

Angel Nadal

Curriculum vitae

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Angel Nadal is Professor of Physiology at the Universidad Miguel Hernández de Elche (UMH), Alicante, Spain. He is the head of the Basic Research Unit in Diabetes at UMH (<http://diabetes.umh.es/>), Deputy Director of IDiBE-UMH (<https://idibe.es/>) and principal investigator and member of the CIBERDEM steering committee (<https://www.ciberdem.org/>). His scientific interest is focused on studying the effect of endocrine disruptors with estrogenic activity on the development of diabetes mellitus. In 1998 he started a research line to better understand the role that extranuclear actions of estrogen receptors have in the endocrine pancreas. The findings of this research line have been important to molecularly understand low dose effects triggered by Endocrine Disruptors with estrogenic activities, mainly bisphenol-A. In 2006, his research group demonstrated that bisphenol-A exposure induced hyperinsulinemia and insulin resistance in adult male mice. During the last decade, they probed that bisphenol-A exposure during pregnancy predisposed male offspring as well as treated dams to type 2 diabetes mellitus. These findings have been seminal to establish the link between Endocrine Disruptors exposure and Diabetes Mellitus.

He has been an invited speaker at over 100 conferences and seminars all over the world. In 2008 he was a invited speaker at the Nobel Conference "Recent Advances in Understanding Estrogen Signaling: From Molecular Insights to Clinical Applications", Stockholm, Sweden and in 2014 he was "Keynote Speaker" at the "Gordon Research Seminar on Endocrine Disrupting Chemicals", Il Ciocco, Italy. He is the Chair of the Gordon Research Conference on Environmental Endocrine Disruptors, 2024 to be held in Il Ciocco, Italy. He is regularly involved in improving regulatory standards for endocrine disruptor exposure, having served as an expert on international events organized by WHO, United Nations Environment and the European Commission. From March 2017 he has been a member of the Endocrine Society's advisory group on endocrine disruptors (<https://www.endocrine.org/topics/edc>), which he chaired from March 2017 to March 2020. Since 2022 he is also a member of the EDCs working group of the European Society of Endocrinology

He has been recognized by the Spanish Society of Diabetes award to the best young investigator (2004) and The Alberto Sols award to basic diabetes research (2017).

His interest continues in studying how the environment affects β -cell division, death and function and its implication in diabetes development.

Expertise

Environment and diabetes mellitus, environmental health, endocrine disrupting chemicals, estrogen signaling.

Academic Training

1990-1992 PhD in Neuroscience (Cum laude), Institute of Neuroscience, Universidad de Alicante. Alicante, Spain.

1984-1989 Licenciado en Ciencias (BSc, Chemistry) (Diploma requiring 5 years studies), Universidad Autónoma de Madrid, Madrid, Spain.

Academic Positions

October 2018-Present **Professor of Physiology and Deputy Director** IDiBE, Miguel Hernández University of Elche, Elche, Alicante, Spain.

December 2009-September 2018 **Professor of Physiology**, Institute of Bioengineering and CIBERDEM, Miguel Hernández University of Elche, Elche, Alicante, Spain.

May 1998-December 2009 **Associate Professor of Physiology**, Department of Physiology, Miguel Hernández University of Elche, Elche, Alicante, Spain.

January 1997- May 1998. **Research Fellow** (Supervisor Prof Bernat Soria), Spanish Ministry of Science and Culture, Miguel Hernández University of Elche, Elche, Alicante, Spain.

October 1995-December 1996. **Lecturer on Physiology**, Department of Physiology, Biomedical Sciences Division, King's College London. London, UK.

January 1994-September 1995. **Postdoctoral Fellow** (Supervisor: Prof. Peter A. McNaughton). Training and Mobility Researchers Program, European Union, Individual Fellowship, Department of Physiology, Biomedical Sciences Division, King's College London. London, UK.

November 1992-December 1993. **Research Associate** (Supervisor: Prof. Peter A. McNaughton), Department of Physiology, Biomedical Sciences Division, King's College London. London, UK.

1992 (3 months). **Graduate student** (Supervisor Prof. David C. Spray). Scholarship from the Spanish Ministry of Education and Sciences, Department of Neurosciences, Albert Einstein College of Medicine. New York, USA.

1991 (2 months). **Graduate student** (Supervisor Prof. Paolo Meda). Scholarship from the Spanish Ministry of Education and Sciences. Department of Morphology, University of Geneva. Geneva, Switzerland.

