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Direvo reaches milestone in consolidated bioprocessing of lignocellulose to lactic acid

Direvo Industrial Biotechnology GmbH (Direvo) today announced that it reached an important milestone in developing a consolidated bioprocess for lactic acid production from lignocellulose.

Up until now, there has not been any known consolidated bioprocess for producing lactic acid from lignocellulose. Direvo has now successfully built up a processing chain from pretreatment through fermentation to downstream processing for a consolidated bioprocess for lactic acid. On the basis of pretreated Miscanthus grass, Direvo fermented lactic acid on pilot scale in a single-step-synthesis. Direvo was further able to show that the important step of downstream processing of free lactic acid in the fermentation matrix can be realized efficiently by standardized procedures. The downstream processing was executed in collaboration with the department of bioengineering of the Leibniz Institute for Agricultural Engineering Potsdam-Bornim.

Direvo's specific, self-isolated proprietary microorganism *Caldicellulosiruptor* sp. produces the needed enzymes to ferment the pretreated biomass and converts the emerging sugar to end products. In these processes, no cost-intensive technical enzymes have to be added. A further advantage is that these microorganisms are extreme thermophile and therefore high process temperatures don't cause product losses through contamination with foreign bacteria.

On the basis of this proof-of-concept, the next development stage to raise competitiveness in a commercial environment will be to increase the yield of lactic acid.

Consolidated bioprocessing is the conversion of lignocellulose into target products in a single step without having to add enzymes. Direvo develops consolidated bioprocesses for production of biofuels and biobased chemicals under the brand name BluCon®. Beside Lactic Acid, BluCon®-L, Direvo pursues with Ethanol, BluCon®-E, another product line. BluCon® converts various non-food biomass ranging from grasses and straw to agricultural and wood residues and can therefore be applied around the globe.

About Direvo Industrial Biotechnology GmbH

Direvo is a biotechnology company focusing on the biomass conversion industry. Direvo identifies bottlenecks and weaknesses in current industrial processes in this sector and develops and implements biology-based solutions together with large and small industrial partners. Direvo's products are newly designed enzymes and high quality microorganisms that provide easy-to-implement and cost-effective solutions. Direvo's contributions strengthen the competitiveness and the profitability of the partners while supporting them to make the future cleaner, greener and safer. More information about Direvo is available on www.direvo.com.

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