

## PRODUCT SPECIFICATION

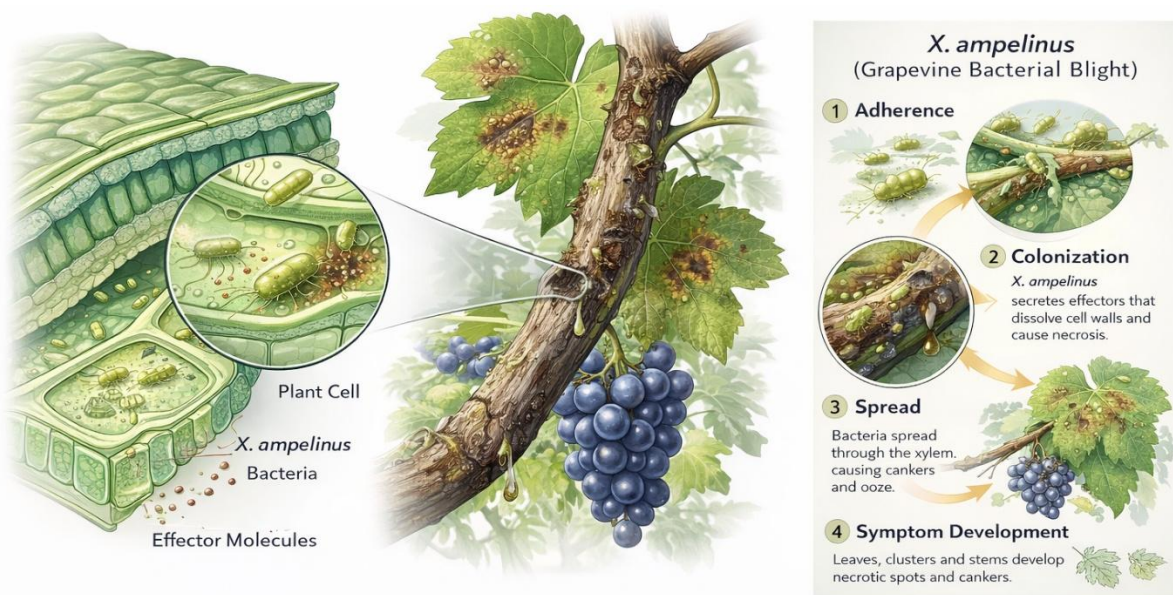
A VHH library directed against *Xylophilus ampelinus* surface antigens.



Catalogue number: Xa VHH library.

### Background :- *Xylophilus ampelinus* and Grapevine Blight

*Xylophilus ampelinus* is the causal agent of bacterial *blight* in grapevine, a destructive disease affecting *Vitis vinifera* cultivars worldwide. The pathogen invades young shoots, leaves and vascular tissues, leading to elongated necrotic lesions, cankers, shoot dieback and, in severe cases, significant yield losses. Infection typically occurs through wounds or natural openings, after which the bacterium colonizes the xylem and spreads systemically. Under humid conditions, disease progression can be rapid, posing a serious threat to commercial vineyards and nursery stock.



Current control strategies rely mainly on preventive measures, sanitary practices and *copper-based treatments*. However, these approaches are often insufficient and raise environmental concerns. The development of highly specific *biological tools* that interfere directly with bacterial virulence or host colonization *would therefore represent an important innovation in sustainable viticulture*.

*Gulliver Biomed* has addressed this challenge by immunizing with germ preparations consisting of a combination of several distinct *X. ampelinus* strains. This multi-strain approach broadens antigen exposure and increases the likelihood of generating binders against conserved and strain-specific surface determinants. From this immunization campaign, an extensive VHH (single-domain antibody) library was constructed.

This diversified nanobody library provides a powerful screening platform to identify high-affinity binders targeting bacterial surface proteins, adhesins or virulence-associated factors. Selected anti-*X. ampelinus* nanobodies can subsequently be evaluated for their capacity to block host attachment, interfere with colonization, or neutralize infection processes. Such targeted nanobody-based strategies offer a promising avenue toward *innovative crop protection solutions for grapevine blight control*.



<https://www.dpi.nsw.gov/>

- Symptoms of bacterial blight on a grapevine leaf – discoloration and necrotic lesions that are characteristic of infection by *Xylophilus ampelinus* or similar bacterial diseases.
- Cankers and necrosis on the grapevine stem/shoot caused by bacterial blight.

Availability and conditions:

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