Author’s response to reviews

Title: Notch1 signaling induces Epithelial-Mesenchymal Transition in lens epithelium cells during hypoxia

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Version: 2 Date: 14 May 2017

Author’s response to reviews:

Hyun Soo Lee (Reviewer 1): There are still major concerns that should be addressed.

1. It would be wrong that posterior capsule of lens could be hypoxic condition after cataract surgery, as the authors' hypothesis. The anterior portion of lens absorbs the oxygen from the anterior chamber, which is in higher O2 tension than posterior portion of lens before surgery, but aqueous humor could reach to the posterior capsule after cataract surgery. Plz, clarify this point.

The aqueous humor can reach to the posterior capsule whether having cataract surgery or not. In normal status, the posterior portion of lens is in lower oxygen despite the aqueous humor can reach[1-3]. The oxygen supply of the posterior portion of the lens is mainly determined by the vitreous[4], which is not changed even after the cataract surgery. So we still insist our hypothesis that LEC cells may have EMT in the posterior portion of lens where is in lower oxygen tension.


2. The catalogue # and specific information of all materials in this manuscript should be provided in Method section.
The informations of all materials are supplemented.

3. Quantification of immunohistochemical assay in Fig 2 is needed to verify their results. Also why did the total number of cells in DAPI seem to be different in this assay?

The quantification of immunohistochemical assay is supplemented. The total number of cells in DAPI are counted again and the number of cells in this assay is same.

4. CoCl2 only mimics HIF1 activation, thus the authors should need to compare hypoxic condition and CoCl2 treatment on LECs, when their machines will be repaired.

Sure, we will compare hypoxic condition and CoCl2 treatment on LECs when the machine is repaired.

5. Please improve English writing

We modify the manuscript again.

Choul Yong Park, M.D., Ph.D. (Reviewer 2): Immunocytochemical assay added is good.

But I can’t find any western blot result from 12 and 24 hour of CoCl2 exposure. Although, the authors responded they added these figures, I recommend the authors the check the manuscript again.

We are sorry to upload the incorrect figure legend for figure1. In the new figure1, G,H,I show average relative band intensity of Keratin(H) and Fibronectin(I) in SRA01/04 cells cultured with 150μM CoCL2 for 12hours(group1), 24hours(group2), 48 hours(group3).

Minor typing error: Legend for figure 4; group 3 is not empty vector.

Yes, group 3 is not empty vector, it’s deleted, thanks.