

Accepted Manuscript

Title: MOLECULAR BASIS OF DENTAL SENSITIVITY:
THE ODONTOBLASTS ARE MULTISENSORY CELLS
AND EXPRESS MULTIFUNCTIONAL ION CHANNELS

Authors: A. Solé-Magdalena, M. Martínez-Alonso, C.A.
Coronado, L.M. Junquera, J. Cobo, J.A. Vega



PII: S0940-9602(17)30126-7
DOI: <https://doi.org/10.1016/j.aanat.2017.09.006>
Reference: AANAT 51187

To appear in:

Received date: 17-4-2017
Revised date: 22-8-2017
Accepted date: 10-9-2017

Please cite this article as: Solé-Magdalena, A., Martínez-Alonso, M., Coronado, C.A., Junquera, L.M., Cobo, J., Vega, J.A., MOLECULAR BASIS OF DENTAL SENSITIVITY: THE ODONTOBLASTS ARE MULTISENSORY CELLS AND EXPRESS MULTIFUNCTIONAL ION CHANNELS. *Annals of Anatomy* <https://doi.org/10.1016/j.aanat.2017.09.006>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

MOLECULAR BASIS OF DENTAL SENSITIVITY: THE ODONTOBLASTS ARE MULTISENSORY CELLS AND EXPRESS MULTIFUNCTIONAL ION CHANNELS

A. Solé-Magdalena^{1*}, M. Martínez-Alonso^{1*}, C.A. Coronado²,
L.M. Junquera^{3,4}, J. Cobo^{3,5}, J.A. Vega^{1,2}

¹Departamento de Morfología y Biología Celular Universidad de Oviedo, Spain

²Facultad de Ciencias Médicas, Universidad Autónoma de Chile, Chile

³Departamento de Especialidades Médico-Quirúrgicas, Universidad de Oviedo, Spain

⁴Servicio de Cirugía Maxilofacial, Hospital Universitario Central de Asturias, Oviedo, Spain

⁵Instituto Asturiano de Odontología, Oviedo, Spain

*These authors contributed equally to this paper

*To whom all correspondence should be addressed

José A. Vega, M.D., Ph.D.

Departamento de Morfología y Biología Celular

Facultad de Medicina y Ciencias de la Salud

C/ Julián Clavería, 6

33006 Oviedo, Spain

Email: javega@uniovi.es

Abstract.- Odontoblasts are the dental pulp cells responsible for the formation of dentin. In addition, accumulating data strongly suggest that they can also function as sensory cells that mediate the early steps of mechanical, thermic, and chemical dental sensitivity. This assumption is based on the expression of different families of ion channels involved in various modalities of sensitivity and the release of putative neurotransmitters in response to odontoblast stimulation which are able to act on pulp sensory nerve fibers. This review updates the current knowledge on the expression of transient-potential receptor ion channel and acid-sensing ion channels in odontoblasts, nerve fibers innervating them and trigeminal sensory neurons, as well as

Download English Version:

<https://daneshyari.com/en/article/8460373>

Download Persian Version:

<https://daneshyari.com/article/8460373>

[Daneshyari.com](https://daneshyari.com)