

CYGYC BIOCON and ZYMVOL start collaboration to improve sustainability of detergent formulation

- *The project, which has the support of ACCIÓ's Tecniospring INDUSTRY programme, aims to identify sustainable enzyme inhibitors for detergent formulations*
- *The two Barcelona-based companies expect to achieve first results by the end of 2022*

Barcelona, March 23rd 2022. Biochemical company [CYGYC BIOCON](#), through its **BIOKATAL** brand, and enzyme development company [ZYMVOL](#) have joined efforts to develop a new generation of sustainable detergents. The project, which has received funding from ACCIÓ's Tecniospring INDUSTRY programme, aims to improve the performance of enzymes in detergent formulation to facilitate a transition towards more eco-friendly household solutions.

Most detergent formulations contain enzymes, which are catalytic proteins used to eliminate different types of stains. For the formulation to work properly, enzymes must be deactivated or in a very low activity state, and only activated once they come into contact with water. This is especially important when it comes to proteases, an enzyme type that tends to degrade all other enzymes in detergent formulas. To maintain them in the mentioned low activity state when the detergent is not being used or under storage conditions, they need to be deactivated with what are known as "inhibitors".

Currently, the majority of protease inhibitors used in detergents are compounds based in boron. Despite these inhibitors complying with strict European laws, they can still have a negative impact on the environment due to its toxicity towards some types of plants and insects. That's why CYGYC BIOCON is committed to further improving the sustainability of its product line by eliminating the need for boron-based inhibitors.

"With this project we continue working to offer ecological and sustainable washing solutions" comments **Dr. Sergi Abad**, Biotechnology Technical Manager at CYGYC BIOCON, who adds "this brings us a little closer to the milestone of obtaining environmentally neutral impact detergents".

By combining CYGYC BIOCON's extensive experience in detergent formulations and ZYMVOL's enzyme engineering know-how, both companies expect their innovation to lead to a much less contaminating solution that affects every household.

Sustainable Detergents powered by Technology

Under the name [IDEA-PS: Inhibition of Detergent Enzymes Advanced Prediction Software](#), the project will consist in the development of a new computational platform – named **ZYMEVOLVER-iDET** – capable of identifying new, sustainable enzyme inhibitors for detergent formulations.

Dr. Brian Jimenez-Garcia, Senior Researcher at ZYMVOL, will be the primary investigator leading this project. “By applying ZYMVOL’s technology, we expect to find inhibitors that can substitute the boron-based ones with greener alternatives” states Jiménez-García. “We hope that with this software, we will be able to help scientists make more effective formulations that will save resources, energy and water”.

With the support of Tecniospring INDUSTRY, a programme powered by the Catalan Agency for Business Competitiveness (ACCIÓ), the IDEA-PS project has an established duration of 2 years and expects to achieve the first results by the end of 2022.

Thanks to this innovation, both CYGYC BIOCON and ZYMVOL calculate they can achieve a significant decrease in the environmental footprint of current detergents.

About ZYMVOL

[ZYMVOL Biomodeling SL](#) is a privately funded company specialized in computational enzyme engineering. Founded in 2017, the company currently has customers in more than 10 countries worldwide and is actively engaged in highly innovative and competitive R&D projects. In 2020, the European Commission awarded CEO Maria Fátima Lucas the [EU Prize for Women Innovators](#).

ZYMVOL’s mission is to expand the use of Green Chemistry in the industry by leading the way on computer driven, enzyme engineering technology.

About BIODKATAL

[CYGYC BIODKON SL](#) has more than 50 years of experience in the Detergency market. It was the first Spanish company producing industrial enzymes and a pioneer in their use in detergents.

[BIODKATAL](#) is a CYGYC BIODKON brand promoting technical application enzymes such as detergency. BIODKATAL puts *Nature in Action* to enable in the most efficient way customer’s industrial projects. Thus, with the use of technologically advanced enzymes, microorganisms and sustainable process it enables totally or partially replacing traditional chemical solutions, thereby posing a lower environmental risk.

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