

## Intravacc signs an exclusive license agreement with Zhifei Lvzhu Biopharmaceutical to commercialize Avacc 3 - an OMV based whooping cough vaccine

- Avacc 3 has significant advantages over existing whooping cough vaccines
- Second major OMV platform licensing agreement with pharmaceutical company
- Over 24 million cases of whooping cough per year world-wide

**Bilthoven, the Netherlands, 2 May 2022** – [Intravacc B.V.](#), a world leader in translational research and development of preventive and therapeutic vaccines, today announced the signing of an exclusive licensing agreement with Beijing Zhifei Lvzhu Biopharmaceutical Co., Ltd (“Zhifei Lvzhu”) in China for Avacc 3 an OMV-based whooping cough vaccine.

Under the terms of this agreement Zhifei Lvzhu will receive an exclusive license for the Chinese territory and non-exclusive for Africa, South America and selected Asian countries. Under the agreement Intravacc will receive milestone and upfront payments and royalties over net sales. Both parties will continue to collaborate to tailor the Avacc 3 concept vaccine for the respective territories, including upscaling, toxicology and clinical trials.

Current vaccines against whooping cough have disadvantages. Inactivated whole cell vaccines are relatively reactogenic, resulting in reduced use in vaccination programs. Subunit vaccines, on the other hand, have limited efficacy. This results in outbreaks of whooping cough, even in vaccinated populations. Asymptomatic carriage facilitates spreading of the bacteria and a vaccine that prevents this, could contribute to herd protection. Intravacc’s Avacc 3, a homologous *Bordetella pertussis* candidate vaccine based on Intravacc’s OMV platform, induces a strong systemic immune response. When administrated intranasally, it induces both a strong systemic and a strong mucosal immune response.

**Dr. Jan Groen, Intravacc’s CEO, said:**

*“We are very pleased to partner with Zhifei helping to improve the prevention of whooping cough in China. This is Intravacc’s second OMV-based licensing agreement with a pharmaceutical company, thereby expanding the global reach of our proprietary OMV platform technology.”*

***Bordetella pertussis***

Whooping cough, or pertussis, is a highly contagious respiratory disease that is caused by the Gram-negative bacterium *Bordetella pertussis* and transmitted through Flüggés droplets. It is a strictly human pathogen and all age groups can be infected. However, infants are the main risk group. Worldwide, there are an estimated 24 million cases of pertussis and about 160,000 deaths per year. Diagnosis of pertussis is often difficult in the early stage with only a mild cough, and fever is uncommon. Later, the severity of the disease increases with pneumonia, vomiting and increased coughing, which in infants can lead to death.

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### **About Intravacc's OMV platform technology**

For the development of vaccines, Intravacc has designed and developed a platform based on outer membrane vesicles (OMVs) - spherical particles with intrinsic adjuvant properties. The OMVs can be rigged with immunogenic peptides and/or proteins that stimulate effective adaptive immunity. The OMV carrier has been optimized to induce a more effective immune response against these newly introduced antigens. Intravacc has also developed genetic tools to increase the yield of the OMVs, reduce the toxicity and achieve the desired antigenic composition. Intravacc's OMV platform is fully scalable and allows rapid and efficient modification of the antigen composition, either through genetic modification of the bacterial host or by associating antigens with stored OMVs.

### **About Intravacc B.V.**

Intravacc, located at Utrecht Science Park Bilthoven in the Netherlands, is a leading global contract development and manufacturing organization (CDMO) of innovative vaccines against infectious diseases. As an established independent CDMO with over 100 years of experience in the development and optimization of vaccines and vaccine technologies, Intravacc has transferred its technology related to polio vaccines, measles vaccines, DPT vaccines, Hib vaccines and influenza vaccines around the world. Around 40% of childhood disease vaccines are based on Intravacc's proprietary technology. Intravacc offers a wide range of expertise to develop vaccine from concept to Phase I/II clinical studies for partners around the world, including universities, public health organizations (WHO, Bill & Melinda Gates Foundation), biotech and pharmaceutical companies. For more information, please visit [www.intravacc.nl](http://www.intravacc.nl).

### **About Beijing Zhifei Lvzhu Biopharmaceutical Co., Ltd.**

Beijing Zhifei Lvzhu Biopharmaceutical Co., Ltd is one of the largest vaccine companies in China which specializes in the R&D, manufacturing and marketing of human vaccines targeting meningitis, pneumonia, Diphtheria, tetanus, and pertussis (DTP) & DTP contained vaccines, diarrhea (Shigellosis), etc. Since 2008, over 110 million doses of vaccines produced by Zhifei Lvzhu have being given to people needed worldwide.

Zhifei Lvzhu is a wholly owned subsidiary of Chongqing Zhifei Biological Products Co., Ltd. (SZSE: 300122, "Zhifei" for short), a leading vaccine supplier and service provider globally. The company has 6 self-developed vaccines and biological products currently on the market, including the Recombinant COVID-19 Vaccine (CHO cell) (Zifivax®), with over 290 million doses distributed globally, making a positive contribution to the global fight against the COVID-19 pandemic.

For more information, please visit [www.zhifeishengwu.com](http://www.zhifeishengwu.com).

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