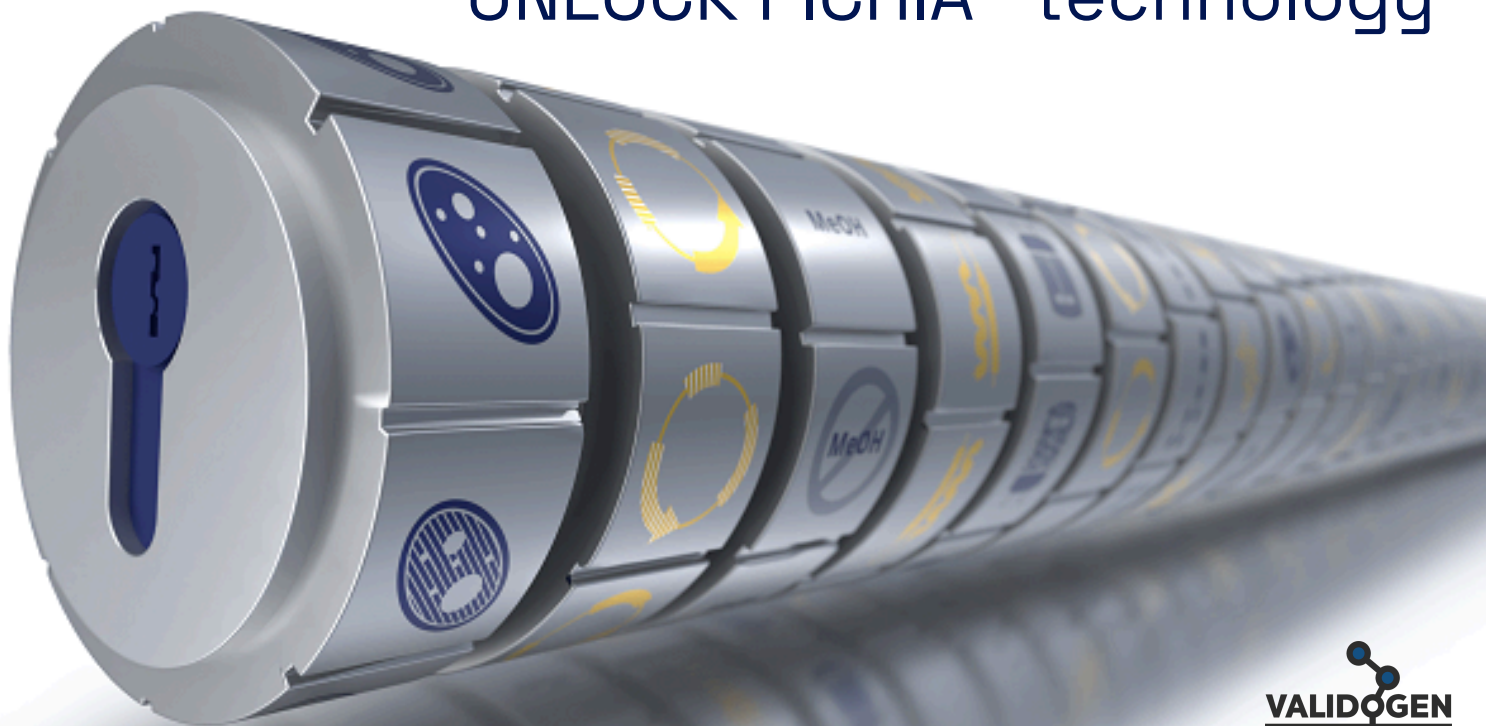


# UNLOCK PICHIA® technology



## PICHIA PASTORIS PROTEIN EXPRESSION TOOLBOX

### PRODUCTIVITY THROUGH DIVERSITY



Unique and broad Pichia platform meeting the protein expression challenges and needs of different industries



Highly efficient methanol-induced & methanol-free protein expression systems & options for ARMS-free strain development



Unparalleled spectrum of expression tools and ingenious expression strategies



Intensified processes through VALIDOGEN's methanol-free technology



Enhanced secretory efficiency through unique secretion strategies



Industry proven and regulatory compliant expression platform



Maximized space-time yields and product titers



Tailor-made glycoproteins - UNLOCK PICHIA® boosting Pichia GlycoSwitch®

# UNLOCK PICHIA® TOOLBOX



**EXCLUSIVE AOX1  
PROMOTER LIBRARIES**



**SET OF ADVANCED  
PLATFORM STRAINS**



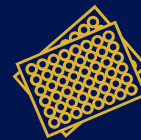
**HELPER FACTORS BOOSTING  
EXPRESSION**



**NOVEL SECRETION  
SIGNALS**



**GLYCOPROTEIN ENGINEERING  
TOOLS**



**EXCELLENCE IN PREDICTIVE  
SCREENING**

## LARGE TOOLBOX MAXIMIZING THE CHANCE OF SUCCESSFUL PROTEIN PRODUCTION

**Productivity through diversity**



Our 15+ years of experience, and development of sophisticated protein expression tools & strategies, allow us to unlock Pichia's full potential providing enhanced product yields and quality. We fine-tune the expression of your protein by generating a large number of different genetic constellations and pair this with a robust and reliable screening system.

## INTENSIFIED PROCESSES CONSIDERING PROCESS SAFETY AND ECONOMY AS WELL AS REGULATORY REQUIREMENTS

**MeOH-free & ARMS-free**



VALIDOGEN's toolbox allows for both methanol-induced and methanol-free protein expression at unrivalled expression levels. The methanol-free expression technology facilitates safe and economically viable protein production in glycerol- or glucose-fed processes without any need for induction. Of particular note to the food & feed industry is our range of auxotrophic strains allowing for antimicrobial resistance marker-free (ARMS-free) selection, aiding regulatory approvals.

## DOCUMENTED ELEMENTS OF TOOLBOX SIMPLIFYING REGULATORY PROCEDURES

**Industry proven and regulatory compliant**



All components of VALIDOGEN's Pichia toolbox are thoroughly characterized and full documentation is readily available to support regulatory filings for your protein candidate. Strains and cultivation protocols developed by VALIDOGEN have been used to generate recombinant protein material for food and feed applications and GMP products for clinical studies, both meeting the required regulatory filings (US and Europe) for the relevant field of application.