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Título Profesional o Grado Académico (incluya el año de obtención):

**LICENCIADO EN CIENCIAS BIOLÓGICAS, 1987, PONTIFICIA
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Estudios de Postgrado o Especialización (institución donde lo obtuvo y año de obtención):

**PH.D. IN MOLECULAR BIOLOGY, UNIVERSITY OF PENNSYLVANIA, USA,
1993. POSTDOCTORADO EN EL MASSACHUSETTS INSTITUTE OF
TECHNOLOGY, USA, 1994-1998.**

Actividad Actual e Institución en la cual trabaja:

**PROFESOR TITULAR DE LA UNIVERSIDAD DE CHILE. DEPARTAMENTO
DE BIOLOGÍA, FACULTAD DE CIENCIAS.**

Reseña de su actividad laboral actual:

Área de Investigación: Biología Celular y del Desarrollo. Genómica y genética de peces. Regeneración neural.

Director del Centro de Genómica Celular (2007-2010). Director del Centro de Regulación Genómica (Proyecto FONDAP 2010-2015)

PUBLICACIONES:

1. O'Brien, E., d'Alençon, C., Bonde, G., Schoenebeck, J., Murray, J., **Allende, M.L.**, Gelb, B., Yelon, D., Eisen, J.S., and Cornell, R.A. 2004. Transcription factor AP-2alpha is necessary for development of embryonic melanophores, autonomic neurons and pharyngeal skeleton in zebrafish. *Dev. Biol.* 265:246-261. ISI
2. Mackenzie, N., Reyes, A., Brito, M. and **Allende, M.L.** 2004. Cloning, expression and function of the high affinity copper transporter (Ctr1) gene in the zebrafish. *Gene* 328:113-120. ISI
3. Glavic, A., Maris-Honoré, S., Feijóo, C.G., **Allende, M.L.**, and Mayor, R. 2004. The homeoprotein iroquois and BMP and Notch signaling participate in the early specification of the cranial placodal field. *Dev. Biol.* 272:89-103. ISI
4. Feijóo, C.G., Manzanares, M., de la Calle-Mustienes, E., Gómez-Skarmeta, J.L., and **Allende, M.L.** 2004. The irx gene family in zebrafish: genomic structure, evolution and initial characterization of irx5b. *Dev. Genes Evol.* 214:277-284. ISI
5. Armas, P., Cachero, S., Lombardo, V., Weiner, A., **Allende, M.L.**, Calcaterra, N.B. 2004. Zebrafish cellular nucleic acid binding protein: gene structure and developmental behaviour. *Gene* 337:151-161. ISI
6. Cavodeassi, F., Carreira-Barbosa, F., Young, R., Concha, M., **Allende, M.L.**, Houart, C., Tada, M., Wilson, S. 2005. Early Stages of Zebrafish Eye Formation Require the Coordinated Activity of Wnt11, Fz5, and the Wnt/ β -Catenin Pathway. *Neuron* 47:43-56. ISI
7. de la Calle-Mustienes, E., Feijóo, C., Manzanares, M., Rodríguez-Seguel, E., Tena, J., Letizia, A., **Allende, M.L.**, Gómez-Skarmeta, J.L. 2005. A functional survey of conserved non-coding sequences from vertebrate *Iroquois* cluster gene deserts. *Genome Res.* 15:1061-1072. ISI
8. Villablanca, E., Renucci, A., Sapede, D., Lec, V., Soubiran, F., Sandoval, P., Dambly-Chaudière, C., Ghysen, A., **Allende, M.L.** 2006. Control of cell migration in the zebrafish lateral line: implication of the gene "tumor-associated calcium signal transducer", *tacstd*. *Dev. Dynam.* 235:1578-1588. ISI
9. Hernández, P., Moreno, V., Olivari, F., **Allende, M.L.** 2006. Sub-lethal concentrations of waterborne copper are toxic to lateral line neuromasts in zebrafish (*Danio rerio*). *Hearing Res.* 213:1-10. ISI
10. **Allende, M.L.**, Feijóo, C.G., Tena, J.J., Manzanares, M., Gómez-Skarmeta, J.L. 2006. Cracking the Genome's second code: Enhancer detection by combined phylogenetic footprinting and transgenic fish and frog embryos. *Methods* 39:212-219. ISI

