Intravacc offers a wide and in-depth range of vaccine related R&D-programs. Over 130 professionals cover more than one hundred years of know-how in vaccine development and technology transfer. With a proven track record in R&D, Intravacc transfers vaccine technology - including polio, DTP, Influenza, and Hib vaccines - worldwide since the seventies.

Intravacc has an extensive network of researchers, vaccine manufacturers and control authorities worldwide.

In Bilthoven, the Netherlands, we have a small scale, state-of-the-art production infrastructure that covers the entire vaccine value chain under GMP conditions.

“Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year. It is one of the most cost-effective health investments, with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations. It has clearly defined target groups; it can be delivered effectively through outreach activities; and vaccination does not require any major lifestyle change.”

World Health Organization
Our Vision

‘For long-term worldwide improvement of human health we need a lasting collaboration between Public and Private enterprises with shared goals.’

Intravacc promotes public health by developing vaccines from the laboratory to clinical study in man. To achieve this, our aim is to substantially reduce development risks and cost of new vaccines so that manufacturers will be able to viably produce and distribute these vaccines for major public health concerns.

Translational Vaccinology

The search for new, innovative, safe and affordable vaccines (and delivery) is never ending. Within Intravacc’s dedicated, multidisciplinary research groups focus on the whole vaccine value chain as well as on parts of it. Part of these groups combine microbiology, virology and immunology with contemporary knowledge on the area of rules and regulations and (pre)clinical testing, to explore the potential of new leads for vaccines against infectious or other diseases. The keyword within Intravacc is valorisation; Intravacc creates value out of knowledge by translating it into innovative processes, products and services. For our partners, this means a reduction of risks and an optimal return on investment.

Projects on feasibility studies and/or exploratory research originate from external collaborators (academia, institutes, biotech- and pharma-companies) worldwide.

All these projects seek to address the following questions:

- Is it technically feasible to produce the vaccine?
- Does the vaccine induce a safe, protective immune response?
- What are the possibilities for GMP-compliant and cost-effective large scale production of a safe, affordable vaccine?
- Is the vaccine financially viable, that is; are the cost of goods to produce the vaccine competitive?

Research & Development

Intravacc is a renowned knowledge institute and knowledge partner within the international vaccine field. We have in-house expertise with all the aspects of the vaccine value chain and are able to bridge the gap between basic research and advanced clinical studies in man.

Throughout the years, these R&D-activities have provided us with a wide range of knowledge, products, services and facilities pertaining to all phases; from concepts and platform technologies to vaccine proof of principle.

Intravacc R&D discerns three main areas of attention: Bacterial Vaccine Technology, Viral Vaccine Technology and Vaccine Delivery and Formulation.

Bacterial Vaccine Technology

Intravacc is expert when it comes to bacterial conjugation technology (e.g. pneumococcal conjugate vaccines), bacterial like particle vaccines knowledge (Tuberculosis, Lyme disease) and the development of platform technology for other bacterial vaccines (outer membrane vesicles).

Other areas of attention are the development of genetic engineering techniques and streamlining manufacturing processes, including regulatory demands.

Visual inspection of eggs  Decapped eggs & harvesting
**Viral Vaccine Technology**

When it comes to Viral Vaccine Technology, Intravacc builds on a long history of proven R&D within its predecessors: the National Institute of Public Health and the Environment (RIVM) and Netherlands Vaccine Institute (NVI).

Intravacc innovates a production platform for vaccines against, amongst others, (avian) influenza, rabies, polio, Japanese encephalitis and rotavirus.

One of the innovative viral vaccine technologies leans on bioreactors for microcarrier-based Vero cell growth and virus production. These bioreactors were developed in Bilthoven in the 1960’s and have been innovated ever since. Furthermore, Intravacc is working on improved technologies to increase production capacity, such as alternatives for the egg-based influenza production and alternatives for centrifuge steps for virus purification.

**Vaccine Delivery and Formulation**

Intravacc offers a platform for developing innovative ways of delivering vaccines. Research on subcutaneous and intramuscular injection and transcutaneous oral, nasal, buccal and pulmonary delivery is ongoing, with special attention for specially designed formulations (emulsions, tablets) and delivery devices (micro needles, plasters and sprays).

Formulation aims on innovative ways of producing safe, affordable vaccines by using the right ingredients. The production of combination vaccines (to decrease the amount of injections), lyophilisation (freeze-drying), stabilisation and the use of adjuvants (auxiliary matters like aluminium, liposomes or our self-developed MPLA) are points of focus.
Partnerships around the Globe

Intravacc has alliances with knowledge institutes and vaccine manufacturers around the world and is involved in several projects, some of them in collaboration with the European Union (DG SANCO) or the World Health Organisation (WHO). Intravacc is, for example, one of the partners in Fastvac. This project brings together European vaccine institutes in order to protect Europe (and beyond) against emerging diseases. Intravacc has a major role in the International technology Platform for Influenza Vaccines (ITPIV); an expertise and training centre for influenza vaccine production in lower- and middle-income countries and emerging economies.

Other translational projects are Sabin-IPV, which focuses on a safer-for-production and affordable Inactivated Polio Vaccine (currently transferred to several partners in emerging countries), and Stopenteric (Shigella). The latter is a European project concerning the development of vaccine candidates against Shigella and ETEC.

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 Bithoven in The Netherlands.

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