1990-1992. **PhD student** (Supervisors Prof. Miguel Valdeolmillos and Prof Bernat Soria). Scholarship from the Spanish Ministry of Education and Sciences, Institute of Neuroscience and Department of Physiology, University of Alicante. Alicante, Spain.

External Research Funding (since 2000)

2021-2024 Crosstalk among ERalpha, ERbeta and GPER in pancreatic beta-cells and its role in K⁺-channels regulation and apoptosis induced by environmental estrogens. Spanish Research Agency- Ministry of Science and Innovation (PI). 338.000 €.

2019-2023 Generation Of Novel, Integrated and Internationally Harmonised Approaches for Testing Metabolism Disrupting Compounds (GOLIATH). European Commission H2020 (PI). 676.862,50 €.

2020-2023 Regulation of viability and function of pancreatic β and α cells by estrogen receptors ER β and GPER: role in the therapy of diabetes mellitus. Generalitat Valenciana. PROMETEO program for groups of excellence (PI). 262.578,00 €.

2021-2023 Molecular imaging system by mass cytometry. State Research Agency- Government of Spain. Grants for the acquisition of scientific-technical equipment 2021. Participating Scientist. 816.289,23 €.

2021-2022 Preclinical unit to quantify molecular interactions to optimize drug candidates. Generalitat Valenciana. Grants for infrastructure and equipment. Participating Scientist. 283.000,00 €.

2019-2020 Optical-electron correlative microscopy to equip the Translational Nanotechnology Platform (PATENT) with super-resolution microscopy. Spanish Research Agency-Ministry of Science and Education. Participating Scientist. 322.757,32 €

2017-2021 Effects of simultaneous exposure to endocrine disruptors and high-fat diet on pancreatic beta cell and implications for type 2 diabetes mellitus. Spanish Ministry of Science and Innovation, State Research Agency (PI). 242.000,00 €.

2015-2017 Role of estrogenic environment during pregnancy on pancreatic beta cell mass and function. Spanish Ministry of Economy and Competitiveness (PI). 254.100,00 €.

2015-2018 Role of estrogen receptors in the regulation of pancreatic beta and alfa cell mass during pregnancy. Generalitat Valenciana. PROMETEO program for groups of excellence (PI). 215.760.00 €.

2012-2014 Bisphenol-A effects on blood glucose homeostasis, the function of islet of Langerhans and insulin signaling in mice. Spanish Ministry of Economy and Competitiveness (PI). 260.150,00 €.

2011-2014 Characterization of the rapid insulinotropic effect of specific estrogen receptor Beta agonists: Implications in the treatment of diabetes. PROMETEO grants for groups of excellence. Generalitat Valenciana, Spain. (PI) 238.170,00 €

2009-2011 Rapid and long-term actions of estrogen receptor activation on insulin content, secretion and survival of pancreatic beta cells. Spanish Ministry of Science and Innovation (PI). 121.000,00 €.

2010 Rapid and long term actions of estrogen receptor activation on insulin content, secretion and survival of pancreatic beta cells. Complementary Grant. Generalitat Valenciana (PI). 20.000 €.

Since 2008-Present CIBER Diabetes y Enfermedades Metabólicas Asociadas (CIBERDEM). Instituto de Salud Carlos III. Spanish Ministry of Health (PI). Approx 60000 €/year.

2007 Network of Diabetes and Related Metabolic Diseases. Instituto de Salud Carlos III. Spanish Ministry of Health (PI). 46.800,00 €.

2005-2008 Role of classic and non-classic estrogen receptors in the plasticity of the endocrine pancreas. Spanish Ministry of Education and Sciences. (PI). 121.000,00 €.

2003-2005 Hormonal regulation of ion channels in the endocrine pancreas. Spanish Ministry of Science and Technology (PI). 86.000,00 €.

2003-2006 Regulation of signaling in the endocrine pancreas by the endocannabinoid system. Instituto de Salud Carlos III. Participating Scientist. 55.200,00 €.

2005 Image acquisition and analysis system. Generalitat Valenciana. Infrastructure 05/008. Participating Scientist. 71.026,80 €.

2004 Microscopy unit, incubation unit, washing unit, refrigeration unit. Generalitat Valenciana. Infrastructure 04/036. Participating Scientist. 107.506,67 €.

2003-2006 Cooperative Research Thematic Networks (C03/08): "Molecular determinants of metabolism and nutrition. Hormonal biocommunication. New therapeutic strategies". Instituto de Salud Carlos III. Participating Scientist. 151.665,00 €

2003-2006 Spanish Network of Pancreatic Islet Transplantation (RETIP). Instituto de Salud Carlos III. Participating Scientist. 297.173,00 €

2003-2006 Metabolic and molecular defects in diabetes mellitus complications: gene therapy. Instituto de Salud Carlos III. Participating Scientist 103.738 €.

