

Joint Event on  
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**Resveratrol nanoencapsulation for a new application in age-related macular degeneration**

**A**ge-related macular degeneration (AMD) is a progressive retinal disease and is the leading cause of visual impairment in elderly people in western countries, for which there is still no cure. Genetics, environmental insults, and age-related issues are risk factors for the development of the disease and all these are linked to oxidative stress induction. Also, degeneration of retinal pigment epithelial cells (RPE) is a crucial causative factor responsible for the onset and progression of AMD. With the population aging, AMD will gradually become in a globally prevalent disease. The decline in the quality of life among affected patients highlights a critical need for developing preventive strategies. In this sense, phytochemicals with both antioxidant and anti-inflammatory properties may have a potential role in the prevention and treatment of this ocular disease. Particularly, there is an increased interest in the therapeutic effects of resveratrol (RSV). RSV is a naturally occurring polyphenolic compounds from the stilbenes family, mainly found in black grape and peanuts. RSV has beneficial effects on human health, including its neuroprotection, anti-inflammatory action, potent antioxidant activity and antiaging effects. Our research line is focused in investigating the protective effectiveness of RSV in an in vitro model of AMD. In addition, we designed and developed chitosan-based nanocarriers for RSV encapsulation to overcome physicochemical and pharmacokinetic limitations such as poor oral bioavailability, low water solubility and photosensitivity. In summary, chitosan nanoparticles are a promising platform for ocular bioactives (eg. RSV) delivery for therapeutic intervention against oxidative stress-associated diseases, such as AMD.

**Biography**

Alaimo A is a Young Assistant Researcher at the National Scientific and Technical Research Council (Spanish: Consejo Nacional de Investigaciones Científicas y Técnicas, CONICET), the Argentine government agency, which directs and co-ordinates most of the scientific and technical research done in universities and institutes. She is a highly motivated and innovative Cellular and Molecular Biologist with specialization in Mitochondria biology, Molecular genetics, Cell biology, Biochemistry and Nanotechnology. She is an enthusiastic team player adept at providing leadership, while also learning from fellow team members.

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