



intravacc

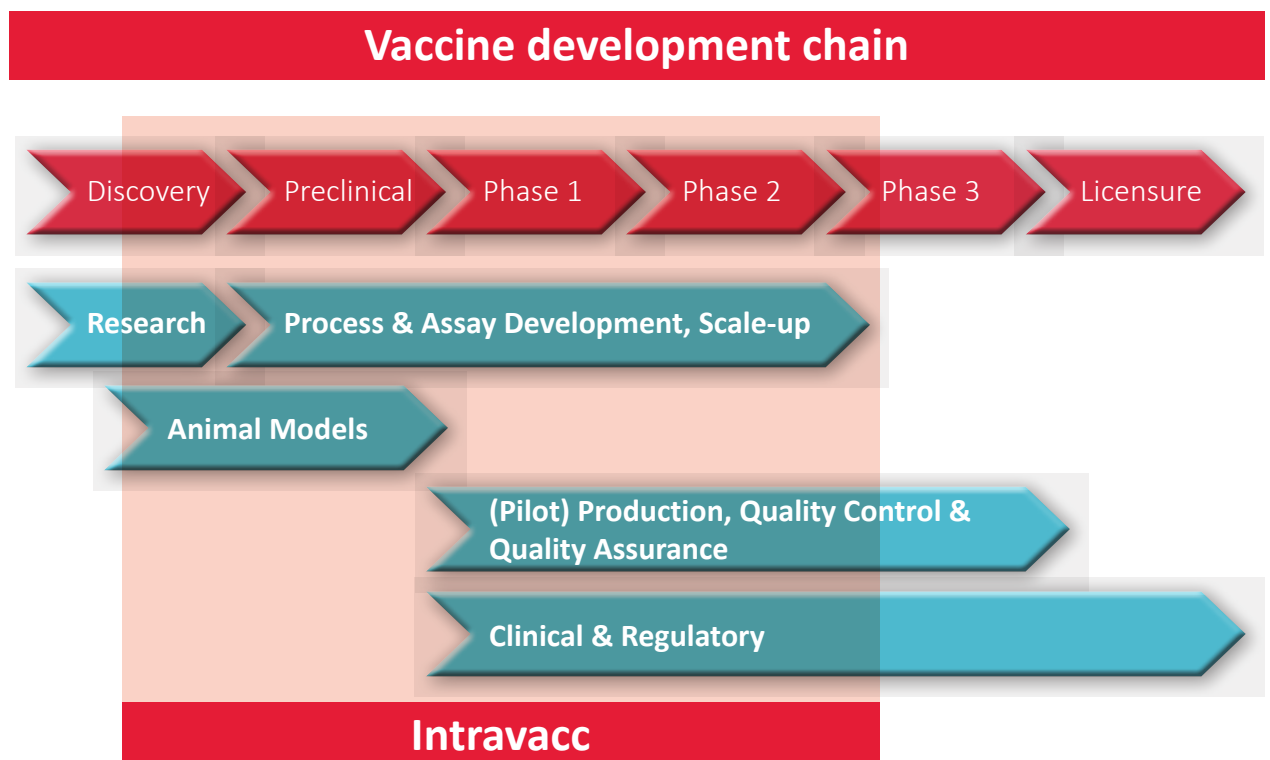
innovating vaccines

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 transporting, storing and delivering.

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



Key figures

ML-II equipped laboratories

Molecular Biology & Immunology 500M2

- Flow cytometer
- Multiple spot Ireader
- 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
- Biacore T100 & T200

Purification

- 2 AKTA chromatography systems covering flow ranges from 5ul/min-150 ml/min with these systems from screening/process development (Avant) till preparative purifications



Viral process development 450M2

Upstream

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

Purification (DSP)

- Continuous flow ultracentrifugation lab-scale and pilot scale
- Automated liquid handler for process development (96 wells to Atoll columns) & analytics in Biosafety class II cabinet
- 6 AKTA chromatography systems covering flow ranges from 5µl/min-150ml/min with these systems from screening/process development (Avant) till preparative purifications
- Akta pilot (up to 800ml/min) (different columns upto 350mm available)
- Multiple filtration systems for NFF and TFF (13ml up to 100L)
- Akta crossflow automated TFF research

Analysis delivery & Formulation 600 M2

- IPC Analyses
- Isoelectric point determination of active viruses using ICE280
- Flowcytometry 96-wells
- High Throughput analytics
- FTIR
- Automated capillary electrophoreses (Calliper)
- Pilot freeze dryers (up to 1500 vials)
- Pilot spray dryer
- NMR, HPLC
- Mass spectrometer
- Field Flow Fraction
- Dynamic light scattering
- BioSpace Imager (In vivo imager)



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 at hand. Our Detoxified LPS mutants can supplement your vaccine concept and boost the immune response.

