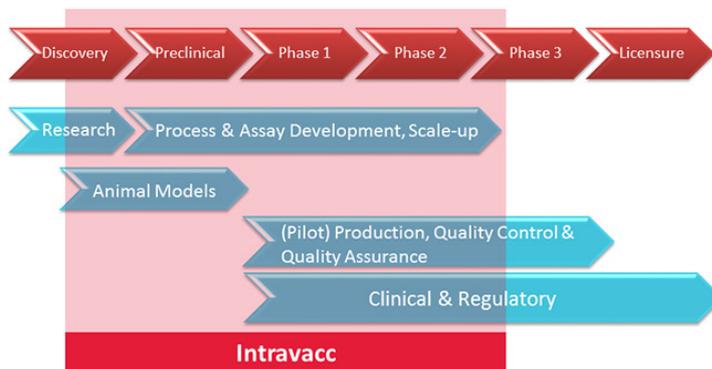


intravacc

innovating vaccines

Vaccine Delivery

Optimising the administration of vaccines



Our strength is in the core of vaccine development, allowing you to focus on your strengths.

Introduction

The ideal vaccine is highly efficacious, easy to administer, thermostable and capable of providing life-long immunity against a given pathogen. Unfortunately, not all vaccines are ideal.

The Intravacc Vaccine Delivery program aims at optimizing the efficacy of existing and future vaccines. In addition, optimization of the administration of vaccines can lead to thermostable, pain free and affordable vaccination. Using its proven track record, Intravacc focuses amongst others on improved and innovative techniques for subcutaneous, intramuscular, dermal and mucosal vaccination. By combining innovation and knowledge into a product-oriented approach, Intravacc contributes to improved vaccine delivery worldwide.

A need for innovative delivery methods

Combined vaccination by needle and syringe has several drawbacks amongst needle stick injuries and spreading of diseases through reused needles. The need for skilled personnel forms another disadvantage especially when it comes to mass vaccination. Moreover, injections may cause stress, fear and concern in children and their parents, which could negatively affect compliance to vaccination programs.

The Vaccine Delivery program at Intravacc works towards safe, efficacious and thermostable needle free vaccines. Moreover, we strive to reduce the number of injections by combining multiple vaccines in one shot.

Vaccine delivery at Intravacc

The Intravacc R&D program for vaccine delivery methods includes:

- Subcutaneous and intramuscular vaccination using injectables and jet injectors;
- Dermal/transcutaneous vaccination utilizing microneedles;
- Mucosal vaccination, specifically using intranasal, oral, sublingual and pulmonary delivery systems.





Bridging the gap in translational vaccinology.

Intravacc transfers its vaccine (delivery) technology (red) and expertise (blue) to major companies around the world.

Subcutaneous and intramuscular vaccination using injectables and jet injectors

Most vaccines are delivered by the intramuscular and some by the subcutaneous route. Since both routes are commonly used for vaccination, it is a logical target for novel delivery strategies. Intravacc has tested and further developed various devices and delivery systems (e.g. Jet injectors, subcutaneous implants like the Bioneedles™) to further promote and accommodate needle free delivery. Not only are these delivery systems needle free and (often) painless; some of these ensure the thermostabilisation of the antigen, thereby eliminating the need for a cold chain in eventual vaccine distribution.

Dermal and transcutaneous vaccination with microneedles

Dermal and transcutaneous vaccination takes advantage of the skin as a highly immunogenic organ. The main challenge is to transport antigens through the stratum corneum – the upper layer of the skin – to the Langerhans cells located in the epidermis. At Intravacc, various approaches are being evaluated; amongst none-invasive delivery using elastic vesicle formulations, minimal-invasive delivery using microneedles of all sorts and combinations of those two delivery methods. The translational profile of Intravacc allows us to (co-) develop promising delivery technologies from lead phase up to Phase 3 clinical research.

Mucosal vaccination; exploring the intranasal, sublingual and pulmonary delivery routes

Mucosal delivery is an attractive route because mucosa's have a large, easy accessible surface area and their own immunological competence. However, mucosa's are generally exposed to a large variety of environmental antigens and have developed tolerizing systems that prevent an overreaction of the immune system. Strong mucosal adjuvants or live attenuated vaccines are often required to induce a mucosal immune response. Progress in the production of vaccine-containing solids like nanoparticles, tablets and powders provide new opportunities for intranasal, sublingual and pulmonary delivery. Moreover, the (co-) development of new delivery devices (e.g nasal sprays) holds further promise.

Partnering in vaccine delivery

Acting as the Institute for Translational Vaccinology, Intravacc aims to (co-)develop promising leads further along the vaccine development chain. We are specialized in taking innovative concepts to the next level. The vaccine delivery program of Intravacc is open for collaborations, which can range from fee for service activities for SME's, universities or Big Pharma to large Collaborative Agreements that involve both pre-clinical optimization & testing, GMP production and clinical evaluation.

Intravacc

The Institute for Translational Vaccinology is an experienced, not-for-profit R&D organization. With our unique capabilities and infrastructure, we are able to optimize vaccines, vaccine processes and vaccine technologies. Our aim is to increase equality in access to vaccines throughout the world in order to contribute to public health. We achieve this by transferring our knowledge and technologies to public and private partners worldwide and collaborative R&D. A team of 150 professionals is at your disposal at Science Park Bilthoven in The Netherlands.

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