Pichia pastoris platform strains and plasmids for recombinant protein production

Claudia Ruth¹, <u>Laura Näätsaari¹</u>, Sandra Abad², Beate Pscheidt², Kerstin Kitz², Stefan Ertl¹, Clemens Mayer¹, Viktorija Vidimce¹, Roland Weis³, Anton Glieder¹ ¹Department of Molecular Biotechnology, Graz University of Technology, Austria ²Research Centre Applied Biocatalysis, Graz, Austria ³VTU Technology, Parkring 18, 8074 Grambach, Austria

Pichia pastoris has become one of the major eukaryotic hosts for recombinant protein production, mainly because of its strong and tightly regulated *AOX1* promoter [1], ease of manipulation, growth to high cell-densities in inexpensive media, and ability to perform complex post-translational modifications [2]. Basic expression systems for recombinant protein production in *Pichia pastoris* have been commercially available in the recent past. We have developed a new independent well characterized expression platform with improved vectors and production strains based on wild-type strains. This pool is made available to enable co-operation projects and further advancements of *Pichia pastoris* as an industrial expression system.

[1] Cregg JM, Madden KR, Barringer KJ, Thill GP, Stillman CA (1989). Functional characterization of the two alcohol oxidase genes from the yeast Pichia pastoris. Mol Cell Biol. 1989 Mar;9(3):1316-23.

[2] Cereghino GP, Cereghino JL, Ilgen C, Cregg JM (2002). Production of recombinant proteins in fermenter cultures of the yeast Pichia pastoris. Curr Opin Biotechnol. 2002 Aug;13(4):329-32.