2000-2003 Bioengineering of the islet of Langerhans: reconstruction of pancreatic endocrine function using cells obtained from embryonic pluripotent stem cells. Ministry of Science and Technology. Participating Scientist. 27.000.000 pts

2000-2002 Physiological adaptations in the modification of the insulin supply-demand ratio. Fundació TV3. Participating Scientist. 20.805.000 pts.

2000-2002 Study of the plasma membrane estrogen receptor and its involvement in the actions of xenoestrogens in the pancreatic β -cell. Fundación Navarro-Trípodi (PI). 875.000 pts

Awards

2004 National award to the best young investigator in Diabetes. Spanish Society of Diabetes.

2017 Alberto Sols Award to Basic Diabetes Research. Spanish Society of Diabetes

Publications

Articles and Reviews

1. Vom Saal FS, Antoniou M, Belcher SM, Bergman A, Bhandari RK, Birnbaum LS, Cohen A, Collins TJ, Demeneix B, Fine AM, Flaws JA, Gayraud V, Goodson WH 3rd, Gore AC, Heindel JJ, Hunt PA, Iguchi T, Kassotis CD, Kortenkamp A, Mesnage R, Muncke J, Myers JP, **Nadal A**, Newbold RR, Padmanabhan V, Palanza P, Palma Z, Parmigiani S, Patrick L, Prins GS, Rosenfeld CS, Skakkebaek NE, Sonnenschein C, Soto AM, Swan SH, Taylor JA, Toutain PL, von Hippel FA, Welshons WV, Zalko D, Zoeller RT. (2024) The Conflict between Regulatory Agencies over the 20,000-Fold Lowering of the Tolerable Daily Intake (TDI) for Bisphenol A (BPA) by the European Food Safety Authority (EFSA). *Environmental Health Perspectives* 132(4):45001. doi: 10.1289/EHP13812.
2. Martínez-Pinna J, Sempere-Navarro R, Medina-Gali RM, Fuentes E, Quesada I, Sargis RM, Trasande L, **Nadal A**. (2023) Endocrine disruptors in plastics alter β -cell physiology and increase the risk of diabetes mellitus. *American Journal of Physiology-Endocrinology and Metabolism* 324(6): E488-E505. doi: 10.1152/ajpendo.00068.2023.
3. Muncke J, Andersson AM, Backhaus T, Belcher SM, Boucher JM, Carney Almroth B, Collins TJ, Geueke B, Groh KJ, Heindel JJ, von Hippel FA, Legler J, Maffini MV, Martin OV, Peterson Myers J, **Nadal A**, Nerin C, Soto AM, Trasande L, Vandenberg LN, Wagner M, Zimmermann L, Thomas Zoeller R, Scheringer M. (2023) A vision for safer food contact materials: Public health concerns as drivers for improved testing. *Environment International* 180:108161. doi: 10.1016/j.envint.2023.108161.
4. Heindel JJ, Alvarez JA, Atlas E, Cave MC, Chatzi VL, Collier D, Corkey B, Fischer D, Goran MI, Howard S, Kahan S, Kayhoe M, Koliwad S, Kotz CM, La Merrill M, Lobstein T, Lumeng C, Ludwig DS, Lustig RH, Myers P, **Nadal A**, Trasande L, Redman LM, Rodeheffer MS, Sargis RM, Stephens JM, Ziegler TR, Blumberg B. (2023) Obesogens and Obesity: State-of-the-Science and Future Directions Summary from a Healthy Environment and Endocrine Disruptors Strategies Workshop. *American Journal of Clinical Nutrition* 118(1):329-337. doi: 10.1016/j.ajcnut.2023.05.024.
5. Dos Santos RS, Guzman-Llorens D, Perez-Serna AA, **Nadal A**, Marroqui L. (2023) Deucravacitinib, a tyrosine kinase 2 pseudokinase inhibitor, protects