11. Cerda, G., Thomas, J.E., Karlstrom, R.O., **Allende, M.L.**, Palma, V. 2006. Electroporation of DNA, RNA and morpholinos into zebrafish embryos. *Methods* 39:207-211. ISI
12. Sarrazin, A.F., Villablanca, E.J., Núñez, V.A., Sandoval, P., Ghysen, A., **Allende, M.L.** 2006. Proneural gene requirement for hair cell differentiation in the zebrafish lateral line. *Dev Biol.* 295:534-545. ISI
13. Rojas, D., Perez-Munizaga, DA, Centanin, L., Antonelli, M., Wappner, P., **Allende, ML**, Reyes, AE. 2007. Cloning of *hif-1 α* and *hif-2* and mRNA expression pattern during development in zebrafish. *Gene Expr. Patterns* 7:339-345. ISI
14. Hernández P, Olivari F, Sarrazin A, Sandoval P, **Allende ML**. 2007. Regeneration in zebrafish lateral line neuromasts: Expression of the neural progenitor cell marker Sox2 and proliferation-dependent and -independent mechanisms of hair cell renewal. *Dev. Neurobiol.* 67:637-654. ISI
15. Weiner, A.M.J., **Allende M.L.**, Becker, T.S., and Calcaterra, N.B. 2007. CNBP mediates neural crest cell expansion by controlling proliferation and cell survival during rostral head development. *J. Cell. Biochem.* 102:1553-1570. ISI
16. Villablanca E., Pistocchi A., Court F., **Allende ML.**, Cotelli F., Bordignon C., Traversari C., Russo V. 2007. Abrogation of PGE2/EP4 signaling impairs the development of rag1+ lymphoid precursors in the thymus of zebrafish embryos. *J. Immunol.* 179:357-364. ISI
17. Blanco MJ, Barrallo-Gimeno A, Acloque H, Reyes AE, Tada M, **Allende ML**, Mayor R, Nieto MA. 2007. *snail1a* and *1b* cooperate in the anterior migration of the axial mesendoderm in the zebrafish embryo. *Development* 134:4073-4081. ISI
18. Bergeron S, Milla LA, Villegas, R Shen M-C, Burgess S, **Allende ML**, Palma V, Karlstrom RO. 2008. Expression profiling identifies novel Hh/Gli regulated genes in developing zebrafish embryos. *Genomics* 91:165-177. ISI
19. Hernández P, **Allende ML**. 2008. The zebrafish as a discovery model for copper metabolism genes and markers. *Am J Clin Nutr* 88(suppl):835S-839S. ISI
20. Olivari, F, Hernández PP, **Allende ML**. 2008. Acute copper exposure induces oxidative stress and necrosis in lateral line hair cells of zebrafish larvae. *Brain Res* 1244:1-12. ISI
21. Feijóo CG, Saldias M, De la Paz J, Gómez-Skarmeta JL, **Allende ML**. 2009. Formation of posterior placode derivatives requires the *Iroquois* transcription factor *irx4a*. *Mol Cell Neurosci* 40:328-337. ISI

