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(54) Title: METHODS OF INCREASING DIHYDROXY ACID DEHYDRATASE ACTIVITY TO IMPROVE PRODUCTION OF FUELS, CHEMICALS, AND AMINO ACIDS

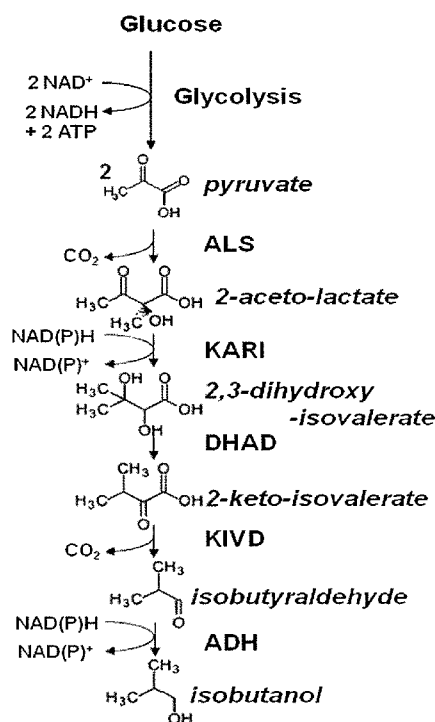


FIGURE 1

(57) Abstract: The present invention is directed to recombinant microorganisms comprising one or more dihydroxyacid dehydratase (DHAD)-requiring biosynthetic pathways and methods of using said recombinant microorganisms to produce beneficial metabolites derived from said DHAD-requiring biosynthetic pathways. In various aspects of the invention, the recombinant microorganisms may be engineered to overexpress one or more polynucleotides encoding one or more Aft proteins or homologs thereof. In some embodiments, the recombinant microorganisms may comprise a cytosolically localized DHAD enzyme. In additional embodiments, the recombinant microorganisms may comprise a mitochondrially localized DHAD enzyme. In various embodiments described herein, the recombinant microorganisms may be microorganisms of the *Saccharomyces* clade, Crabtree-negative yeast microorganisms, Crabtree-positive yeast microorganisms, post-WGD (whole genome duplication) yeast microorganisms, pre-WGD (whole genome duplication) yeast microorganisms, and non-fermenting yeast microorganisms.



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