- human EndoC- β H1 β -cells against proinflammatory insults. *Frontiers in Immunology* 14:1263926. doi: 10.3389/fimmu.2023.1263926.
6. Dos Santos RS, Babiloni-Chust I, Marroqui L, **Nadal A.** (2023) Screening of Metabolism-Disrupting Chemicals on Pancreatic α -Cells Using In Vitro Methods. *International Journal of Molecular Sciences* 24(1):231. doi: 10.3390/ijms24010231.
 7. Perez-Serna AA, Dos Santos RS, Ripoll C, **Nadal A,** Eizirik DL, Marroqui L. (2023) BCL-XL Overexpression Protects Pancreatic β -Cells against Cytokine- and Palmitate-Induced Apoptosis. *International Journal of Molecular Sciences* 24(6):5657. doi: 10.3390/ijms24065657.
 8. Babiloni-Chust I, Dos Santos RS, Medina-Gali RM, Perez-Serna AA, Encinar JA, Martinez-Pinna J, Gustafsson JA, Marroqui L, **Nadal A.** (2022) G protein-coupled estrogen receptor activation by bisphenol-A disrupts the protection from apoptosis conferred by the estrogen receptors ER α and ER β in pancreatic beta cells. *Environment International* 164:107250. doi: 10.1016/j.envint.2022.107250.
 9. Dos Santos RS, Medina-Gali RM, Babiloni-Chust I, Marroqui L, **Nadal A.** (2022) In Vitro Assays to Identify Metabolism-Disrupting Chemicals with Diabetogenic Activity in a Human Pancreatic β -Cell Model. *International Journal of Molecular Sciences* 23(9):5040. doi: 10.3390/ijms23095040.
 10. Tudurí E, Soriano S, Almagro L, Montanya E, Alonso-Magdalena P, **Nadal Á,** Quesada I. (2022) The pancreatic β -cell in ageing: Implications in age-related diabetes. *Ageing Research Reviews* 80:101674. doi: 10.1016/j.arr.2022.101674.
 11. Tudurí E, Soriano S, Almagro L, García-Heredia A, Rafacho A, Alonso-Magdalena P, **Nadal Á,** Quesada I. (2022) The Effects of Aging on Male Mouse Pancreatic β -Cell Function Involve Multiple Events in the Regulation of Secretion: Influence of Insulin Sensitivity. *Journal of Gerontology A Biological Sciences Medical Sciences* 77(3):405-415. doi: 10.1093/gerona/glab276.
 12. Marroqui L, Martinez-Pinna J, Castellano-Muñoz M, Dos Santos RS, Medina-Gali RM, Soriano S, Quesada I, Gustafsson JA, Encinar JA, **Nadal A.** (2021) Bisphenol-S and Bisphenol-F alter mouse pancreatic β -cell ion channel expression and activity and insulin release through an estrogen receptor ER β mediated pathway. *Chemosphere*. 265:129051. doi: 10.1016/j.chemosphere.2020.129051.
 13. García-Arévalo M, Lorza-Gil E, Cardoso L, Batista TM, Araujo TR, Ramos LAF, Areas MA, **Nadal A,** Carneiro EM, Davel AP. (2021) Ventricular Fibrosis and Coronary Remodeling Following Short-Term Exposure of Healthy and Malnourished Mice to Bisphenol A. *Frontiers in Physiology*. 12:638506. doi: 10.3389/fphys.2021.638506.
 14. Sala E, Vived C, Luna J, Saavedra-Ávila NA, Sengupta U, Castaño AR, Villar-Pazos S, Haba L, Verdager J, Ropero AB, Stratmann T, Pizarro J, Vázquez-Carrera M, **Nadal A,** Lahti JM, Mora C. (2021) CDK11 Promotes Cytokine-

Induced Apoptosis in Pancreatic Beta Cells Independently of Glucose Concentration and Is Regulated by Inflammation in the NOD Mouse Model. *Frontiers Immunology*. 12:634797. doi: 10.3389/fimmu.2021.634797.

