

Progesterone combined with lipoic acid ameliorates retinal cell damage

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CEU UCH research group. Credit: Asociación RUVID

Retinitis pigmentosa is a rare and hereditary neurodegenerative disease which causes vision loss due to the death of photoreceptors in the retina, and for which there is currently no treatment. A research group headed by professor María Miranda Sanz had previously studied the efficiency of progesterone to ameliorate the death of photoreceptor cells in the retina caused by this disease. Now, in a new project published in the scientific journal *Frontiers in Pharmacology*, they have observed a higher protective effect of progesterone when combined with a strong antioxidant: lipoic acid.

Dr. María Miranda, professor at the CEU UCH and main researcher of the group, says, "In this new study we verified that both progesterone and the lipoic acid are separately able to protect photoreceptors in the retina from cell death, but their simultaneous application provides even better results than individually. These results, obtained in animal models, administering both substances orally, could be the basis for developing future treatments to ameliorate the eyesight deterioration caused by retinitis pigmentosa. There is currently

no treatment for the disease, which represents half of those diseases that degenerate the retina around the world."

Antioxidant and anti-inflammatory mechanism

Even though the cause of [retinitis pigmentosa](#) is genetic, the evolution of the disease and the resulting eyesight loss may be related to oxidative stress factors and inflammation. These factors can be ameliorated on one hand by the [hormone progesterone](#), which has shown its neuroprotective efficiency in several studies, including the one previously carried out by doctor Miranda and her team also on retinosis.

On the other hand, lipoic acid is considered a strong antioxidant with anti-inflammatory properties, able to reduce [oxidative stress](#) in the retina, as have also determined previous studies, including another one headed by professor Miranda. "This is why we decided to test the possible synergetic effects when combining [progesterone](#) and lipoic acid in this new study, to ameliorate the death of photoreceptors in the [retina](#)."

More information: Dolores T. Ramírez-Lamelas et al. Lipoic Acid and Progesterone Alone or in Combination Ameliorate Retinal Degeneration in an Experimental Model of Hereditary Retinal Degeneration, *Frontiers in Pharmacology* (2018). [DOI: 10.3389/fphar.2018.00469](https://doi.org/10.3389/fphar.2018.00469)

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