

Preclinical *in vivo* efficacy results on Vaxxel's intranasal vaccine candidate against HMPV and RSV published in npj Vaccines

“Mucosal bivalent live attenuated vaccine Metavac®-RSV protects against human metapneumovirus and respiratory syncytial virus in mice”

Press Release

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Vaxxel, a French start-up developing mucosal vaccines against respiratory viral infections, is proud to announce the report in Nature portfolio's npj Vaccines of the preclinical *in vivo* efficacy of Metavac®-RSV, its intranasal live-attenuated bivalent vaccine candidate against HMPV (Human MetaPneumoVirus) and RSV (Respiratory Syncytial Virus), two major sources of bronchiolitis and viral pneumonia.

The challenge study performed on mice model showed that intranasal immunisation with Metavac®-RSV fully protects animals against viral challenges with wild type HMPV and RSV, while inducing strong IgG and broad neutralizing antibody responses against heterologous RSV and HMPV strains. It also confirms the extended efficacy of Vaxxel's vaccine candidate in animal models of infection.

The preclinical *in vivo* study was performed by the International Research Laboratory RESPIVIR France – Canada co-headed by Dr. Manuel Rosa-Calatrava (Centre International de Recherche en Infectiologie, Lyon, France) and Pr. Guy Boivin (Centre de Recherche CHU de Québec – Université Laval, Québec, Canada).

“We are very pleased with this scientific publication and the recognition of the value of Metavac®-RSV as a public health tool to combat HMPV and RSV infections, the main sources of bronchiolitis and viral pneumonia in children and viral pneumonia in older adults” says Denis Cavert, CEO of Vaxxel. “Metavac®-RSV is the first intranasal vaccine candidate against both HMPV and RSV infections. It is mimicking the natural infection without the associated pathogenicity and is delivered without adjuvant”.

“Our intranasal live-Attenuated Vaccine (LAV) candidate stimulates robust mucosal and systemic responses and has the potential to protect against both Respiratory Syncytial Virus (RSV) and Human Metapneumovirus (HMPV), the main etiologic agents of viral bronchiolitis and pneumonia in children”, says Dr. Manuel Rosa-Calatrava, Directeur de Recherche INSERM and Co-head of the International Research Laboratory RESPIVIR France – Canada. “Altogether, our results validated the versatility of the Metavac® vaccine platform and suggest that Metavac®-RSV is a very promising mucosal bivalent LAV candidate to prevent pneumovirus-induced diseases.”

Vaxxel anticipates start of phase I clinical trial in Q1 2026.

Contacts

Vaxxel Denis Cavert CEO	PRESS - ACTUS Serena BONI Tél. : +33 (0) 472 180 492 sboni@actus.fr
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About Vaxxel

Vaxxel is a spin off from the the International Research Laboratory RESPIVIR France – Canada (Centre International de Recherche en Infectiologie, Institut National de la Santé INSERM et de la Recherche Médicale, Centre National de la Recherche Scientifique CNRS, Université Claude Bernard Lyon 1, Ecole Normale Supérieure de Lyon, France), head by Dr. Manuel Rosa-Calatrava (Lyon and Pr. Guy Boivin (Université Laval, Québec, Canada), and by Denis Cavert, President of Vaxxel. Vaxxel develops Live-Attenuated Viruses as vaccine-candidates against Metapneumovirus and against Respiratory Syncytial Virus based on the versatile mucosal LAV Metavac® vaccine platform. This platform has been funded and licensed by Pulsalys Technology Transfer Office and Lyon Ingénierie Projets (LIP), a subsidiary of Université Claude Bernard Lyon 1. Preclinical Proof of Concept of the first bivalent vaccine candidate against the Metapneumovirus an RSV has been demonstrated on both animal and reconstructed human epithelium preclinical models. The company is a recipient of the 2019 i-Lab award, organized by the Ministry of Higher Education, Research and Innovation in partnership with Bpifrance, and has also received the French “DeepTech” label.

About Vaxxel vaccine candidates

Vaxxel develops two Live Attenuated mucosal vaccine candidates against respiratory infections: a monovalent vaccine against human Metapneumovirus (hMPV), and a bivalent vaccine against both hMPV and Respiratory Syncytial Virus (hRSV). These two pneumoviruses are the source of acute respiratory infections such as bronchiolitis or pneumonia in children below 5 years old and in older adults above 65 years old. There is no vaccine available today to protect the 195 million persons at risk (including 46 million children) from these severe infections (US and EU, 2020). Vaxxel’s live attenuated intranasal vaccine candidates are based on a proprietary technology: Metavac®, a recombinant hMPV seed attenuated through reverse genetic, suitable for production from cell line grown in suspension with demonstrated capability to be used at industrial scale. The objective of Vaxxel’s technology is to mimic natural infection without causing the disease and to activate both humoral and mucosal immunity.