Title (en)

THERMOPHILIC ORGANISMS FOR CONVERSION OF LIGNOCELLULOSIC BIOMASS TO ETHANOL

Title (de)

THERMOPHILE ORGANISMEN ZUR UMWANDLUNG VON LIGNOZELLULOSE-BIOMASSE IN ETHANOL

Title (fr)

ORGANISMES THERMOPHILES POUR LA CONVERSION DE BIOMASSE LIGNO-CELLULOSIQUE EN ETHANOL

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Application

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Abstract (en)

[origin: EP2397556A1] Mutant thermophilic organisms that consume a variety of biomass derived substrates are disclosed herein. Strains of Thermoanaerobacterium saccharolyticum with acetate kinase and phosphotransacetylase expression eliminated are disclosed herein. Further, strain ALK1 has been engineered by site directed homologous recombination to knockout both acetic acid and lactic acid production. Continuous culture involving a substrate concentration challenge lead to evolution of ALK1, and formation of a more robust strain designated ALK2. The organisms may be utilized for example in thermophilic SSF and SSCF reactions performed at temperatures that are optimal for cellulase activity to produce near theoretical ethanol yields without expressing pyruvate decarboxylase.

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CPC (invention and additional information)

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