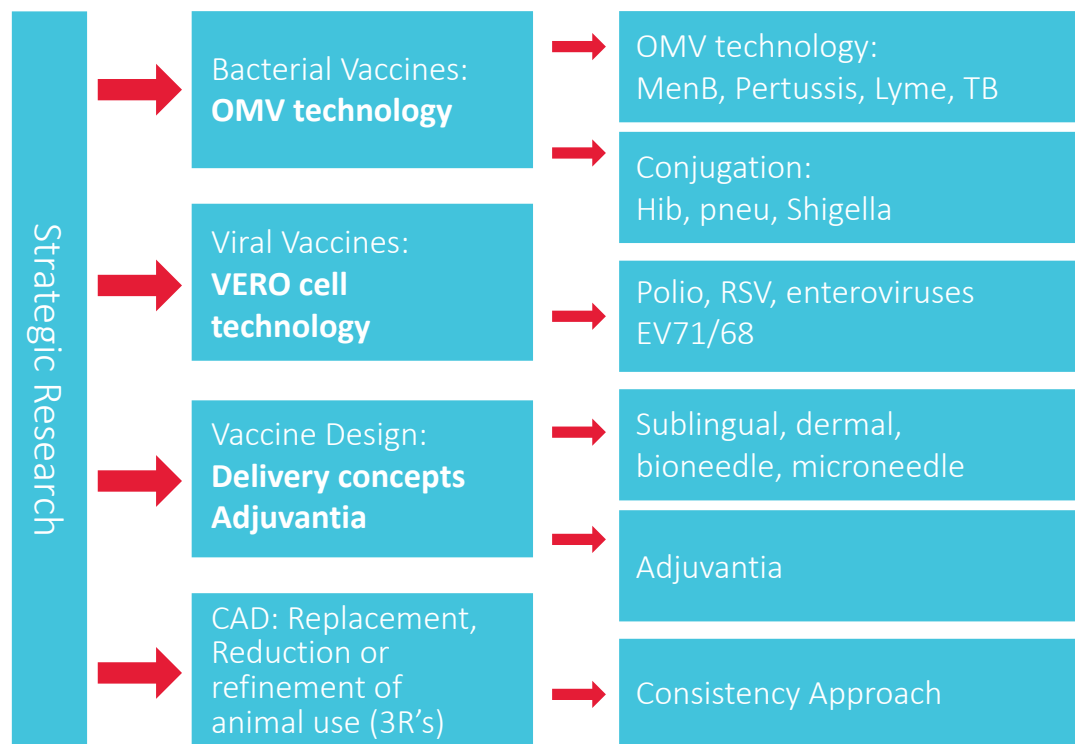
Viral vaccine technology

Our viral vaccine platform is based on Intravacc's established and well-characterized WHO pre-qualified Vero cell line. For new viral vaccine development, we use a scalable platform production process based on an available scale-down process for IPV. Our proven technology is 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. In this way, proof-of-principle of a pilot process for various viral vaccines, as recently shown for Sabin-IPV, OPV, RSV, EV71, and Rota vaccine concepts, can be demonstrated quickly using a science-based Quality by Design approach.

Bacterial vaccine technology

For the development of vaccines against bacterial pathogens, Intravacc has developed, alongside conjugate vaccine technologies, a platform based on outer membrane vesicles (OMVs). OMVs are 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.

Portfolio



Bridging the gap in translational vaccinology

Intravacc transfers its vaccine (delivery) technology (red) and expertise (blue) 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 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 are proud that our research and transfer of knowledge contributes to this goal. Through strategic collaborations with academia, public health organizations (WHO, BMGF) and biotech and pharmaceutical companies we strive to accomplish our goals.

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

Contact

Peter-Jan van Doorn MD, MBA
Chief Business Development Officer
T: +31 (0) 30 7920 594
peter-jan.vandoorn@intravacc.nl

Intravacc

Antonie van Leeuwenhoeklaan 9
T: +31 (0) 30 7920 300
P.O. Box 450
3720 AL BILTHOVEN
The Netherlands
info@intravacc.nl
@intravacc

www.intravacc.nl