



## **Process For Production Of Constant Molecular Weight Hyaluronic Acid By Recombinant Microbial Fermentations**

Technology reference #1774

### **Problem Addressed**

Hyaluronic acid (HA) is a natural bio-polymer with wide applications in fields of medicine and cosmetics. Molecular weight (MW) of HA is an important quality parameter that dictates its end applications. There is a need for production of HA of constant molecular weight by the manipulation of the process of fermentation.

### **Technology**

The present invention is related to a process for the production of hyaluronic acid with constant molecular weight (MW-HA) throughout the fermentation time with a recombinant cocci expressing has A, has B genes with or without one of has E and pgm A genes; wherein a glucostat operates and the glucose concentration is maintained at the initial concentration throughout the fermentation using a pH feedback strategy maintaining the pH of the batch fermentation at 7.0; and wherein the cocci is a recombinant *Lactococcus lactis*.

### **Advantages**

1. Production of constant-MW HA over a 0.4–1.4 MDa range throughout the fermentation time using the simultaneous control of process parameter and genetic parameter.
2. Construction of recombinant strains of *Lactococcus lactis* to produce constant-MW HA over a 0.4–1.4 MDa range.
3. Production of constant-MW HA over a 0.4–1.4 MDa range throughout the fermentation time with the simultaneous control of process parameter and genetic parameter and addition of modified M17 medium

### **Applications**

- Hyaluronic acid (HA) is a natural bio-polymer with wide applications in fields of medicine and cosmetics

### **Inventors**

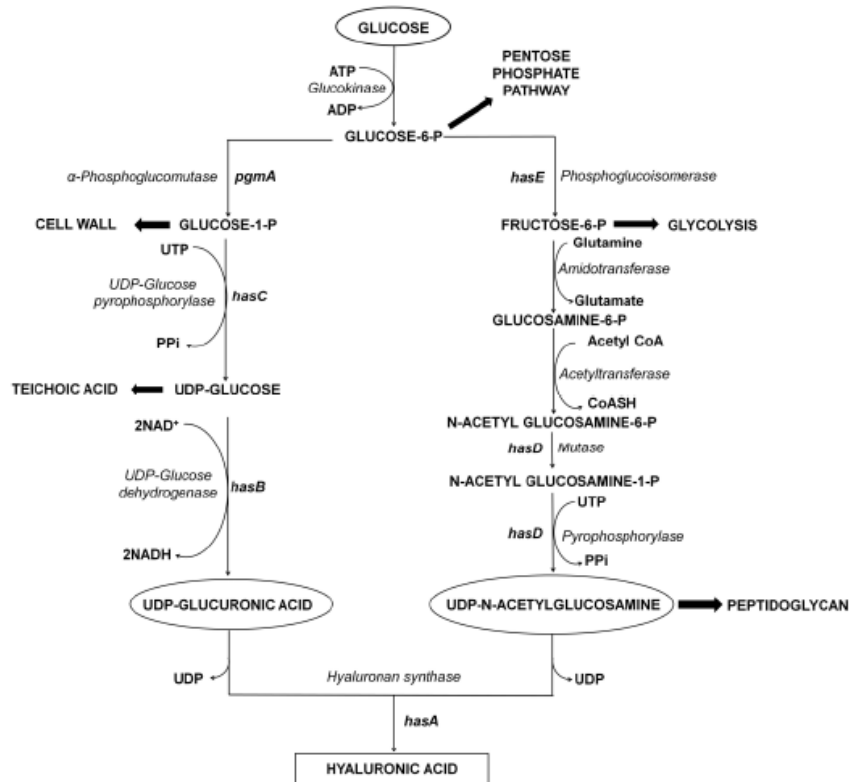
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## Domain

Lifesciences / Medical / Food

## Image



**IIT Madras** is seeking parties interested in licensing and commercialization of this technology.