YMTHE, Volume *27*

## Supplemental Information

# Engraftment of Human Stem Cell-Derived Otic Progenitors in the Damaged Cochlea

**Alejandra Lopez-Juarez, Hanae Lahlou, Chantal Ripoll, Yves Cazals, Jean Michel Brezun, Quan Wang, Albert Edge, and Azel Zine**

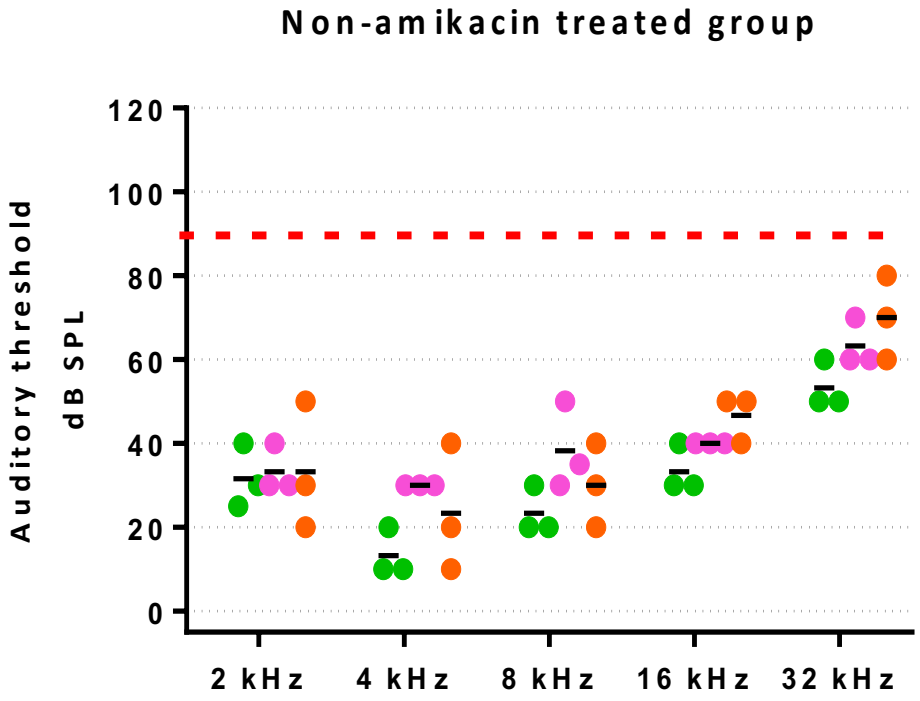


**Figure S1. Delivery of hOPCs in Cochlea without Auditory Dysfunction**

ABRs were registered for each animal before engraftment, 4 days and 14 days post-engraftment in amikacin-treated animals. The auditory thresholds of each animal were compared before and 14 days after engraftment and no shifts in thresholds were observed at the frequencies tested.

