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## Deciphering spiral ganglion neurons heterogeneity by single-neuron transcriptome profiling

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**T**ype I spiral ganglion neurons (SGNIs) are myelinated and carry all the auditory information from organ of Corti inner hair cells to the auditory brainstem. SGNIs are morphologically and physiologically diverse; they consist of low and high threshold subtypes. Moreover, they differ in their susceptibility to noise insult. These differences between types and subtypes are likely driven by distinct gene expression profiles. We used a transgenic mouse with the unique feature of fluorescently

labeled SGNi and single cell gene expression profiling to distinguish different SGNi subtypes. We employed quantitative single cell RT-PCR for a preselected group of 192 candidate genes aimed to specifically distinguish among subtypes of SGNIs. These studies will contribute to elucidate significant questions in the field such as molecular profiles that define the different SGNi subtypes.

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