15. Quesada-Candela C, Tudurí E, Marroquí L, Alonso-Magdalena P, Quesada I, **Nadal A.** (2020) Morphological and functional adaptations of pancreatic alpha-cells during late pregnancy in the mouse. *Metabolism Clinical and Experimental* 102, 153963. doi: 10.1016/j.metabol.2019.153963.
16. Muncke J, Andersson AM, Backhaus T, Boucher JM, Carney Almroth B, Castillo Castillo A, Chevrier J, Demeneix BA, Emmanuel JA, Fini JB, Gee D, Geueke B, Groh K, Heindel JJ, Houlihan J, Kassotis CD, Kwiatkowski CF, Lefferts LY, Maffini MV, Martin OV, Myers JP, **Nadal A**, Nerin C, Pelch KE, Fernández SR, Sargis RM, Soto AM, Trasande L, Vandenberg LN, Wagner M, Wu C, Zoeller RT, Scherlinger M. (2020) Impacts of food contact chemicals on human health: a consensus statement. *Environmental Health* 19(1):25. doi: 10.1186/s12940-020-0572-5.
17. Boronat-Belda T, Ferrero H, Al-Abdulla R, Quesada I, Gustafsson JA, **Nadal A**, Alonso-Magdalena P. (2020) Bisphenol-A exposure during pregnancy alters pancreatic β -cell division and mass in male mice offspring: A role for ER β . *Food and Chemical Toxicology* 145:111681. doi: 10.1016/j.fct.2020.111681.
18. Alonso-Magdalena P, **Nadal A.** (2020) The Commonly Overlooked Factor. Commentary on: "Environmental Obesogens and their Impact on Susceptibility to Obesity". *Endocrinology*. 161(9):bqaa123. doi: 10.1210/endo/bqaa123.
19. Legler J, Zalko D, Jourdan F, Jacobs M, Fromenty B, Balaguer P, Bourguet W, Munic Kos V, **Nadal A**, Beausoleil C, Cristobal S, Remy S, Ermler S, Margiotta-Casaluci L, Griffin JL, Blumberg B, Chesné C, Hoffmann S, Andersson PL, Kamstra JH. (2020) The GOLIATH Project: Towards an Internationally Harmonised Approach for Testing Metabolism Disrupting Compounds. *International Journal of Molecular Sciences* 21(10):3480. doi: 10.3390/ijms21103480.
20. Gibert Y, **Nadal A**, Sargis R eds. (2020). *Endocrine Disrupters and Metabolism*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88963-422-4 (ebook)
21. Gibert Y, **Nadal A**, Sargis RM. (2019) Editorial: Endocrine Disrupters and Metabolism, Special Topic. *Frontiers in Endocrinology* doi: 10.3389/fendo.2019.00859.
22. Martinez-Pinna J, Marroqui L, Hmadcha A, Lopez-Beas J, Soriano S, Villar-Pazos S, Alonso-Magdalena P, Dos Santos RS, Quesada I, Martin F, Soria B, Gustafsson JÅ, **Nadal A.** (2019) Oestrogen receptor β mediates the actions of bisphenol-A on ion channel expression in mouse pancreatic beta cells. *Diabetologia* 62(9):1667-1680. doi: 10.1007/s00125-019-4925-y.
23. Esteban J, Serrano-Maciá M, Sánchez-Pérez I, Alonso-Magdalena P, Pellín MC, García-Arévalo M, **Nadal A**, Barril J. (2019) In utero exposure to bisphenol-A

disrupts key elements of retinoid system in male mice offspring. *Food Chemical Toxicology* 126:142-151. doi: 10.1016/j.fct.2019.02.023.

24. Bru-Tari E, Cobo-Vuilleumier N, Alonso-Magdalena P, Dos Santos RS, Marroqui L, **Nadal A**, Gauthier BR, Quesada I. (2019) Pancreatic alpha-cell mass in the early-onset and advanced stage of a mouse model of experimental autoimmune diabetes. *Scientific Reports* 9(1):9515. doi: 10.1038/s41598-019-45853-1.
25. Soriano S, Castellano-Muñoz M, Rafacho A, Alonso-Magdalena P, Marroquí L, Ruiz-Pino A, Bru-Tarí E, Merino B, Irlés E, Bello-Pérez M, Iborra P, Villar-Pazos S, Vettorazzi JF, Montanya E, Luque RM, **Nadal Á**, Quesada I. (2019) Cortistatin regulates glucose-induced electrical activity and insulin secretion in mouse pancreatic beta-cells. *Molecular Cellular Endocrinology* 479:123-132. doi: 10.1016/j.mce.2018.09.009.
26. Soriano S, Gil-Rivera M, Marroqui L, Alonso-Magdalena P, Fuentes E, Gustafsson JA, **Nadal A**, Martinez-Pinna J. (2019) Bisphenol A Regulates Sodium Ramp Currents in Mouse Dorsal Root Ganglion Neurons and Increases Nociception. *Scientific Reports* 9(1):10306. doi: 10.1038/s41598-019-46769-6.
27. Zoeller RT, Doan L, Demeneix B, Gore AC, **Nadal A**, Tan S. (2019) Update on Activities in Endocrine Disruptor Research and Policy. *Endocrinology* 160(7):1681-1683.
28. Alonso-Magdalena P, Tudurí E, Marroqui L, Quesada I, Sargis RM, Nadal A (2019) Toxic effects of common environmental pollutants in pancreatic β -cells and the onset of diabetes mellitus *Encyclopedia of Endocrine Diseases*, pp. 764–775.
29. Stahlhut RW, Myers JP, Taylor JA, **Nadal A**, Dyer JA, Vom Saal FS. Experimental BPA (2018) Exposure and Glucose-Stimulated Insulin Response in Adult Men and Women. *Journal of the Endocrine Society* 2(10):1173-1187. doi: 10.1210/js.2018-00151.
30. Marroqui L, Tuduri E, Alonso-Magdalena P, Quesada I, **Nadal A**, Dos Santos RS. (2018) Mitochondria as a target of endocrine-disrupting chemicals: implications for type 2 diabetes. *Journal of Endocrinology*. JOE-18-0362. doi: 10.1530/JOE-18-0362.
31. **Nadal A**, Fuentes E, Ripoll C, Villar-Pazos S, Castellano-Muñoz M, Soriano S, Martinez-Pinna J, Quesada I, Alonso-Magdalena P. (2018) Extranuclear-initiated estrogenic actions of endocrine disrupting chemicals: Is there toxicology beyond Paracelsus? *Journal of Steroid Biochemistry and Molecular Biology*. 176:16-22.
32. Nuñez P, Fernandez T, García-Arévalo M, Alonso-Magdalena P, **Nadal A**, Perillan C, Arguelles J. (2018) Effects of bisphenol A treatment during pregnancy on kidney development in mice: a stereological and histopathological study. *Journal of Developmental Origins of Health and Disease*. 9(2):208-214.