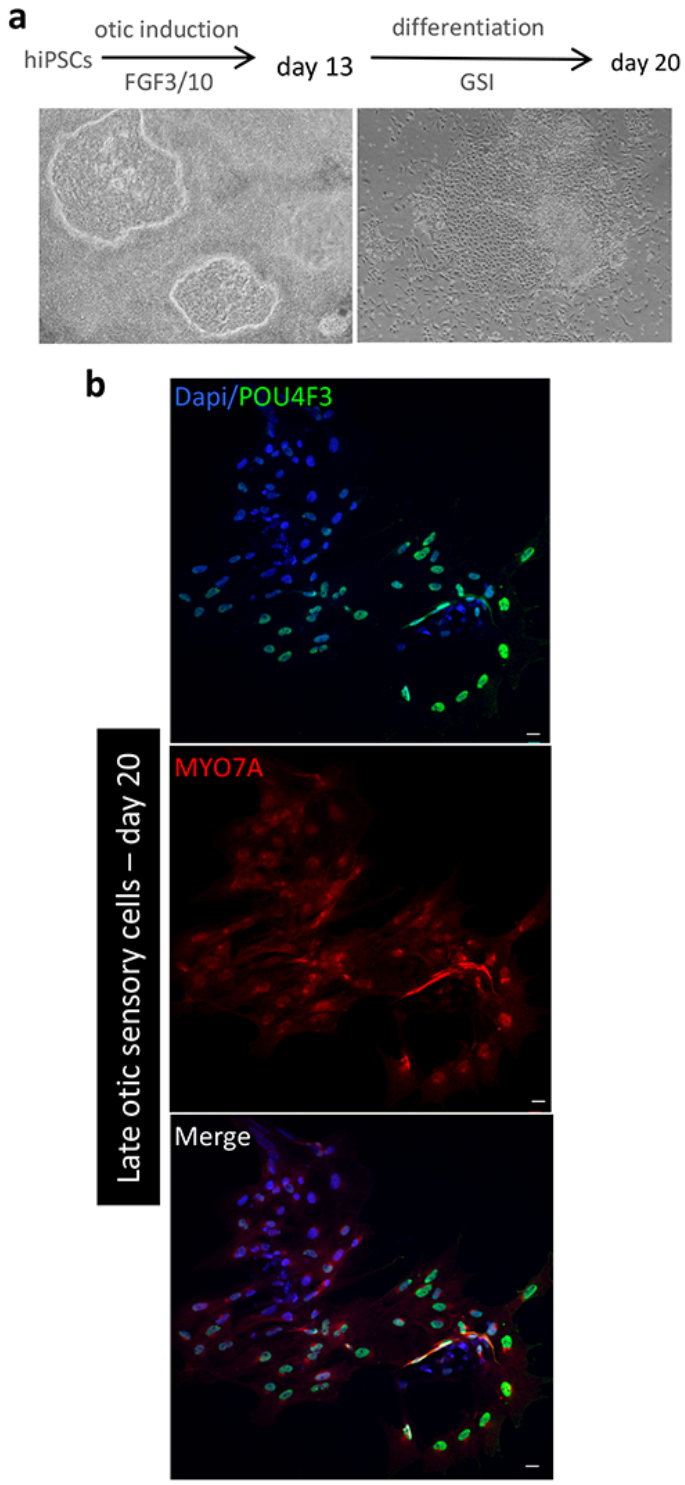


**Figure S2. Expression of Late Otic Sensory Cell Markers after Prolonged Differentiation *in Vitro***

(**a**) Otic/placodal progenitors from day 13 were maintained for one more week in culture medium supplemented with GSI. (**b**) After one week *in vitro* (i.e. day 20), a subset of differentiated cells displayed co-expression of two known late otic sensory (MYO7A and POU4F3) markers. Scale bar = 20 $\mu$m

**Table S1**. List of human qPCR primers

| Gene Name | Forward Primer | Rerverse Primer |
|---|---|---|
| *DLX5* | GCTAGCTCCTACCACCAGTAC | GGTTTGCCATTCACCATTCTCA |
| *GAPDH* | ACACCATGGGGAAGGTGAAG | GTGACCAGGCGCCCAATA |
| *GATA3* | CACGGTGCAGAGGTACCC | AGGGTAGGGATCCATGAAGCA |
| *PAX2* | CGGCTGTGTCAGCAAAATCC | GCTTGGAGCCACCGATCA |
| *PAX8* | GCCCAGTGTCAGCTCCATTA | GCTGTCCATAGGGAGGTTGAA |
| *BMP4* | CCACAGCACTGGTCTTGAGTA | GGTCCCTGGGATGTTCTCC |

**Table S2**. List of antibodies

| | Specie | Provider | Reference | Dilution |
|---|---|---|---|---|
| PAX2 | rabbit | Eurogentec | PRB-276P | 1:100 |
| IBA1 | rabbit | Wako | 019-19741 | 1:200 |
| MYO7A | mouse | DHSB | 138-1 | 1:200 |
| MYO7A | rabbit | Proteus | PTS-25-6790-C050 | 1:200 |
| POU4F3 | mouse | Abnova | H-5459-M01(DB9310) | 1:100 |
| SOX2 | goat | Santa-Cruz | SC-17320 | 1:200 |

**Video S1**. **A Grafted Mature Guinea-pig Cochlea that was Rendered Transparent with Bone Clarity**. Human stem cell derived otic progenitors (shown in red) appear distributed along the basal-to-apical longitudinal axis of the damaged cochlea. The ability to see human otic progenitor cell behavior is crucial for stimulating research into the development of a cell-based therapy to cure deafness.