

Team develops healthy 'snacks' from egg proteins

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The aperitifs are obtained after treating the egg white with an enzyme, which break the proteins into smaller pieces, a process called hydrolysis, which allows obtaining a wide range of new textures. Credit: Comunicación CSIC

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which allows obtaining a wide range of new textures. The development of these products, protected by a patent, is licensed to an American enterprise and it is in the commercial phase.

It is [functional food](#), because it is not only "a source of high quality protein", but also "fat free", so its consumption can be recommended to overweight persons and lactose intolerant persons. "One of the main disadvantages of this type of [food](#) we snack between meals is that its high consumption is related to diseases like diabetes, overweight, and cancer, among others. It is important to emphasize that, this type of food is consumed by the population of children, because it is an easy and tempting option due to the attractive way of its presentation and the easy consumption", says Marta Miguel, researcher at the Institute of Food Science Research (CSIC Universidad Autónoma de Madrid)

The chef original from Madrid Mario Sandoval, who works with CSIC in the culinary applications of these aperitifs, which are obtained after the egg white hydrolysed, says that the snacks are one of the less explored parts in haute cuisine. In his view, these products open new challenges to haute cuisine, over all if they offer new textures, so valued in avant-garde cuisine, as well as they are helpful to health.



Marta Miguel, researcher at the Institute of Food Science Research (CSIC-Universidad Autónoma de Madrid), and Mario Sandoval, owner of Coque restaurant. Credit: Comunicación CSIC

"Egg is a food very versatile gastronomically speaking that apart of its consumption without anything else, it is also used as a typical ingredient in several dishes, both sweet and savoury ones. In haute cuisine we value the adhesive, foaming and emulsifiers qualities, among others. Baked dishes, cakes, sauces, dressings and cold meats, in each one, we can find egg, whether complete, the egg white or the [egg yolk](#)", Sandoval says.

The research team of Miguel has been working during years in the obtaining of ingredients and functional food from [egg proteins](#), which pursue different physiological functions in the organism beyond the

nutrition. "Egg has been always considered a basic food in diet due to its nutritional properties and its versatility regarding the culinary applications. It has a high content in essential nutrients, which contain bioavailability, it is to say, they are easy to absorb by the digestive system. We decided to research it further in order to use it as a natural healthy source in pathologies prevention and treatments", Miguel says.

The developed products, as they are from egg white, have for the most part a protein and fat free content. Furthermore, the possible use in sweet varieties of sweetening non-nutritive agents or in varieties that could increase the glucose level slowly, allows obtaining "snacks" recommended to diabetics. "It is important to highlight that none of our developed products include lactose or dairy products in its composition, but they are similar in appearance, texture and taste," CSIC researcher says.

Furthermore, the snacks need only a few ingredients in its elaboration, and includes fewer additives, which make them more "natural" and "more economic", Miguel says. They are easy to chew and to digest contrary to other source of proteins like meat or fish. They are, because of this, recommended to patients who have difficulty chewing", the CSIC researcher says

Sandoval says that, "If the population have a food gastronomically attractive, with a pleasant texture and it is also fat free, it will be easily appreciated". The chef highlights that "Our challenge is to develop a product that would be attractive and funny at the same time for kids, but most of all it should be healthy".

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