



Valbiotis announces positive preclinical results for TOTUM•070 in hypercholesterolemia, selected and presented at the American Heart Association (AHA) annual meeting

- Two in-depth studies on TOTUM•070 conducted jointly by Valbiotis' preclinical platform and the University of Leiden (Netherlands), have been selected by the annual meeting of the AHA, the leading American learned society in the cardiovascular field.
- Results showing a dose-dependent reduction of 38 to 47% of "bad" cholesterol* (including LDL cholesterol) by TOTUM•070, as well as a reduction of total cholesterol and blood triglycerides, in two *in vivo* models predictive of human physiology.
- First data in favor of a multi-target mode of action of TOTUM•070, with revealed effects on the gut and liver, involving lipid metabolism and inflammation.
- Excellent and very promising results for the clinical development of TOTUM•070 in hypercholesterolemia: the Phase II HEART clinical study, which has completed enrolment, will deliver its results in the second quarter of 2022, with LDL cholesterol reduction as the primary endpoint.

La Rochelle, November 15, 2021 (7:35 am CET) - Valbiotis (FR0013254851 – ALVAL, eligible for the PEA / SME), a Research and Development company committed to scientific innovation for preventing and combating metabolic diseases, announces the selection of TOTUM•070's positive preclinical results in hypercholesterolemia by the annual meeting of the American Heart Association, the leading American learned society in the cardiovascular field.

Valbiotis is presenting two posters on TOTUM•070 at the AHA meeting, which is being held November 13-15, 2021, in virtual format. The results presented show a significant reduction in total cholesterol and particularly "bad" cholesterol (including LDL cholesterol)*, as well as initial data in favor of a multi-target mode of action on lipid metabolism. They support the potential of TOTUM•070, currently in Phase II of its clinical development against hypercholesterolemia. Recruitment has been completed and results are expected in the second quarter of 2022, with LDL cholesterol reduction as the primary endpoint.

TOTUM•070 is an innovative active substance based on a combination of 5 plant extracts (without phytosterols or red yeast rice), designed to reduce LDL cholesterol, a cardiovascular risk factor and the primary cause of atherosclerosis. It is developed for people with mild to moderate, untreated hypercholesterolemia.

*"Bad" cholesterol is the non-HDL fraction of cholesterol. It includes ApoB lipoproteins, i.e. VLDL and LDL cholesterol.

The two studies presented at the AHA congress confirm the efficacy of TOTUM•070 on cholesterol and blood lipids and provide initial data on the mode of action of this active substance. In the two *in vivo* models explored, the work demonstrates that TOTUM•070 largely prevents hypercholesterolemia, with a dose-dependent reduction in "bad" cholesterol* of up to 47%. The first data on mode of action also reveal significant effects on several key mechanisms for the regulation of lipid metabolism, notably intestinal, hepatic and inflammatory.

This in-depth work is the result of close cooperation between Valbiotis' preclinical platform in Riom (Puy de Dôme) and Bruno GUIGAS' team at the University of Leiden (Netherlands), one of the Company's longstanding academic partners.

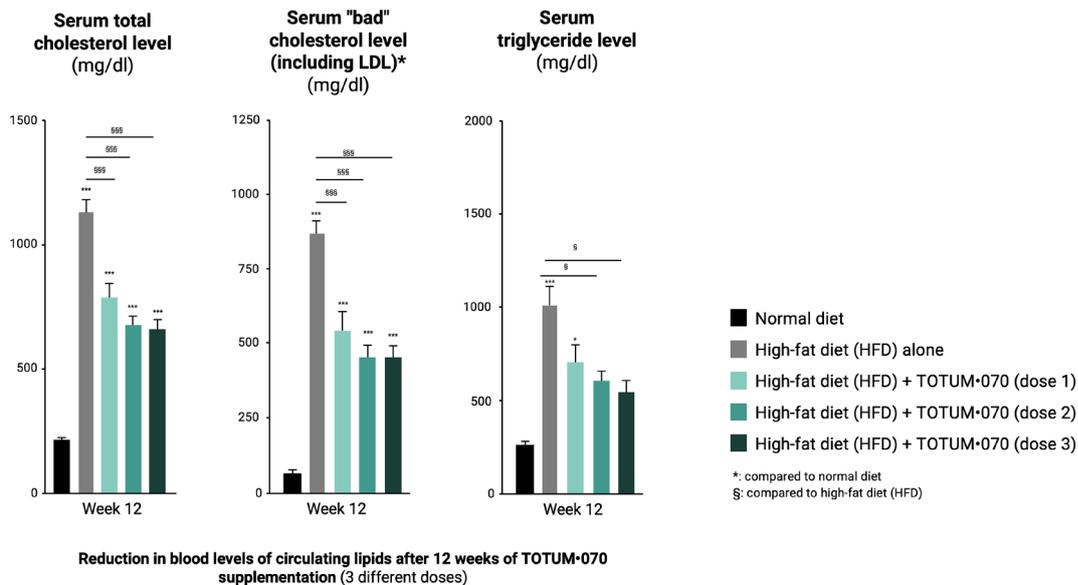
Pascal SIRVENT, Director of Discovery, Preclinical and Translational Research, member of the Valbiotis Board of Directors, comments: *"These results on TOTUM•070 are striking in their consistency. First, they confirm a strong and dose-dependent preventive effect on blood cholesterol, the ultimate target of this active substance. Furthermore, they confirm the hypothesis of a multi-target mode of action on the regulation of lipid metabolism, a central objective of our plant-based approach. This is an important data set for the development and future commercialization of TOTUM•070 in hypercholesterolemia and a very promising signal for ongoing clinical studies. Their selection by the American Heart Association Congress is of course a great source of pride and recognition of the quality of the work done by our teams and those of the University of Leiden."*

