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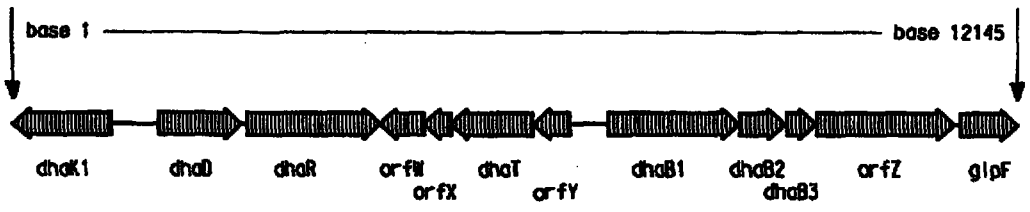
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(54) Title: PROCESS FOR THE BIOLOGICAL PRODUCTION OF 1,3-PROPANEDIOL WITH HIGH TITER




(57) Abstract: The present invention provides an improved method for the biological production of 1,3-propanediol from a fermentable carbon source in a single microorganism. In one aspect of the present invention, an improved process for the conversion of glucose to 1,3-propanediol is achieved by the use of an *E. coli* transformed with the *Klebsiella pneumoniae dha* regulon genes *dhaR, orfY, dhaT, orfX, orfW, dhaB1, dhaB2, dhaB3*, and *orfZ*, all these genes arranged in the same genetic organization as found in wild type *Klebsiella pneumoniae*. In another aspect of the present invention, an improved process for the production of 1,3-propanediol from glucose using a recombinant *E. coli* containing genes encoding a G3PDH, a G3P phosphatase, a dehydratase, and a dehydratase reactivation factor compared to an identical process using a recombinant *E. coli* containing genes encoding a G3PDH, a G3P phosphatase, a dehydratase, a dehydratase reactivation factor and a 1,3-propanediol oxidoreductase (*dhaT*). The dramatically improved process relies on the presence in *E. Coli* of a gene encoding a non-specific catalytic activity sufficient to convert 3-hydroxypropionaldehyde to 1,3-propanediol.

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