

CONSENSUS EVALUATION REPORT TEMPLATE

Completion of the consensus Evaluation Report

VACCINIUM BERRY PROCESSING USING "GREEN" TECHNOLOGIES AND INNOVATIVE, PHARMACOLOGICALLY CHARACTERIZED BIOPHARMACEUTICAL PRODUCTS (<i>BERRIESPRO</i>)	
CONSENSUS EVALUATION REPORT	Expert valuation
1. QUALITY OF THE RESEARCH	Corresponds
<p>The evaluation of this project in the medium term (progress, success and impact) is completely satisfactory. Scientific activities scheduled within the application have been correctly achieved to support the objective related to progress of advanced or innovative methods of extraction of lipids and polyphenols from wild and cultured forest and bog berries of <i>Vaccinium</i> genus with focusing on environmentally friendly solvents. Research is progressing well in order to achieve the objectives set when the project ends, and many tangible objectives have already been achieved during the evaluation period. Thus, the evolution of the project during mid-term evaluation presents adequate indicators and a careful structure to achieve the proposed objectives. The organization and work developed indicate the path outlined for the success of the initially proposed.</p> <ul style="list-style-type: none"> • Much progress has been made in the possibilities of extracting bioactive compounds (lipids and polyphenols) from <i>Vaccinium</i> berries, along with deep analytical characterization of the obtained extracts (> 100 compounds) and their corresponding general characteristics, e.g. antiradical activity. In this sense, the 1st activity (1.1, 1.2) is well documented and presented in milestone 1-3 and objectives achieved will allowing the preparation and implementation of project results, including the recommendations presented in the 2, 7 and 15. • The extract effects on cell proliferation were also assessed showing strong efficacy for inhibiting the activities of selected enzymes and protecting particular cells from oxidative damage. Research has also been done in understanding inflammation inhibition to identify the most prospective areas of berry extract application in order to elaborate a lab-scale prototype. Therefore, the 2nd activity (2.1, 2.2) pharmacological characterization of extracts was initiated successfully. Furthermore, the screening of pharmacological activity of extractives is in progress and many effort and reports have been done; in this context, and considering the complexity of the involved work, the scientific articles and the communications presented are acceptable. • Among the tasks of the 3rd activity (3, 3.1 and 3.2), "Development of composition for a new product", the task (3.1) can be considered finished with a report on considerations for the preparation of nutraceutical formulations from genus <i>Vaccinium</i> berries' extracts, the Annex 32. Although, the report must be more supported and analysed in the activity that is on-going 3.2. • In all areas covered, the research methodology was adequate: chemometrics tools to optimize extraction conditions providing highest extraction yields; chromatographic methods hyphenated to conventional as well as selective detectors for extracts profiling, relevant methods for antioxidant activity and well-selected methods to assess the effect of the extracts in cell proliferation. • No deviations have been detected in the addressing of the initial planned research categories. • Research results achieved are clear, high quality and adequately exploited as it is shown by the corresponding monitoring indicators: 5 scientific articles [1 a), 1 b) scientific papers, and 3 b) conference proceedings. There is also a new prototype [c)] of product containing berry phenolics extracts (1440 capsules) developed on the basis of the report previously prepared. The attached publications and methods report related with activities 1.1 and 1.2 demonstrate by themselves the success achieved by this task. Moreover, two papers are submitted; all the work done is justifiable. Regarding the 2nd activity, Q1 journals as Phytomedicine is representative of the quality of research. Besides, a number of scientific reports very well referenced and elaborated (Annexes 1, 16, 22, 31, 32) as well as other science papers published or submitted (Annexes 7, 13, 14, 15, 21, 27) also contributed to the results indicators. • The quality of the research results is well supported: within the framework of the project a development of 	

<p>an experimental prototype was carried out in order to finally achieve a health-promoting biopharmaceutical product ready to be launched to the market. One additional consideration is that, while the prototype developed is important, maybe a paper in field journal can be done to demonstrate the work done.</p> <ul style="list-style-type: none"> Finally, the progress of the research is considered good by presenting a high degree of achievement and important scientific production, as well as its dissemination and interaction with the community. In addition, the research tactic has been suitable to achieve the objective of the project and corresponds to that initially planned. On the other hand, as it is correctly supported by the annexed documentation, the information contained in the scientific articles and conference communications corresponds to the purpose and content of the project. 	
	Expert valuation
2. IMPLEMENTATION QUALITY AND EFFICIENCY	Corresponds
<p>Financial resources have been efficiently used and in an appropriate way to achieve the intended research results for the mid-term of the project:</p> <ul style="list-style-type: none"> Besides the required indirect costs of the project, the main item in the budget is the personnel cost which account for the 72,3 % of the total budget, being shared in an equilibrated way between scientific staff (64,23 %) and technical staff (8,08 %). This cost is reasonable taking into account the number of research tasks developed, the variety of scientific documents prepared (including the beginning of the preparation of a patent application currently in progress) and the goals already achieved. The presence of young researchers in cooperation with scientific team allows the elaboration of news methods and improves the outcomes of scientific work in conferences dedicated to Pharmacy chemical and biological areas. Budget employed in working trips is also conveniently justified. In addition, there is a workload of scientific employee (as FTE) in annex 39 that details and justifies the staff costs in the project implementation period. The level of the scientific and technical human resources is high and in accordance with the objectives of the project. Materials, equipment and facilities costs (6,53 % of the budget expended) as well as basic laboratory equipment (1,78 %) procurements for equipment maintenance are necessary expenses to keep the laboratory and its instrumentals in perfect working order. <i>All eligible costs are consistent with the degree of development of the project and the objectives achieved so far, and are therefore adequately justified.</i> There is a consistent relationship in between the initial indicators in the proposal and those described in section 1.6 of the mid-term report. Moreover, in some cases, the values achieved are larger than the initial values planned, as it is the case for N^o2. Number of scientific articles (final value expected 5, but 6 already got in the interim period); the new product expected at the end of the project (N^o 3) is already in a prototype scale; the cooperation with the proposed enterprise is ongoing and looks profitable and successful on both sides (N^o.7); and the expected other project results (including data) according to the specifics of the research, which supplement the results of the previous mentioned indicators (N^o 8) that had clearly been underestimated with a zero in the initial proposal are becoming an important indicator, giving a number of 31 and re-estimated now to a final value of 35. The activity 5 reflected in the publications, as well as, the connections and divulgations to the public are in arrangement with the quality and efficiency of the project It is considered that funds have been ingeniously used. The resources made available to researchers, as well as the funding provided, allowed the development of the project, using the available capitals in a rational way, according to Project budget summary. Overall, these data together can be considered a very good utilization of resources. In view of the already achieved results, the quality of the scientific documents derived from this research, the adequate control of project expenses and the number of gotten milestones at this point, correctly described in the project implementation section of the mid-term report; it is expected that during the project implementation period the planned research results will be successfully completed. 	