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SUPPLEMENTARY MATERIAL

corresponding to:

Grhl1 deficiency affects inner ear development in zebrafish

FEI LIU, FAN YANG, DANPING WEN, WENJUN XIA, LILI HAO, JIONGJIONG HU, JIE ZONG, XIAOFANG SHEN, JING MA, NAN JIANG, SHAOYANG SUN, JIN ZHANG, HUIJUN WANG, XU WANG, ZHAOXIN MA* and DUAN MA*

***Address correspondence to:** Duan Ma. Key Laboratory of Metabolism and Molecular Medicine, Ministry of Education, Department of Biochemistry and Molecular Biology, School of Basic Medical Sciences, Institutes of Biomedical Science, Shanghai Medical College, Fudan University, Shanghai 200032, China. Tel/Fax: +86-21-5423-7441. E-mail: duanma@fudan.edu.cn or Zhaoxin Ma. Department of Otorhinolaryngology, Shanghai East Hospital,Tongji University, Shanghai, 200120, China. Tel/Fax: +86-21-5882.2171. E-mail: mzhx114@163.com

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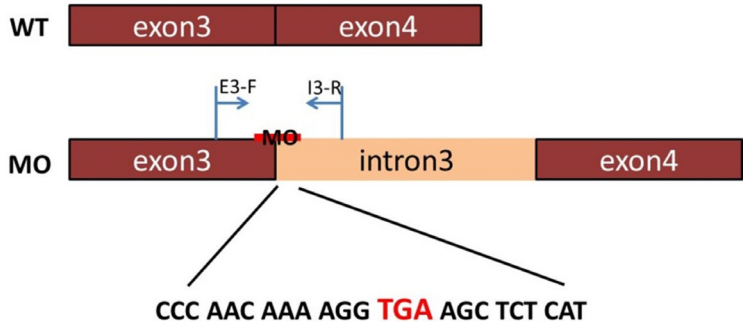
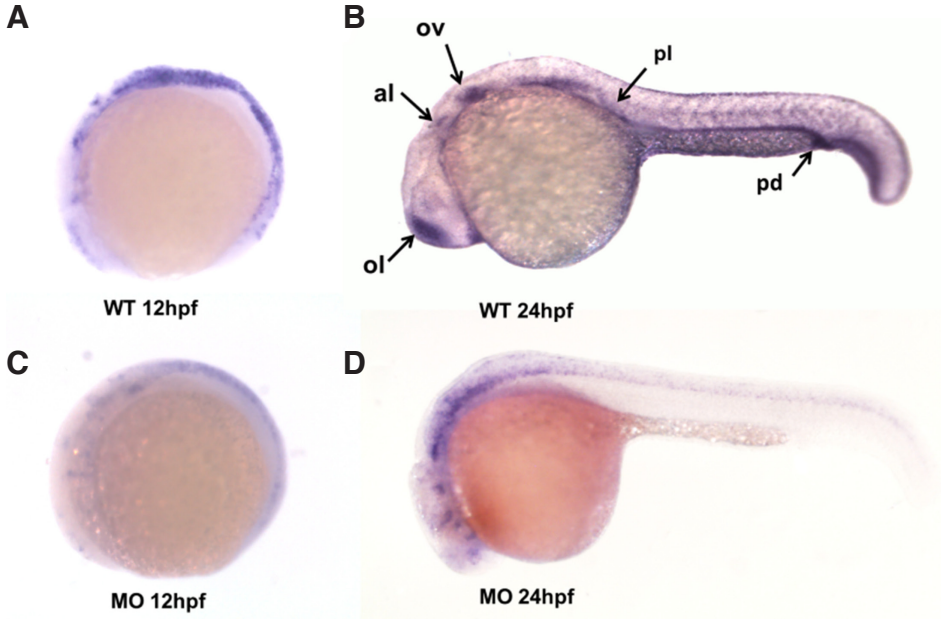
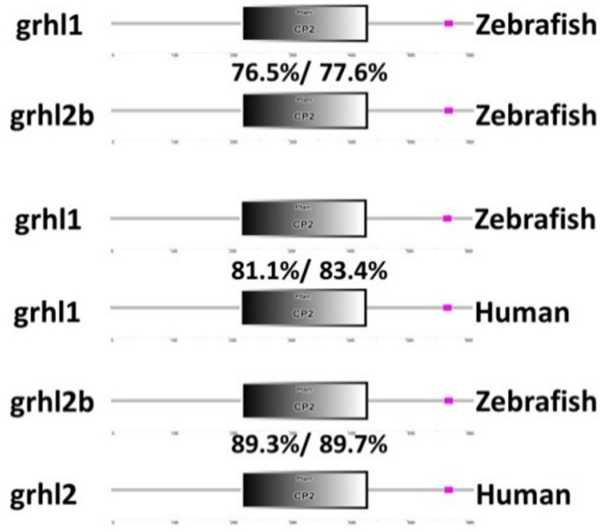


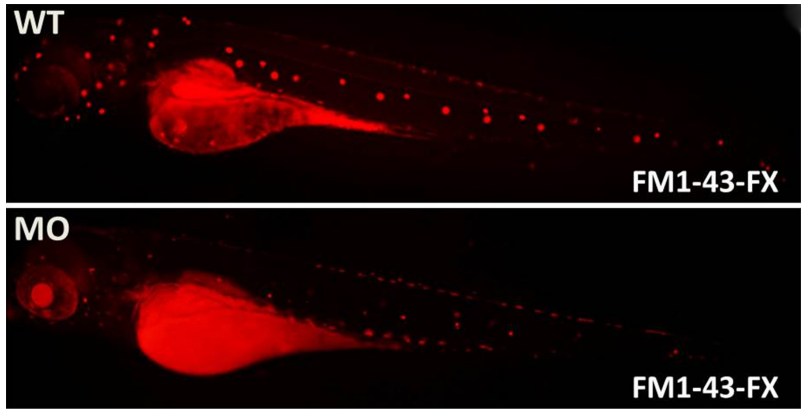
Suppl. Fig.1. Intron-3MO leading to mature mRNA with a terminator codon.



