



intravacc

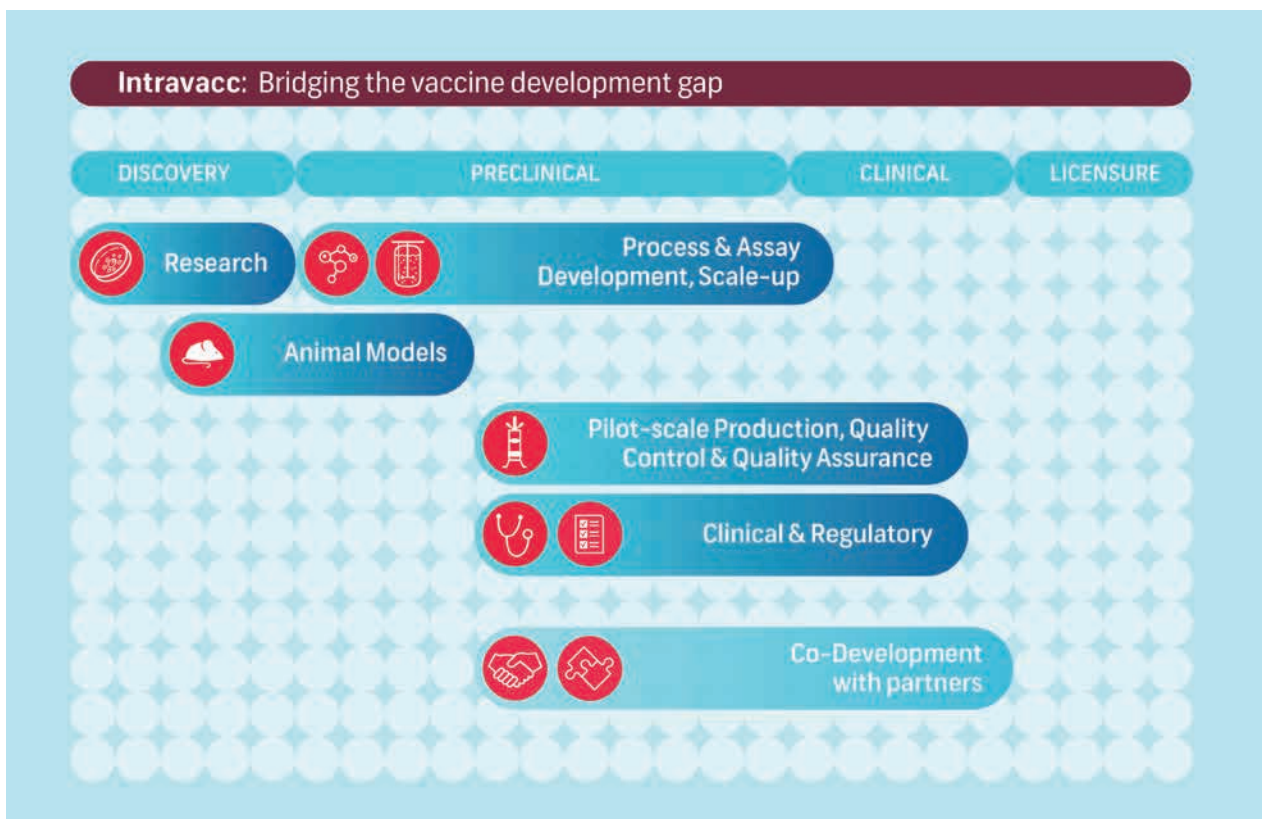
innovating vaccines

Even the most promising vaccines don't always make it out of the laboratory into large-scale production. We at Intravacc are fully aware of the challenges on the long road of vaccine R&D.

We substantially reduce the risks and costs involved with developing vaccines. How? By bridging the gap between your concept and late stage clinical studies.

Intravacc has all the state-of-the-art facilities available in-house to offer you a wide range of solutions. Our dedicated expert staff work tirelessly at optimizing and innovating not only the vaccines themselves – both viral and bacterial – but also the processes of producing them and technologies for transport, storage and delivery.