33. Gallo F, Fossi C, Weber R, Santillo D, Sousa J, Ingram I, **Nadal A**, Romano D. (2018) Marine litter plastics and microplastics and their toxic chemicals components: the need for urgent preventive measures. *Environmental Sciences Europe*.30(1):13.
34. Martinez-Pinna J, Soriano S, Tudurí E, **Nadal A**, de Castro F. (2018) A Calcium-Dependent Chloride Current Increases Repetitive Firing in Mouse Sympathetic Neurons. *Frontiers in Physiology*. 9:508. doi: 10.3389/fphys.2018.00508.
35. **Nadal A**, Quesada I, Tudurí E, Nogueiras R, Alonso-Magdalena P. (2017) Endocrine-disrupting chemicals and the regulation of energy balance. *Nature Reviews Endocrinology*. 13: 536-546.
36. Tudurí E, López M, Diéguez C, **Nadal A**, Nogueiras R. (2017) GPR55 and the regulation of glucose homeostasis. *International Journal of Biochemistry and Cell Biology*. 88: 204-207.
37. Mimoto MS, **Nadal A**, Sargis RM. (2017) Polluted Pathways: Mechanisms of Metabolic Disruption by Endocrine Disrupting Chemicals. *Current Environmental Health Reports*. 4(2):208-222.
38. Heindel JJ, Blumberg B, Cave M, Macthinger R, Mantovani A, Mendez MA, **Nadal A**, Palanza P, Panzica G, Sargis R, Vandenberg LN, Saal FV. (2017) Metabolism Disrupting Chemicals and Metabolic Disorders. *Reproductive Toxicology*. 68:3-33.
39. Villar-Pazos S, Martinez-Pinna J, Castellano-Muñoz M, Alonso-Magdalena P, Marroqui L, Quesada I, Gustafsson JA, **Nadal A**. (2017) Molecular mechanisms involved in the non-monotonic effect of bisphenol-a on Ca²⁺ entry in mouse pancreatic β -cells. *Scientific Reports*. 7(1):11770. doi: 10.1038/s41598-017-11995-3.
40. García-Arévalo M, Alonso-Magdalena P, Servitja JM, Boronat T, Merin B, Villar S, Medina-Gómez G, Novials A, Quesada I, **Nadal A**. (2016) Maternal exposure to bisphenol-a during pregnancy increases pancreatic β -cell growth during early life in male mice offspring. *Endocrinology*. 157:4158-4171.
41. Tudurí E, López M, Diéguez C, **Nadal A**, Nogueiras R. (2016) Glucagon-Like Peptide 1 Analogs and their Effects on Pancreatic Islets. *Trends in Endocrinology and Metabolism*. 27:304-318.
42. Lind L, Lind PM, Lejonklou MH, Dunder L, Bergman Å, Guerrero-Bosagna C, Lampa E, Lee HK, Legler J, **Nadal A**, Pak YK, Phipps RP, Vandenberg LN, Zalko D, Ågerstrand M, Öberg M, Blumberg B, Heindel JJ, Birnbaum LS. (2016) Uppsala Consensus Statement on Environmental Contaminants and the Global Obesity Epidemic. *Environmental Health Perspectives*. 124(5): A81-A83.
43. Santos RS, Batista TM, Camargo RL, Morato PN, Borck PC, Leite NC, Kurauti MA, Wanschel AC, **Nadal A**, Clegg DJ, Carneiro EM. (2016) Lacking of

estradiol reduces insulin exocytosis from pancreatic β -cells and increases hepatic insulin degradation. *Steroids*. 114:16-24.