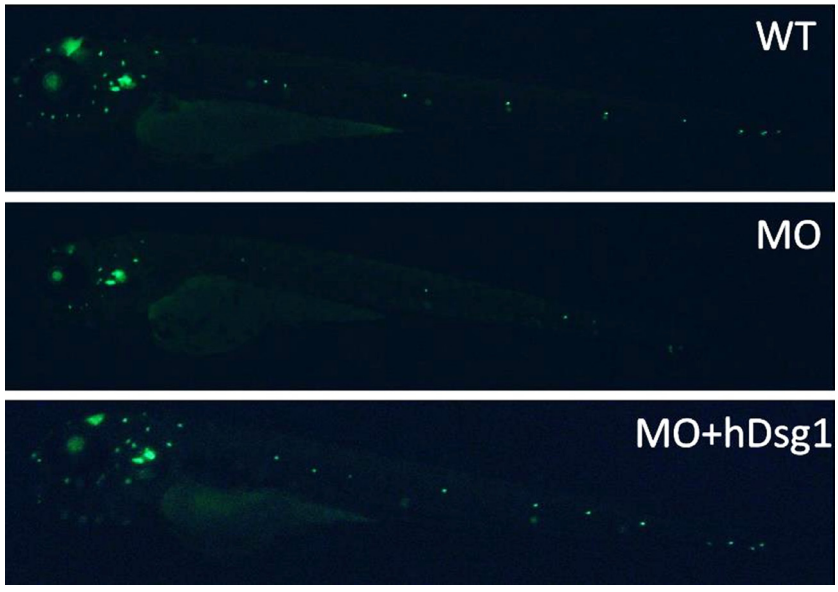
Suppl. Fig. 2. WISH was performed to verify the efficiency of MO.



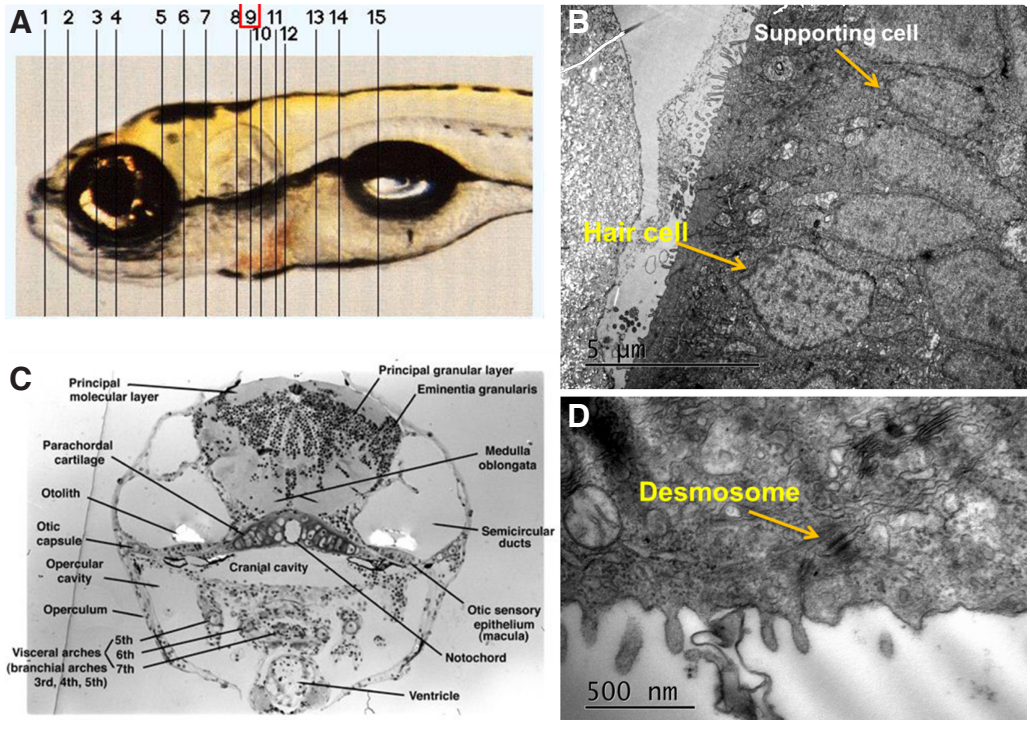
Suppl. Fig. 3. Protein homology analysis of grhl1 and its family member grhl2, which is confirmed as a new deafness gene, was performed in zebrafish and human. *Supplementary Fig. 6A depicts grhl1 which shares 76.5% homology with grhl2 in zebrafish. Also, grhl1 of zebrafish shares 81% homology with GRHL1, which is a prerequisite for an effective rescue assay with* GRHL1 *mRNA. An evolutionary tree emphasized this point.*



Suppl. Fig. 4. FM-143-FX staining indicates that neuromasts are not as bright as in the WT group.



Suppl. Fig. 5. Neuromasts, originating from a primordium near the head, are neatly arranged from L1 to L8 (WT).



Suppl. Fig. 6. The systematical sketch for identifying sensory epithelium. (A) *Lateral view of the 120 hour embryo.* **(B,C)** *Serial section was performed and the 9th layer of the lateral view could find the supporting cell and hair cell.* **(D)** *A desmosome was found by TEM in the 9th layer.*