With over 100 years of expertise in vaccines to build on, Intravacc is your partner in innovative translational vaccinology.



Key facts and figures

BSL-2 equipped laboratories

Molecular Biology & Immunology 500 M²

- Flow cytometer
- Multiple spot reader
- Multiple immunoassay
- qPCR
- Vicell cell counter
- Gentle MACS (Animal models)
- 10 cell hoods



Bacterial process development 450 M²

Upstream

- Multifors Parallel bioreactors
- Nanosight particle counter
- Bioreactor 70L

Purification

- 2 AKTA chromatography systems 5ul/min-150 ml/min from screening/process development (Avant) till preparative purifications
- Akta pilot (up to 800ml/min) (columns up to 350mm)
- Multiple filtration systems for NFF and TFF (13ml up to 100L)
- Akta crossflow automated TFF research

Viral process development 450 M²

Upstream

- 24-wells screening bioreactor
- 28 bioreactor controllers for glass vessels ranging 1-20L
- Wave type bioreactors
- Single use Disposable stirred tank 50 & 100L bioreactor
- Stainless steel bioreactor 20L

Purification (DSP)

- Continuous flow ultracentrifugation both on lab and pilot scale
- Automated liquid handler for process development (96 wells to Atoll columns) & analytics in Biosafety class II cabinet
- 6 AKTA chromatography systems (5ul-150 ml/min) from screening to pilot scale



Analytics & Formulation 600 M²

- General analytical development, qualification and validation know-how and experience
- In-process control analyses
- Isoelectric point determination of active viruses using ICE280
- Flowcytometry 96-wells
- High throughput analytics
- Biacore T100 & T200
- Automated capillary electrophoreses (Calliper)
- Pilot freeze dryers (up to 1500 vials)
- Pilot spray dryer
- NMR
- HPLC
- Mass spectrometer
- Field flow fractionation
- Dynamic light scattering



Staff

- 150 highly qualified professionals, 43% MSc+, 38% BaSc

Vaccine design

As a front runner in applied research on mucosal and intradermal delivery we can create value to your antigen or delivery technology. Our formulation team can help to produce safe, affordable vaccines by creating the optimal composition. Furthermore we have patented, proprietary adjuvant technology available. Our Detoxified LPS mutants, for instance, can supplement your vaccine concept and boost the immune response.

