

# PROCESS BULLETIN

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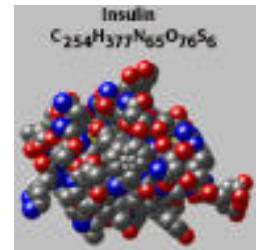
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## Cells disruption

Subject:

## Insuline preparation by means of the High Pressure Homogenization Technology

The human insulin is structurally identical to the insulin produced by the pancreas in the human body. This structural identity is obtained by recombinant- DNA technology utilizing *Saccharomyces Cerevisiae* (bakers' yeast) or *E. Coli* as production organism.



### The production process



After the fermentation of cells, the culture is processed to separate the cells, by means of a speed centrifuge in order to concentrate them. The collected cells are resuspended with buffer in order to prepare them for the next unit operation, the high pressure homogenization used in order to obtain the cells disruption.

Other methods for cells disruption can be used but the advantages of the High pressure homogenization are many:

- **It is a mechanical process quick and effective**
- **It is a continuous process**
- **The results obtained in laboratory are perfectly reproducible in industrial scale**
- **You can vary pressure in order to find the right degree of cells rupture**
- **No need to add expensive substances like chemicals or enzymes**
- **No contamination of the product by toxic substances**
- **The degree of denatured proteins at the end of the process is small**