

Author's Accepted Manuscript

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PII: S0012-1606(16)30142-7
DOI: <http://dx.doi.org/10.1016/j.ydbio.2016.03.015>
Reference: YDBIO7061

To appear in: *Developmental Biology*

Received date: 3 August 2015
Revised date: 2 February 2016
Accepted date: 13 March 2016

Cite this article as: Beverly A. Karpinski, Corey Bryan, Elizabeth Paronett Jennifer Baker, Alejandra Fernandez, Anelia Horvath, Thomas M. Maynard Sally A. Moody and Anthony-S. LaMantia, A cellular and molecular mosaic establishes growth and differentiation states for cranial sensory neurons *Developmental Biology*, <http://dx.doi.org/10.1016/j.ydbio.2016.03.015>

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A Cellular and Molecular Mosaic Establishes Growth and Differentiation States for Cranial Sensory Neurons

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ABSTRACT

We compared apparent origins, cellular diversity and regulation of initial axon growth for differentiating cranial sensory neurons. We assessed the molecular and cellular composition of the developing olfactory and otic placodes, and cranial sensory ganglia to evaluate contributions of ectodermal placode versus neural crest at each site. Special sensory neuron populations – the olfactory and otic placodes – as well as those in vestibulo-acoustic ganglion are entirely populated with cells expressing cranial placode-associated, rather than neural crest-associated markers. The remaining cranial sensory ganglia are a mosaic of cells that express placode-associated as well as neural crest-associated markers. We found two distinct populations of neural crest in the

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