44. Soriano S, Ripoll C, Alonso-Magdalena P, Fuentes E, Quesada I, **Nadal A**, Martinez-Pinna J. (2016) Effects of Bisphenol A on ion channels: experimental evidence and molecular mechanisms. *Steroids*. 111:12-20.
45. Vettorazzi JF, Ribeiro RA, Borck PC, Souto Branco RC, Soriano S, Merino B, Boschero AC, **Nadal A**, Quesada I, Carneiro EM. (2016) The bile acid TUDCA increases glucose-induced insulin secretion via the cAMP/PKA pathway in the pancreatic β -cell. *Metabolism Clinical and Experimental* 65:54–63.
46. Alonso-Magdalena P, Quesada I, **Nadal A** (2015) Prenatal exposure to BPA and offspring outcomes: The diabetesogenic behavior of BPA. *Dose-Response* 3(2):1559325815590395. doi: 10.1177/1559325815590395.
47. Alonso-Magdalena P, García-Arévalo M, Quesada I, **Nadal A** (2015) Bisphenol-A treatment during pregnancy in mice: A new window of susceptibility for the development of diabetes in mothers later in life. *Endocrinology*. 156(5): 1659 – 1670.
48. Merino B, Alonso-Magdalena P, Lluesma M, Ñeco P, Gonzalez A, Marroquí L, García-Arévalo M, **A. Nadal**, I. Quesada. (2015) Pancreatic alpha-cells from female mice undergo morphofunctional changes during compensatory adaptations of the endocrine pancreas to diet-induced obesity. *Scientific Reports* 5:11622. doi: 10.1038/srep11622.
49. Gore AC, Chappell VA, Fenton SE, Flaws JA, **Nadal A**, Prins GS, Toppari J, Zoeller RT (2015) Executive Summary to EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. *Endocrine Reviews*. 36(6): 593 - 602.
50. Gore AC, Chappell VA, Fenton SE, Flaws JA, **Nadal A**, Prins GS, Toppari J, Zoeller RT (2015) EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. *Endocrine Reviews*. 36(6):1-150.
51. Irls E, Ñeco P, Lluesma M, Villar-Pazos S, Santos-Silva JC, Vettorazzi JF, Alonso-Magdalena P, Carneiro EM, Boschero AC, **Nadal A**, Quesada I. (2015) Enhanced glucose-induced intracellular signaling promotes insulin hypersecretion: Pancreatic beta-cell functional adaptations in a model of genetic obesity and prediabetes. *Molecular and Cellular Endocrinology*. 404:46 -55.
52. Santos-Silva JC, Ribeiro RA, Vettorazzi JF, Irls E, Rickli S, Borck PC, Porciuncula PM, Quesada I, **Nadal A**, Boschero AC, Carneiro EM. (2015) Taurine supplementation ameliorates glucose homeostasis, prevents insulin and glucagon hypersecretion, and controls β , α , and δ -cell masses in genetic obese mice. *Amino Acids*. 47(8):1533 - 1548.

53. Rafacho A, Ortsäter H, **Nadal A**, Quesada I. (2014) Glucocorticoid treatment and endocrine pancreas function: Implications for glucose homeostasis, insulin resistance and diabetes. *Journal of Endocrinology*. 223(3):R49 - R62.
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149. Valdeolmillos M, **Nadal A**, Soria B, García-Sancho J. (1993) Fluorescence digital image analysis of glucose-induced [Ca²⁺]_i oscillations in mouse pancreatic islets of Langerhans. *Diabetes*. 42(8):1210 - 1214.
150. Valdeolmillos M, **Nadal A**, Contreras D, Soria B. (1992) The relationship between glucose-induced K⁺_{ATP} channel closure and the rise in [Ca²⁺]_i in single mouse pancreatic beta-cells. *The Journal of Physiology*. 455(1):173 - 186.
151. Santos RM, Rosario LM, **Nadal A**, García-Sancho J, Soria B, Valdeolmillos M. (1991) Widespread synchronous [Ca²⁺]_i oscillations due to bursting electrical activity in single pancreatic islets. *Pflügers Archiv European Journal of Physiology*. 418(4) :417-422.

