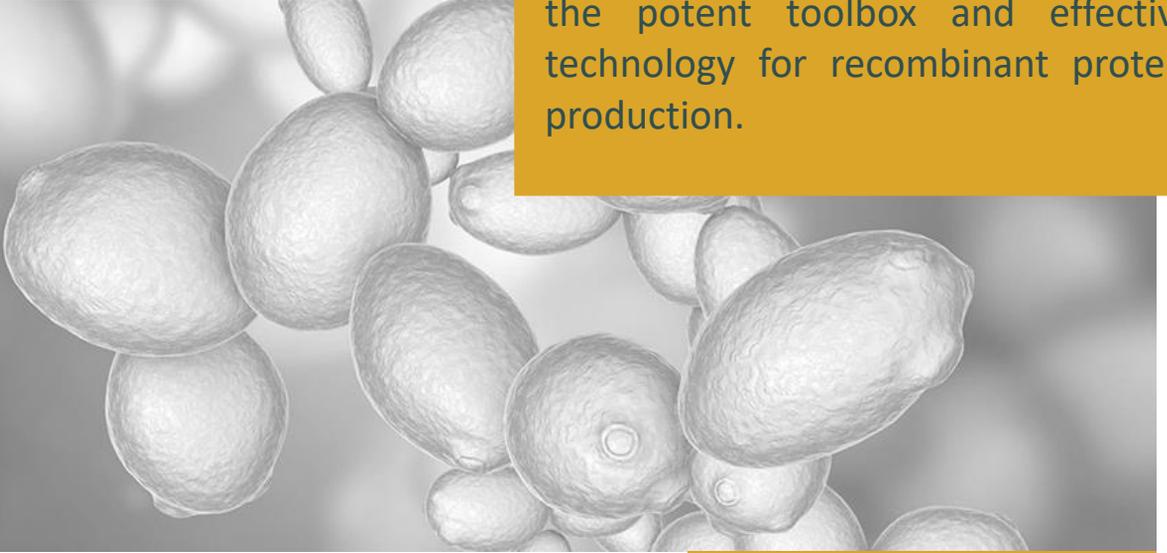




Karin Farayand Sina, is a leading Iranian start-up pioneering in the field of industrial yeast cell line development. KFS offers **Magic Yeast** - *Pichia pastoris* based platform with the potent toolbox and effective technology for recombinant protein production.

Spring 2022





Milk clotting capabilities of Microbial Rennet

Karin Farayand Sina, is a pioneer and leading Iranian start-up in the field of microbial cell line development based on yeast. **KFS** offers **Magic Yeast** - the broadest toolbox and most versatile technology platform available for *Pichia pastoris* recombinant protein production. KFS develops high performance expression strains and economically viable protein production processes for the manufacture of biopharmaceuticals, enzymes and various other recombinant proteins.

To date, the following enzymes were selected candidates in the stage of setting up the platform. During this stage the main priority was to increase the productivity for every single engineered cell.

Name of the enzyme	Segment	Production level
Alkaline Cellulase	Detergent industry	18-22 gr/L of supernatant
Alkaline Amylase	Detergent industry	12-14 gr/L of supernatant
Alkaline Lipase	Detergent industry	12-16 gr/L of supernatant
Alkaline Protease	Detergent industry	6-8 gr/L of supernatant
Microbial Rennet	Cheese making	
Lipase	Cheese making	Under development
Leucin Aminopeptidase	Cheese making	
Heat Stable Amylase	Grain processing	12-14 gr/L of supernatant
Phytase	Feed industry	Under development



“Here is just an example”

During washing of cloths, mechanical friction and fiber fatigue causes fuzzing. This impairs the appearance of the garments which could be avoided by using cellulase enzyme during washing. Carezyme is a commercial detergent cellulase offered by Novozyme, one of the main players industrial enzymes market.

Each kilogram of Carezyme, in bulk, costs close to 20-30 USD in different markets. The cost of production of the same product with the matching function reaches to the maximum of 3-4 USD/kg with our cellulase producing Magic Yeast.

