# COOPERATION SPELLS SUBJECT: COOPERATION SPELLS COOPERATION SPELLS







### YANG, A SYNERGISTIC ALLIANCE

YANG: Y east Association New Generation An innovative product combining inactivated yeast producedusingdedicatedprocesses:

fractions from 3 different strains, each

Saccharomyces cerevisiae AQP 12260



Saccharomyces cerevisiae AQP 12988

Cyberlindnera jadinii AQP 12549

- Not all yeasts are the same

  In collaboration with research partners and using innovative tools, Lallemand was able to understand the link between the composition, structure and functions of yeast fractions to selectthebestcandidatesforYANG.
- Patented Application YANG is formulated to strengthen animals' natural defenses with a patented, synergistic effecton the immuneresponse.



## TWO COMPLEMENTARY ACTIONS REINFORCE ANIMALS' NATURAL DEFENSES



INTESTINAL SECURITY

Effective against a wide range of undesirable bacteria compared to single-strain yeast derivatives



**IMMUNITY SUPPORT** 

Higher immune system modulation without risk of over stimulation sometimes observed in cases of single immune receptor activation by traditional yeast derivatives.

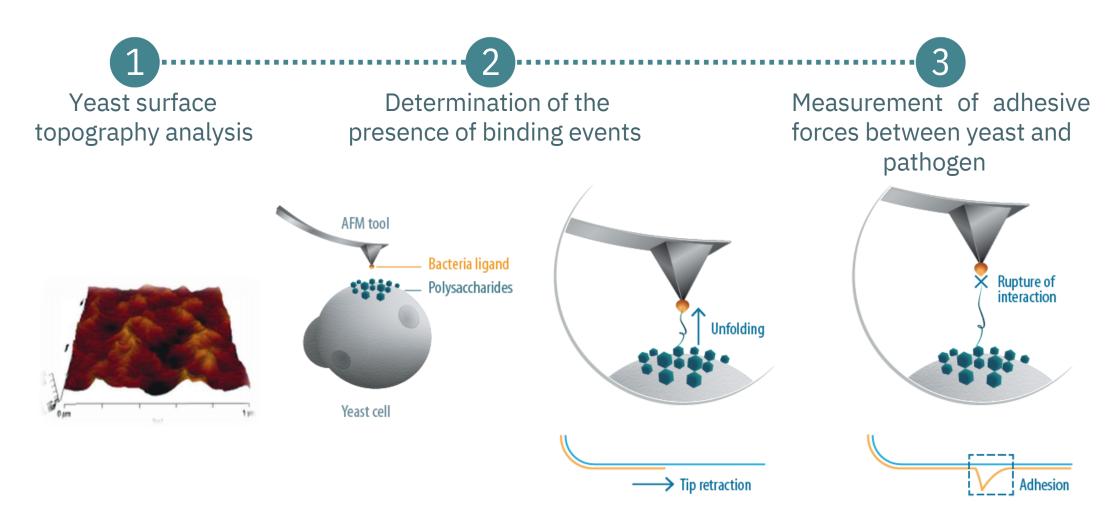


High prevalence of adhesive polysaccharide patches on yeast surface

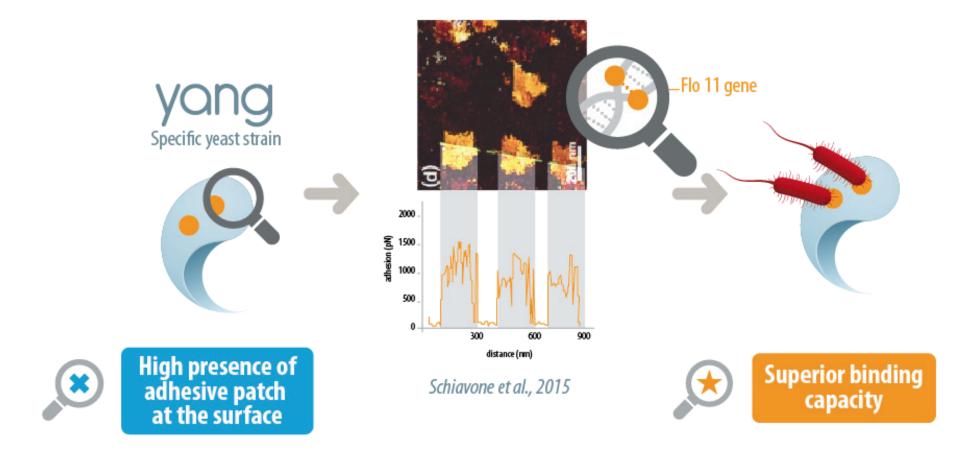
Simultaneous activation of several immune receptors

## YANG, DEVELOPED WITH NEXT-GENERATION TECHNOLOGY

Cutting-edge techniques including Atomic-Force Microscopy (AFM) and Single-Molecule Force Spectroscopy (SMFS) allow a better understanding of the relationships between yeast structure andfunction.



With the AFM, we were able to select the strains with the best adhesive properties. The tip of the microscope is 'functionalized', i.e. equipped with a particular compound which binds to the yeast wall, mimickingtheinteractionsthatoccurwithinthedigestivetract(yeast/cell, yeast/bacterium).



YANG strains have been selected for the high prevalence of adhesive polysaccharide patches. These patches are due to the high level of expression of the specific FLO 11 gene. This gene is coding for the FLO 11 protein responsible for high density polysaccharide patches.

The use of these techniques is a powerful new tool which enables us to characterize and select strains of yeast.

# BENEFITS COME FROM THE POWER OF COMBINED YEAST

YANG, a research-proven innovative association of synergistic inactivated yeast fractionsfromdifferentstrainsthatproducepositiveeffectsinanimals.

#### Superior binding capacity

Selection of specific strains containing adhesive patches on the surface for a strong binding effect against undesirable bacteria.



## Broad and balanced immune modulation

Multiple immune receptor activation, no risk of over stimulation due to the synergistic effect (patent application).

#### By strengthening digestive security, YANG will help

- Maintain animal health and performance
- Secure predictability of the production cycle
- Improve farm profitability

Every benefit has been scientifically proven and demonstrated in the field

Trial summaries are available upon request

Ask your LallemandAnimal Nutrition representative

- Can be used in organic production under regulation <u>UK</u> 834/2007, <u>EU</u> 2018/484
- Can be used for all animal species
- 36-month shelf life | 25 kg bags









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