April 22, 2019

Orgenesis Announces Collaboration Agreement with Columbia University to Develop Cellular Vaccination Product Platform for Pancreatic, Hepatic and Cholangiocarcinoma Cancers

GERMANTOWN, Md., April 22, 2019 (GLOBE NEWSWIRE) -- Orgenesis Inc. (NASDAQ: ORGS), a developer of advanced cell therapies, manufacturer and service provider, today announced that it has entered into an agreement with Columbia University, by which it will fund research to develop a cellular vaccination product platform, which it has licensed from Columbia University, for pancreatic, hepatic and cholangiocarcinoma cancers. Orgenesis will receive exclusive license on the technology developed at Columbia University under the research agreement.

This patented and innovative dual-vaccine design utilizes whole cancer cells as a comprehensive source of antigens and the patient's dendritic cells and macrophages to present the cancer antigens to the immune system. It differs from similar approaches, which use dendritic cells pulsed with individual tumor-associated antigens or peptides. When individual tumor antigens are selected for targeting cancer cells it leaves a significant possibility that cancer cells will mutate and thus evade the immune system response. Conversely, targeting the entire repertoire of tumor cell antigens leaves little or no possibility for cancer cells to escape the immune system response.

Vered Caplan, CEO of Orgenesis, stated, "We believe a tumor cell-based vaccine offers a promising approach to boost the immune system and direct it against cancer cells. Columbia University has created a patented dual-vaccine that uses whole cancer cells as a source of antigens and the patient's own immune cells. This novel approach is based on two essential facts from cancer immunology: (i) dendritic cells and macrophages are very potent antigen-presenting cells that activate T-cell response to tumors; and (ii) whole cancer cells are one of the most powerful sources of various tumor-associated antigens. There are very little treatment options for pancreatic, hepatic and cholangiocarcinoma cancers and this vaccine is promising because it complements the immune response and has a broad appeal because of the ease of administration and lack of significant side effects. Moreover, this technology can serve in the future as a platform to treat many types of solid tumors."

About Orgenesis

Orgenesis is a biotechnology company specializing in the development, manufacturing and provision of technologies and services in the cell and gene therapy industry. The Company operates through two platforms: (i) a point-of-care ("POCare") cell therapy platform ("PT") and (ii) a Contract Development and Manufacturing Organization ("CDMO") platform conducted through its subsidiary, Masthercell Global. Through its PT business, the Company's aim is to further the development of Advanced Therapy Medicinal Products ("ATMPs") through collaborations and in-licensing with other pre-clinical and clinical-stage biopharmaceutical companies and research and healthcare institutes to bring such ATMPs to patients. The Company out-licenses these ATMPs through regional partners to whom it also provides regulatory, pre-clinical and training services to support their activity in order to reach patients in a POCare hospital setting. Through the Company's CDMO platform, it is focused on providing contract manufacturing and development services for biopharmaceutical companies. The CDMO platform operates through Masthercell Global, which currently consists of MaSTherCell in Belgium, Atvio in Israel and subsidiaries in South Korea and in the United States, each having unique know-how and expertise for manufacturing in a multitude of cell types. Additional information is available at: www.orgenesis.com.

Notice Regarding Forward-Looking Statements

This press release contains forward-looking statements, which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. These forward-looking statements involve substantial uncertainties and risks and are based upon our current expectations, estimates and projections and reflect our beliefs and assumptions based upon information available to us at the date of this release. We caution readers that forward-looking statements are predictions based on our current expectations about future events. These forward-looking statements are not guaranteeing future performance and are subject to risks, uncertainties and assumptions that are difficult to predict. Our actual results, performance or achievements could differ materially from those expressed or implied by the forward-looking statements as a result of a number of factors, including, but not limited to, the success of our reorganized CDMO operations, the success of our partnership with Great Point Partners, our ability to achieve and

maintain overall profitability, the sufficiency of working capital to realize our business plans, the development of our POCare strategy, our transdifferentiation technology as therapeutic treatment for diabetes which could, if successful, be a cure for Type 1 Diabetes, the technology behind our in-licensed ATMPs not functioning as expected, our ability to retain key employees, our competitors developing better or cheaper alternatives to our products and the risks and uncertainties discussed under the heading "RISK FACTORS" in Item 1A of our Annual Report on Form 10-K for the fiscal year ended November 30, 2017, and in our other filings with the Securities and Exchange Commission. We undertake no obligation to revise or update any forward-looking statement for any reason.

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