

AMOÉBA PUBLISHES A NEW SCIENTIFIC ARTICLE IN THE MICROORGANISMS JOURNAL

Chassieu (France), may 22, 2020 - AMOÉBA (FR0011051598 - AMEBA), producer of a biological biocide, capable of eliminating bacterial risk in water and human wounds, and a biocontrol product for plant protection, still in the testing phase, announces the publication of a major new scientific paper (<https://www.mdpi.com/2076-2607/8/5/771/pdf>). This work, carried out jointly by the Institut Hospitalo-Universitaire Méditerranée Infection in Marseille and Amoéba in Chassieu, has been published in the biotechnology section of "Microorganisms", an international peer-reviewed scientific journal.

As scientific knowledge on non-pathogenic amoebae is limited, the sequencing of the genome of the *Willaertia magna C2c maky* amoeba published in 2019 (DOI: 10.1038/s41598-019-54580-6) allowed to know the genetic potential¹ of the amoeba. The analysis focused this time on the transcriptome² and the proteome³ of this amoeba when grown at high throughput in a bioreactor in order to complete our knowledge by identifying the actually expressed genes during the amoeba production. This work provides essential elements on the development and metabolism of the industrially produced amoeba by the Company.

The study confirms two major discoveries that had been suggested with the analysis of the *Willaertia magna C2c maky* genome. First, the amoeba does produce a wide range of enzymes involved in the metabolism of secondary metabolites with antimicrobial activity and proteins associated with defense mechanisms against other microorganisms. Secondly, these molecules are well expressed under the particular conditions of bioreactor production.

These results support the efficacy of this amoeba as a natural biocide in cooling tower water and as a biocontrol agent as an alternative to pesticides in agriculture.

Finally, an in-depth analysis of the energy metabolism provides leads for the optimization of the cultivation conditions and thus the production yield of the amoeba.

"This paper confirms the data acquired on the genome of Willaertia magna C2c Maky and begins to address the understanding of the mechanism of its microbicidal action. The next steps will consist in studying the non-protein products generated by this amoeba while testing certain hypotheses for improvement in terms of optimizing its industrial production", says Professor Bernard LA SCOLA, head of the team behind these results at IHU Méditerranée Infection.

"This article is the 3rd published in less than one year. It confirms our strategy of marketing Willaertia magna C2c maky as a biocidal and biocontrol agent. We are continuing our R&D operations, the results of

¹ Not all the genes present in the genome are permanently expressed, some are induced depending on the conditions encountered

² Set of ribonucleic acids (RNA) resulting from the transcription of the genome. The characterization of the transcriptome makes it possible to identify the genes that are active under given conditions.

³ Set of proteins produced under given conditions



which will also be the subject of new publications. "says Sandrine DEMANECHÉ, scientific manager of Amoéba.



About AMOEBA:

Amoéba's ambition is to become a major player in the treatment of bacterial risk in the fields of water, healthcare and plant protection. Our biological solution is an alternative to chemical products widely used today. Amoéba is currently focusing on the market of industrial cooling towers estimated at €1.7Bn ⁽¹⁾ on a global chemical biocide market for water treatment, evaluated at €21Bn ⁽²⁾ and on the biocontrol market for plant protection estimated globally at €1.6Bn ⁽⁴⁾. In the future, the Company is looking at developing new applications such as chronic wound care, estimated at € 751 million ⁽³⁾ in the USA. Sales of associated products with healthcare, biocides and crop protection are subject to the Company being granted local regulatory market authorizations. The Company is currently in a trial phase for biocidal and plant protection applications and does not market any products.

Created in 2010, based in Chassieu (Lyon, France) with a subsidiary in Canada and in the United States, Amoéba is quoted on the compartment C of Euronext Paris. The Company is a member of the BPI France Excellence network and is eligible for the PEA-PME SME equity savings plan setup. More information on www.amoeba-biocide.com.

(1): Amoéba data combined from sources: DRIRE 2013, Eurostat, ARHIA 2013

(2): Sources combined by Amoéba from water treaters, Freedonia, Eurostat et MarketsandMarkets

(3): BCC Research, "Markets for Advanced Wound Management Technologies," Wellesley, MA, 2017

(4): Biopesticides Worldwide Market 2013, CPL, Wallingford, UK

Contacts:

Amoéba

Valérie FILIATRE

General Manager

+33 (0)4 26 69 16 00

valerie.filiatre@amoeba-biocide.com

Investors and Media Relations

Grégory BOSSON / Mathieu CALLEUX

Agence Calyptus

+33(0)1 53 65 37 90

gregory.bosson@calyptus.net

Disclaimer

This press release contains certain forward-looking statements concerning AMOEBA which are based on its own assumptions and hypothesis and on information that are available to us. However, AMOEBA gives no assurance that the estimates contained in such forward-looking statements will be verified, which estimates are subject to numerous risks including the risks set forth in the Universal Registration Document of AMOEBA filed with the French Financial Markets Authority (Autorité des Marchés Financiers) on April 30, 2020 under number D20- (a copy of which is available on www.amoeba-biocide.com). The forward-looking statements contained in this press release are also subject to risks not yet known to AMOEBA or not currently considered material by AMOEBA. The occurrence of all or part of such risks could cause actual results, financial conditions, performance or achievements of AMOEBA to be materially different from such forward-looking statements.