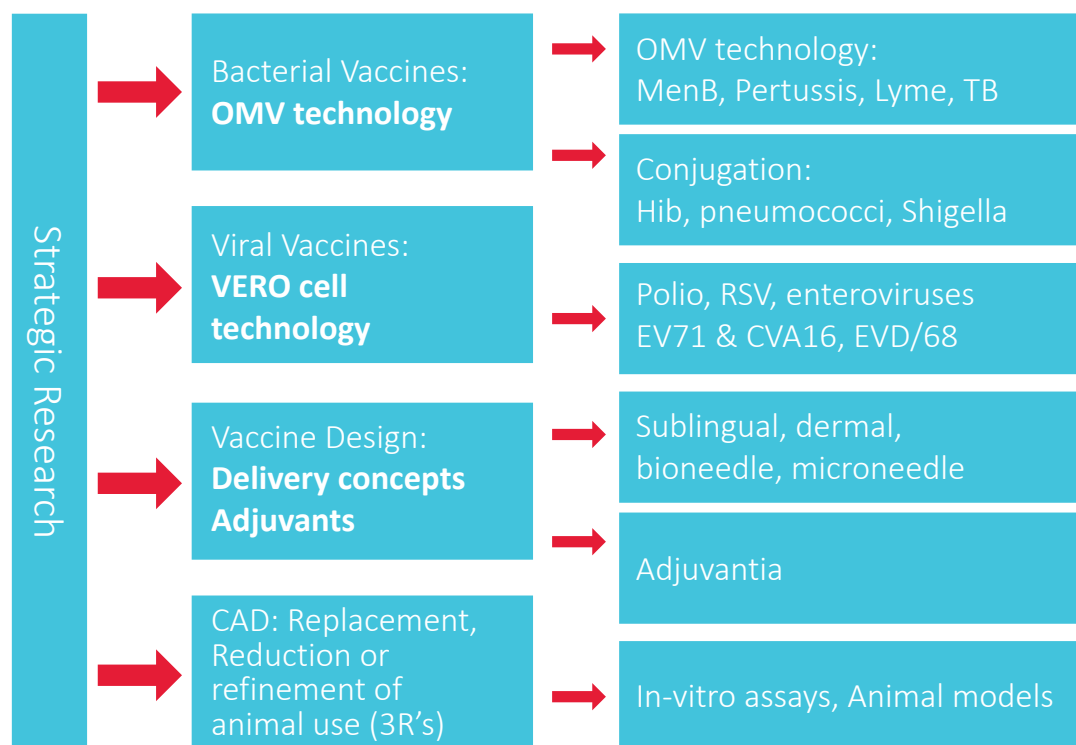
Viral vaccine technology

For new viral vaccine development, we use established blue prints and scalable platform production process based on an available scale-down processes, for example those based on an available scale-down process for IPV. Our proven technologies are based on Intravacc's long standing experience with oral and inactivated poliovirus vaccines and includes the recovery of virus seed strains from synthetic viral genomes, cell and virus culture technology, virus harvest and clarification, purification, formulation and freeze-drying, with all analytical assays required for in-process controls and product release. Our viral vaccine platform uses Intravacc's established and well-characterized WHO pre-qualified Vero cell line. In this way, we can demonstrate fast-track proof-of-principle of a pilot process for various viral vaccines, as recently shown for Sabin-IPV, OPV, RSV, EV71, and Rota vaccine concepts, using a science-based Quality by Design approach.

Bacterial vaccine technology

For the development of vaccines against bacterial pathogens, Intravacc has designed and developed a platform based on outer membrane vesicles (OMVs) – spherical particles with intrinsic adjuvant properties. Using genetic engineering, the OMVs can be decorated with the desired antigen(s) in the required amounts that maintain their native conformation. Heterologous OMVs are a suitable alternative for pathogens that require a high containment, that are difficult to cultivate, or that contain viral and/or parasitic proteins. The antigens of choice are placed in an 'empty' OMV. We have developed genetic tools to increase yield, reduce toxicity, and achieve the desired antigenic composition. A robust scalable GMP compliant production process is in place. Finally, Intravacc has ample experience with conjugate vaccines through global Hib vaccine tech transfer and the development of a Shigella vaccine up to Phase II challenge studies.

Platform Approach



Bridging the gap in translational vaccinology

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



Global Track record

Intravacc has transferred its technologies all over the world. Our track record includes successful training and technology transfer of oral polio, measles, DPT, Hib and Influenza vaccines. Our in-house developed Hib concept is marketed by two partners, our Influenza technology has been transferred to 38 partners around the world. For Sabin Inactivated Polio Vaccine (sIPV) we developed an efficient production process and transferred it to five vaccine manufacturers in emerging economies. sIPV tech transfer is currently in late stage clinical development, and the new polio vaccine is scheduled to obtain market approval early 2019.

Mission

At Intravacc we firmly believe in improving global health and unmet medical needs by providing equal access to vaccines worldwide. We contribute to this goal by fostering and accelerating the early-stage development of new vaccines. We work closely together with academia, public health organizations (WHO, BMGF), and biotech and pharmaceutical companies.

If you want to know more about our products, services, and opportunities, please contact us.



Intravacc is located at Utrecht Science Park Bilthoven

Intravacc

Intravacc is a renowned, 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 through collaborative R&D. A team of 150 professionals is at your disposal at Utrecht Science Park Bilthoven in The Netherlands.

Contact

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