

Press Release

DEINOVE PRODUCES MUCONIC ACID FROM 2G SUBSTRATES

- **Proof of concept has been obtained with second-generation materials.**
- **Production multiplied by 5 compared with the initial results obtained in the 1st half of the year with model substrates.**

Montpellier, 2 September, 2015 – DEINOVE (Alternext Paris : ALDEI), a biotech company developing innovative processes for producing biofuels and bio-based chemicals by using *Deinococcus* bacteria, announces today that they have produced muconic acid in their laboratory using second-generation substrates.

DEINOVE recently announced¹ that it had deployed a new R&D platform dedicated to the production of muconic acid, a versatile chemical intermediate whose derivatives – caprolactam, terephthalic acid (a precursor to PET) and adipic acid — are widely used in the plastics industry (notably for automotive and packaging applications), the production of synthetic fibers for textiles or industry (mainly nylon) and food (acidifying agent).

DEINOVE has since obtained proof of concept in their laboratory for the transformation of second-generation cellulose-based materials into muconic acid. Furthermore, the improvements made to the strains have made it possible to multiply production by five compared to the previous trials carried out on monosaccharide-based model substrates, glucose and xylose.

Cellulose is one of the main components in biomass, plants and wood, as well as in paper and cardboard (also called second-generation materials). This is a complex molecule (sugar chains with 6 carbon atoms) that have to be broken down into monosaccharides before fermentation (a step known as hydrolysis).

“Bio-based muconic acid is a real renewable alternative for the chemical industry, it will be able to replace petroleum-based industrial processes on significant markets,” said Emmanuel Petiot, CEO of DEINOVE. *“While our teams pursue strain optimization, we have presented the platform to several chemical industrialists who have been following our project with great interest. Deinococcus is no doubt a well-suited microorganism for the development of this new process, with a metabolism that is naturally oriented toward muconic acid and unique characteristics in view of the low-cost conversion of second-generation substrates (production of cellulases and action at high temperatures). This 2G-based production opens many opportunities, including the reuse of agricultural residue and urban waste, the first step toward a real circular economy. With the upcoming COP21, we are proud to contribute to France’s leadership in green chemistry and the ecological transition.”*

¹ Cf. press release dated 21 July 2015

About DEINOVE

DEINOVE (Alternext Paris: ALDEI) is ushering in a new era of green chemistry by designing and developing new standards of production based on bacteria of untapped potential: the Deinococci. Taking advantage of the bacteria's unique genetic properties and unusual robustness, DEINOVE optimizes natural fermentation and metabolic capabilities of these bacterial "micro-factories" to produce high value-added products from non-food biomass. The Company's primary markets are 2nd-generation biofuels (DEINOL) and bio-based chemicals (DEINOCHEM). On these markets, the Company offers its technology to industrial partners globally.

Listed on NYSE Alternext since April 2010, DEINOVE was founded by Dr. Philippe Pouletty, General Partner of TRUFFLE CAPITAL, and Pr. Miroslav Radman, of the Faculty of Medicine of Paris Descartes University. The company employs almost 50 people in its new offices and laboratories located in Montpellier, France.

More information at www.deinove.com

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