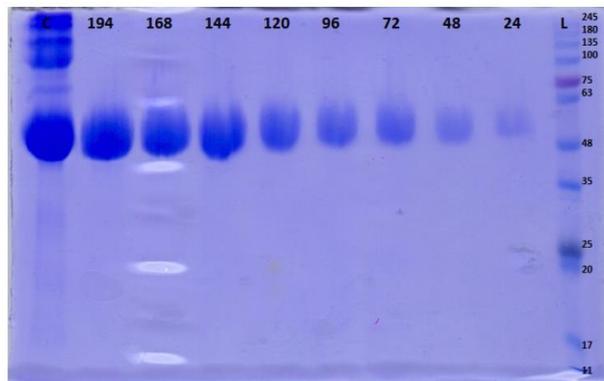
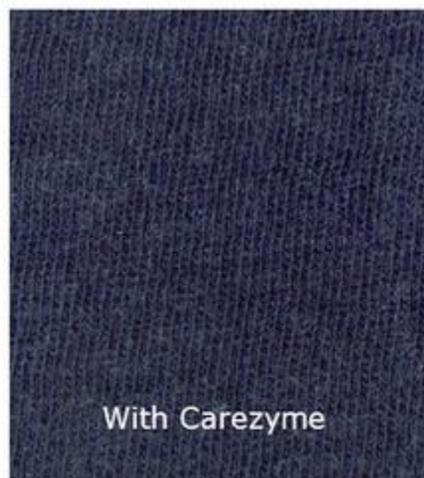
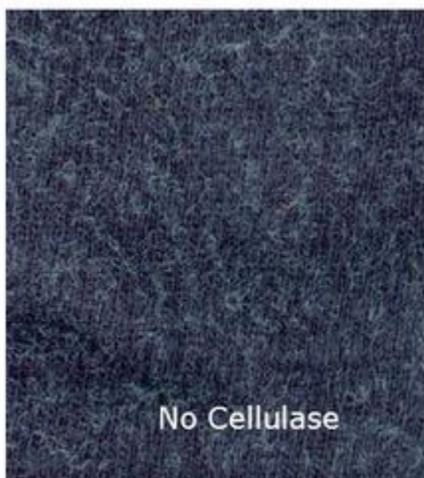
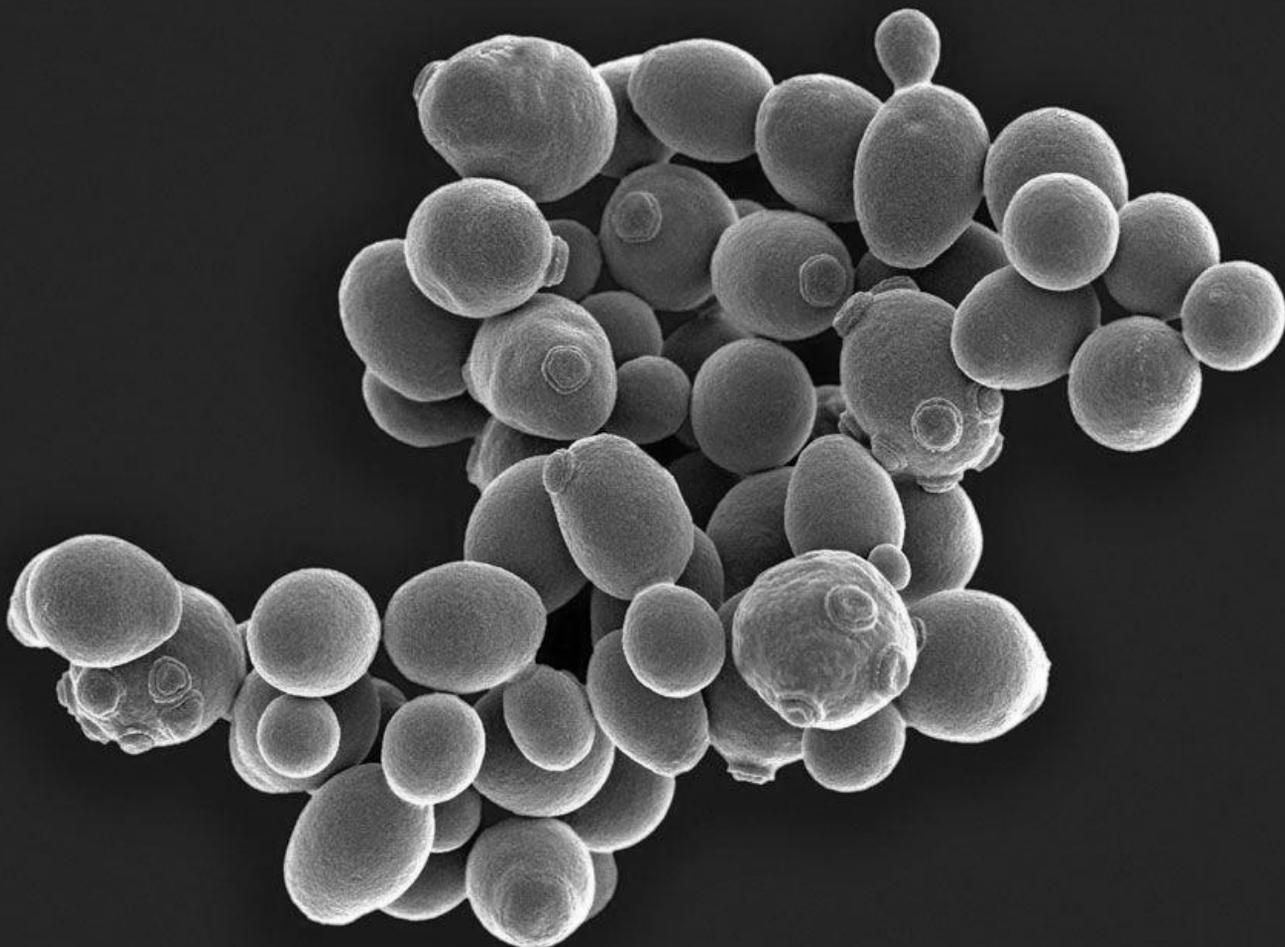


Figure 1-SDS-PAGE of the cellulase-5 ul of 10-fold diluted supernatant for time laps of the fermentation





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