Bruno GUIGAS, Assistant Professor at the University of Leiden (Netherlands), adds: *"This research project had an exciting overall ambition for TOTUM•070, for the prevention of hypercholesterolemia. For our part, we focused on the intestinal mode of action of this active substance and demonstrated a significant effect on fat absorption. This is a particularly positive result on this well-known lever of lipid metabolism regulation. As an R&D partner of Valbiotis since 2015, we are very pleased with our contribution to the success of these joint projects, whose benefits and value are clearly demonstrated through their selection by the AHA Congress."*

TOTUM•070 efficacy and mode of action results presented at AHA 2021

Both studies were conducted in two *in vivo* models, predictive of human pathophysiology, where hypercholesterolemia was induced by a high-fat diet. TOTUM•070 was administered according to a prevention protocol together with the high-fat diet. The design included two controls: one with a high-fat diet alone and the other with a normal diet. The first study was mainly oriented to efficacy objectives and tested TOTUM•070 at three different doses for 12 weeks. The second study, oriented to mode of action hypotheses, tested 2 different doses for 6 weeks. In both protocols, the results show a significant reduction of cholesterol levels by TOTUM•070 compared to a high-fat diet alone, confirming the preventive effect sought with this active substance.

The first study demonstrates a profound efficacy of TOTUM•070 on circulating lipids, with a dose-dependent reduction of 37-48% of "bad" cholesterol (non-HDL)*, 31-42% of total cholesterol as well as 30-46% of blood triglycerides, compared to the high-fat diet alone, after 12 weeks.



In terms of mode of action, the second study provided exploratory data indicating two major effects of TOTUM•070: reduction of intestinal absorption of lipids and reduction of their accumulation in the liver.

In both models, gene expression analyses also showed that TOTUM•070 administration normalized many markers involved in lipid metabolism as well as some pro-inflammatory markers, whereas they were strongly altered by a high-fat diet alone.

Link to the posters: <https://www.valbiotis.com/en/publications/>

About TOTUM•070

TOTUM•070 is an innovative active substance derived from food plant extracts, without phytosterols or red yeast rice, developed to act on lipid metabolism in people with hypercholesterolemia. TOTUM•070 is currently being tested in a Phase II clinical trial, the HEART study, an international, multi-center, randomized, placebo-controlled study on 120 volunteers with mild to moderate hypercholesterolemia. Enrolment in this study was completed in September 2021 and results are expected in the second quarter of 2022.

At the end of its development, this new Health Nutrition product will be positioned in particular in people with LDL hypercholesterolemia, for levels up to 190 mg/dl, with a moderate overall cardiovascular risk. TOTUM•070 could be recommended to this large population for whom no drug therapy is currently recommended as first-line treatment, with the objective of reducing LDL cholesterol levels and thus the overall cardiovascular risk.

About Valbiotis

Valbiotis is a Research & Development company committed to scientific innovation for preventing and combating metabolic diseases in response to unmet medical needs.

Valbiotis has adopted an innovative approach, aiming to revolutionize healthcare by developing a new class of health nutrition products designed to reduce the risk of major metabolic diseases, relying on a multi-target strategy enabled by the use of plant-based terrestrial and marine resources.

Its products are intended to be licensed to players in the health sector.

Created at the beginning of 2014 in La Rochelle, the Company has forged numerous partnerships with leading academic centers. The Company has established three sites in France – Périgny, La Rochelle (17) and Riom (63) – and a subsidiary in Quebec City (Canada).

Valbiotis is a member of the «BPI Excellence» network and has been recognized as an «Innovative Company» by the BPI label. Valbiotis has also been awarded «Young Innovative Company» status and has received major financial support from the European Union for its research programs via the European Regional Development Fund (ERDF). Valbiotis is a PEA-SME eligible company.

For more information about Valbiotis, please visit: www.valbiotis.com

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