

ABSTRACT**PROMOTER SYSTEM INDUCING EXPRESSION BY 3-HYDROXYPROPIONIC ACID
AND METHOD FOR BIOLOGICAL PRODUCTION OF 3-HYDROXYPROPIONIC ACID
USING SAME**

The present invention relates to a promoter system inducing expression of 3-hydroxypropionic acid (3-HP) and a method of biologically producing 3-HP using the same. To improve production of 3-HP in a biological manner, continuous synthesis of new enzymes having enzyme activity is necessary. As a result of screening 3-HP reactive transcription regulators and 3-HP reactive promoters from several microorganisms including *Pseudomonas denitrificans*, it was confirmed that the transcriptions regulations and promoters are composed of LysR proteins and particular gene nucleotide sequences binding to the LysR proteins. Therefore, the 3-HP inducible system is expected to be effectively used to regulate 3-HP metabolic pathways.

(Figure 7)