

**Topologically correct central projections of tetrapod inner ear afferents require Fzd3.**

Jeremy S. Duncan<sup>1</sup>, Bernd Fritsch<sup>2</sup>, Douglas W. Houston<sup>2</sup>, Elizabeth M. Ketchum<sup>1</sup>, Jennifer Kersigo<sup>2</sup>,  
Michael R. Deans<sup>3</sup>, Karen L. Elliott<sup>2\*</sup>

1) Department of Biological Sciences, Western Michigan University, Kalamazoo, MI, USA

2) Department of Biology, University of Iowa, Iowa City, IA, USA

3) Department of Surgery, Division of Otolaryngology, and Department of Neurobiology & Anatomy  
University of Utah School of Medicine, Salt Lake City, UT, USA

\*Corresponding Author

Karen L. Elliott, PhD

Department of Biology

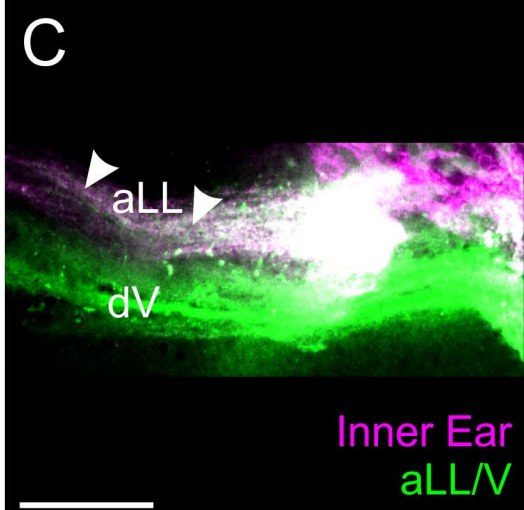
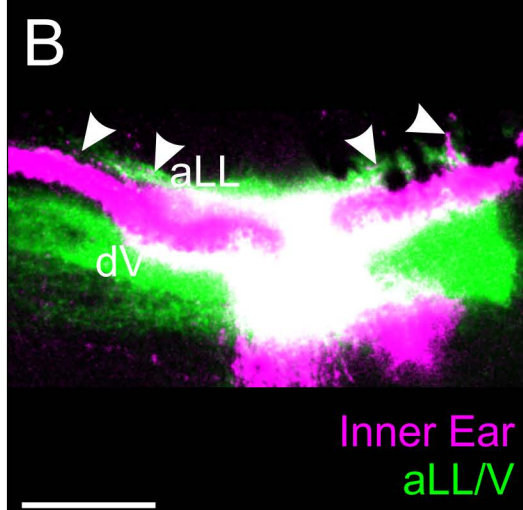
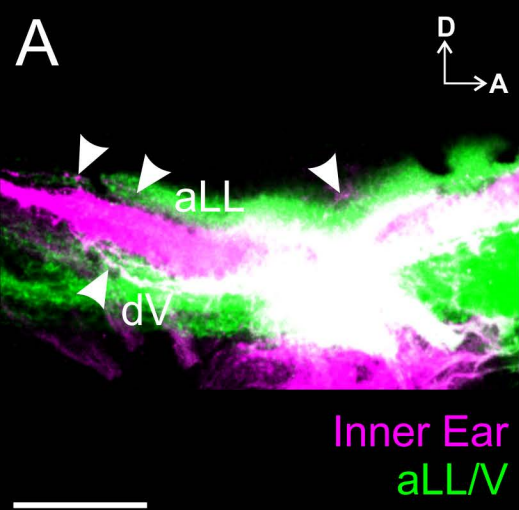
University of Iowa

Iowa City, IA

Phone: 319-335-1089

karen-elliott@uiowa.edu

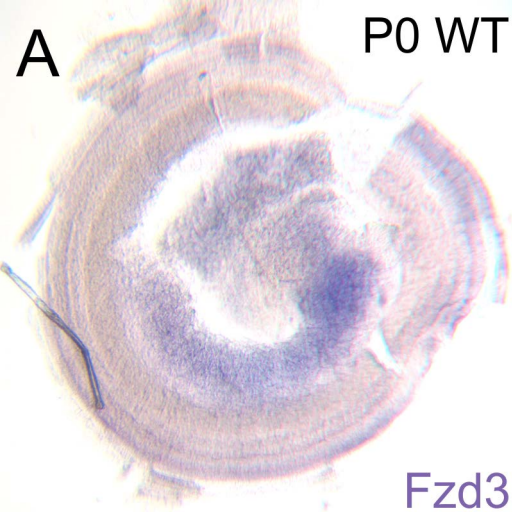
**Supplemental Figure 1. Extent of variation observed in *Xenopus* vestibular afferents central projections following *Fzd3* knockdown.** Lipophilic dyes were implanted into the ear (magenta) and into the anterior lateral line (aLL) and trigeminal (V) nerves (green) of *Xenopus laevis* animals injected with 5ng *Fzd3* morpholino. Aberrant central projections ranged from several inner ear afferent fibers projecting into the lateral line nuclei (aLL) (**A,B**) to many fibers projecting into the lateral line nuclei (**C and Fig. 1A**). Occasional inner ear afferent fibers were observed projecting with trigeminal fibers (**A**). Orientation for all panels as in **A**. White arrowheads indicate aberrant projections. dV, descending trigeminal tract; D, dorsal; A, anterior.



**Supplemental Figure 2. *Fzd3* expression gradient in mouse cochlea at P0.** In situ hybridization for *Fzd3* in a wildtype P0 ear. *Fzd3* expression is present in the spiral ganglion neurons and shows an apical to basal gradient of expression.

**A**

**P0 WT**



**Fzd3**