22. Núñez V, Sarrazin A, Cubedo N, **Allende ML**, Dambly-Chaudière C, Ghysen A. 2009. Post-embryonic development of the posterior lateral line in the zebrafish. *Evol Dev* 11:391-404. ISI
23. Behra M, Bradsher J, Sougrat R, Gallardo V, **Allende ML**, Burgess SM. 2009. Phoenix is required for mechanosensory hair cell regeneration in the zebrafish lateral line. *PLoS Genetics* 5(4): e1000455. doi:10.1371/journal.pgen.1000455. ISI
24. Feijóo CG, Sarrazin A, **Allende ML**, Glavic A. 2009. Cystein-serine rich nuclear protein 1, Axud1/Csrnp1, is essential for cephalic neural progenitor proliferation and survival in zebrafish. *Dev Dyn* 238:2034-2043. ISI
25. Pistocchi A, Feijóo CG, Cabrera P, Villablanca EJ, **Allende ML**, Cotelli F. 2009. The zebrafish prospero homolog prox1 is required for mechanosensory hair cell differentiation in the lateral line. *BMC Dev Biol* 9:58. DOI:10.1186/1471-213X-9-58.
26. Weiner AMJ, **Allende ML**, Calcaterra NB. 2009. Zebrafish cnbp intron 1 plays a fundamental role in controlling spatiotemporal gene expression during embryonic development. *J Cell Biochem* 108:1364-1375.
27. Gallardo VE, Liang J, Behra M, Elkahloun A, Villablanca EJ, Russo V, **Allende ML**, Burgess SM. 2010. Molecular dissection of the migrating posterior lateral line primordium during early development in zebrafish. *BMC Dev Biol* 10:120. ISI
28. d'Alençon C, Peña O, Wittmann C, Gallardo VE, Jones R, Loosli F, Liebel U, Grabher C, **Allende ML**. 2010. A high-throughput chemically induced inflammation assay in zebrafish. *BMC Biol* 8:151. ISI
29. Hernández PP, Undurraga C, Gallardo VE, Mackenzie NC, **Allende ML***, Reyes AE. 2011. Waterborne copper exposure influences gene expression, cell survival and embryonic development in zebrafish embryos. *Biol Res* 44:7-15. ISI
30. **Allende ML***, Calcaterra NB, Viana MR, Zolessi FR. 2011. First Meeting of the Latin American Zebrafish Network. *Zebrafish* 8:1-3. ISI
31. Valdivia LE, Young RM*, Hawkins TA, Stickney HL, Cavodeassi F, Schwarz Q, Pullin LM, Villegas R, Moro E, Argenton F, **Allende ML*** and Wilson SW*. 2011. Lef1-dependent Wnt/ β -catenin signalling drives the proliferative engine that maintains tissue homeostasis during lateral line development. *Development* 138:3931-3941. ISI
32. Villegas R, Martin SM, O'Donnell K, Carrillo S, Sagasti A, **Allende ML**. 2012. Dynamics of degeneration and regeneration of zebrafish peripheral axons reveals a requirement for extrinsic cell types. *Neural Dev* 7:19. ISI

33. Quezada M, Alvarez M, Peña OA, Henríquez S, d'Alençon CA, Lange S, Oliva B, Owen GI, **Allende ML**. 2012. Antiangiogenic, antimigratory and antiinflammatory effects of 2-Methoxyestradiol in zebrafish larvae. *Comparative Biochemistry and Physiology, Part C*. 157:141-149. ISI
34. Armas P, Margarit E, Mouguelar VS, **Allende ML**, Calcaterra NB. 2013. Beyond the binding site: *in vivo* identification of *tbx2*, *smarca5* and *wnt5b* as molecular targets of CNBP during embryonic development. *PLoS One*. 8: e63234. ISI
35. Moya-Díaz J, Peña O, Sánchez M, Ureta D, Reynaert N, Anguita-Salinas C, Marín G, **Allende ML**. 2013. Electroablation: a method for axotomy and localized tissue injury. *BMC Dev Biol*. (In Press). ISI

PROYECTOS DE INVESTIGACIÓN: (Últimos 10 años)

- Principal Investigator of the program of the Millennium Scientific Initiative, "Millennium Nucleus in Developmental Biology". 12/99-12/06 (Director of the Nucleus comprising 8 researchers).
- Principal Investigator of the ICGEB Collaborative Research Programme Project CRP/CHI03-03(c).
- Principal Investigator of the International ECOS/CONICYT cooperation grants with France # C03B01. 01/04-01/06 and C06B01. 01/07-12/08.
- Principal Investigator of the CONICYT/DFG cooperation grant with Germany #045-2006. 10/06-09/08.
- Principal Investigator of the Fondecyt grant, "Desarrollo y regeneración de células ciliadas mecanosensoriales en la línea lateral del pez cebra.", #1070867. 3/07-3/11.
- Principal Investigator (Director) Millennium Nucleus "Center for Genomics of the Cell". 2007-2010.
- Principal Investigator of the grant from the Programa Bicentenario de Ciencia y Tecnología "Apoyo al Desarrollo de Colaboración Internacional", #ACI 39. 03/2007-03/2008.
- Principal Investigator of the grant from CORFO-INNOVA "Desarrollo de un Centro de Prospección de Compuestos para la Industria Acuícola usando Tecnología high-throughput in-vivo". 2010-2012.
- Investigator of the grant from CORFO-INNOVA "Reducción del impacto de enfermedades en la industria salmonera: sistema de evaluación y monitoreo de su condición sanitaria" 2010-2013.

- Principal Investigator of the Fondecyt Grant "Requirement of coordinated cellular interactions for mechanosensory system regeneration" #1110275. 2011-2014.
- Principal Investigator (Director) of the Center for Genome Regulation, funded by FONDAP, 2011-2021.

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