

# CHYMOSIN PRODUCED BY FERMENTATION

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***In this case study, a specialist ingredient company engaged CPL Business Consultants to formulate a market entry strategy for chymosin produced by fermentation. Following CPL's detailed analysis and strategic recommendations, the client successfully entered the market for fermentative chymosin.***

The objective of this study was to assist the client in determining its actions in the field of Fermentatively Produced Chymosin (FPC) in genetically modified organisms (GMO). This study specifically addressed the question of GMOs and what the client could or should do about it. Several other questions were also addressed:

- Is there any reason to consider being the new entrant into this sector?
- If a company wanted to do this, what would it cost over what period of time?
- If a company were to enter this field, would it earn back its investment?
- What room is there in respect of patents or other intellectual property that can be obtained?
- If a company were to enter this field, say for 'defensive' reasons, what would be the best approach?
  - Should it consider doing this on its own or with others in the business?

A substantial technology review was conducted; patents and ongoing research projects were evaluated for utility to the client.

Updates were carried out after one year and after two years at the client's request to determine whether conditions had changed and whether new opportunities might have arisen in the FPC business.

The client subsequently entered the market with a strategic partner suggested and introduced by CPL.

You can find an outline of the report contents below.

## **CHYMOSIN PRODUCED BY FERMENTATION**

### **Executive Summary**

- Objective and Scope
- Background
- Method
- Principal Findings
  - Market and market opportunities
  - Developing a new GMO product
  - Collaboration with other companies
- Conclusions
  - Market and market opportunities
  - Developing a new GMO product
  - Collaboration with other companies
- Strategic Recommendations

### **Time and Costs to Develop Chymosin**

- Laboratory Scale
  - Desk Research
  - Host Selection
  - Genetic Modification
- Pilot Scale
  - Yield Optimisation
  - Culturing Conditions
  - Purification Method

### **Chymosin and Cheesemaking**

- The Physiological Role of Chymosin
- Effect on Curdling of Milk Proteins
- The cheesemaking process
  - Cheese by country
  - Cheese by classification
- Chymosin from GMOs
  - Advantages of production from GMOs
  - Flavour profiles using production from GMOs
  - Vegetarian cheese
- Companies Producing Chymosin from GMO
  - Company Profiles
  - Regulatory Submissions

## **Market for Chymosin Produced by Fermentation**

- Cheese Market
  - Segmentation by Cheese Type
- Market by Segment
  - Rennet Market
  - Chymosin Market

## **Public Perception of Chymosin from GMOs**

- What the Papers Say

## **Academic Research on Chymosin**

- Fungi
- Yeast
- Bacteria

## **Patents on Fermentative Chymosin**

- Summary of Relevant Patents
  - Fungi
  - Yeast
  - Bacteria
- Scope for New Patents

## **Contacts**

- Dairy Companies
- Cheese Manufacturers
- Fermentation Companies
- Biotechnology Companies
- Contract Researchers
- Academic Research Institutes

## **Research on Chymosin from GMOs**

- Fungi
- Yeast
- Bacteria
- Other

**Patents Abstracts**

- Yeast
- Bacteria
- Fungi
- Others or All

*In addition to this report on chymosin produced by fermentation, CPL has worked on [a market strategy for chymosin, dairy enzyme opportunities](#) and [growth strategies for cheese ingredients](#). You can find further relevant examples using the search bar on this page, or by browsing this site by areas of expertise. Have a look at our [Introduction](#) and [Brochure](#) for a description of our consultancy work. You can also review [eight case studies](#).*