

# Vax2Muc

NEXT GENERATION VACCINES AGAINST GASTROINTESTINAL MUCOSAL PATHOGENS, USING HELICOBACTER PYLORI AS MODEL PATHOGEN



**Fact sheet**



**Acronym**

Vax2Muc

**Full title**Next generation vaccines against gastrointestinal mucosal pathogens, using *Helicobacter pylori* as model pathogen**Programme**

HORIZON EUROPE

**Contract number**

Grant Agreement N°101080486

**Abstract**

To overcome antimicrobial resistance (AMR) compromising global public health, novel strategies to develop next generation vaccines against AMR pathogens are required. However, the development of effective vaccines is challenging for bacterial infections occurring at mucosal sites, in particular in the gastrointestinal (GI) tract. In this context, *H. pylori* is listed as high priority AMR pathogen and the most common chronic bacterial infection affecting half of the world's population with a high risk to progress into gastric cancer.

Previous failures in *H. pylori* vaccine development approaches suggest that induction of mucosal immunity is required for protection. Thus, Vax2Muc will develop a rational prophylactic lead candidate against *H. pylori* in a straight-forward manner and directly evaluate this candidate for safety and immunogenicity in a phase I clinical trial, serving as proof-of-concept (PoC) for novel vaccine technologies developed in Vax2Muc. To induce long-term protective mucosal immune responses sustained by tissue resident memory T cells, we will apply our previously identified vaccine antigens, combined with potent adjuvants for a systemic prime, and implemented in an innovative oro-mucosal film for a mucosal pull. Vax2Muc will further advance GMP manufacturing and investigate and progress novel vaccine technologies and strategies tailored for mucosal application. We will evaluate our lead candidate and alternative approaches in pre-clinical models to define meaningful correlates of immunity and protection, which are still lacking for most of GI/AMR infections.

**THUS, VAX2MUC WILL DELIVER**

- I. a prophylactic vaccine candidate against *H. pylori* as PoC, and
- II. a wealth of knowledge and technologies that can be translated into the clinical development pipeline and are broadly applicable for various GI/AMR mucosal pathogens to significantly benefit the challenging field of mucosal vaccination and finally reduce disease burden from AMR/GI diseases.

## Duration

60 months (01.07.2023 – 30.06.2028)

## Project funding

8,467,081.25 EUR

## Coordinator

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## Partners

- Helmholtz Centre For Infection Research (HZI), Germany
- Statens Serum Institut (SSI), Denmark
- Faculty of Pharmacy, University of Lisbon (FFUL), Portugal
- LINQ management GmbH (LINQ), Germany
- Trinity College Dublin (TCD), Ireland
- Instar Technologies A.S. (InStar), Czech Republic
- University Antwerpen (UANTWERPEN), Belgium
- IRTA Institute of Agrifood Research and Technology (IRTA – CERCA), Spain
- University of Strathclyde (UOS), United Kingdom

## Project management

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## Project website

[www.vax2muc.eu](http://www.vax2muc.eu)

