

Review of: "[Review Article] Melatonin, ATP, and Cataracts: The Two Faces of Crystallin Phase Separation"

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Potential competing interests: No potential competing interests to declare.

The authors summarized the mechanism and reports of crystallin aggregation as a cause of cataracts, and then accurately described the antioxidant and protein aggregation inhibitory effects of melatonin and ATP. This review is considered to be of great significance and publishable. I recommend that some of the points raised be addressed and then published without additional peer review.

1. One of the causes of cataracts is the involvement of non-enzymatic post-translational modifications in crystallins, which should be mentioned in the Introduction. Also, please discuss whether melatonin and ATP are effective in the aggregation that occurs due to such causes.

2. There are many reports that melatonin is effective, but what about its effect on sleep duration? In other words, is melatonin itself effective, or is prolonging sleep time effective? A decrease in activity may reduce active oxygen species, or a decrease in the amount of time the lens is exposed to light.

3. Minor modifications are listed below.

"L" in liters should be capitalized.

"2" of J/m² on page 9 and mW/cm² on page 18 should be superscripted.

"kcal mol⁻¹" on page 16 should be unified with other units and written as "kcal/mol."

The "μmoles/g" on page 18 should be changed to "μmol/g."

"Amyloid-β" is on page 24, but on the page before that, there is "Aβ40" and "Aβ42". That is where the abbreviation for Aβ should be defined.

Please abbreviate journal names in Ref 304, 349, 353.