Books and book chapters

1. Gibert Y, **Nadal A**, Sargis R eds. (2020). *Endocrine Disrupters and Metabolism*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88963-422-4 (ebook).
2. Sánchez-Andrés JV, **Nadal A**, Martin F and Soria B (1994) Sequential effects of muscarinic agonists on glucose-induced electrical activity and cytosolic [Ca²⁺]_i in the pancreatic β-cell. In: *Frontiers of insulin secretion and pancreatic β-cell research*". Eds: P. Flatt and S. Lenzen. Smith-Gordon/Nishimura, UK/Japan. pp. 353-358.
3. **Nadal A**, Valdeolmillos M and Soria B (1994) [Ca²⁺]_i changes induced by tolbutamide in single pancreatic islets. In: "Frontiers of insulin secretion and pancreatic β-cell research". Eds: P. Flatt and S. Lenzen. Smith-Gordon/Nishimura, UK/Japan. pp. 237-241.
4. **Nadal A**, Soria B and Valdeolmillos M (1995) Multicellular synchronous oscillations in pancreatic β-cells. In: "Pacemaker and intercellular communication.

Common mechanism in diverse systems”. Ed. J.D. Huizinga, CRC Press Inc., NY pp. 185-296.

5. **Nadal A** and Soria B (2000) Imaging intracellular calcium in living tissue by confocal microscopy. In: “Calcium: The molecular basis of calcium action in Biology and Medicine”. R. Pochet, R. Donato, J. Haiech, C. Eximan and V. Gerke (eds). Kluwer Academic Publisher, The Netherlands. Pp: 661-671.
6. Ropero AB and **Nadal A** (2003) Characteristics of a nonclassical membrane estrogen receptor in the endocrine pancreas. In: Identities of Membrane Steroid Receptors. Ed: Cheryl S. Watson. Kluwer Academic Publisher, The Netherlands. Pp: 169-176.

Keynote, Plenary and Distinguished Lecturerships

2023 Plenary Speaker, Endocrine Society of France, Marseille

2023 Opening Lecture, Catalan Diabetes Association, Terrassa (Barcelona).

2014 Keynote Speaker. Gordon Research Seminars-Endocrine Disrupting Chemicals. Il Ciocco, Italy.

2013 Opening Lecture. Disruptores endocrinos y diabetes. 5º Congreso de Diabetes. Madrid, Spain

2013 Opening Lecture. Endocrine Disruptors and Type 2 Diabetes. ISG 2013-European Association Study of Diabetes Islet Study Group. Sitges, Spain.

2008 Nobel Conference on “Recent Advances in Understanding Estrogen Signaling From Molecular Insights to Clinical Implications”, Karoliska Institutet, Stockholm, Sweden

Invited academic presentations and symposia

2024

The European Congress of Endocrinology 2024. European Society of Endocrinology Annual Meeting. Stockholm, Sweden.

III CABIMER International Workshop “New Frontiers in Metabolism: From Cell to Systems Biology”. Sevilla, Spain.

The Deutsches Zentrum für Diabetesforschung (DZD) International Diabetes Research School 2024. Madrid, Spain.

2023

The Finnish Endocrine Society’s Endodays. Helsinki (Finland).

European Society of Endocrinology Endocrine Disrupting Chemicals Talks. Online.

ECAS Symposium. Spanish Society of Endocrinology and Nutrition. Barcelona.

CIBERDEM Annual Meeting, Mataró (Barcelona).

2022

VIII Obesity and Comorbidities Research Center Annual Symposium. O Centro de Pesquisa em Obesidade e Comorbidades, Universidade Estadual de Campinas, Sao Paulo, Brasil

HEEDS Obesogens and Obesity Expert Meeting (participation by invitation only). Wingspread Retreat and Conference Center, Racine, Wisconsin, USA.

First CiMUS Symposium: From bench to human translational research. Center for Research in Molecular Medicine and Chronic Diseases, CIMUS, Santiago de Compostela, Spain.

Chicago Center for Health and Environment, University of Illinois at Chicago, USA.

Members of the European Parliament briefing on endocrine disrupting chemicals: from science to public health protection. Organized by The Endocrine Society. Online.

Instituto de Neurociencias de Alicante, CSIC-UMH, Alicante, Spain

2021

Current opportunities for better identification of endocrine disrupting chemicals at european level. European Parliament, organized by Marie Arena, MEP, Belgium.

XXXIII Congreso de la Sociedad Valenciana de Endocrinología, Diabetes y Nutrición, Alicante, Spain.

Credibility of scientific expertise and decision-making, ANSES Online International Symposium, organized by “Agence Nationale de Sécurité Sanitaire de l’Alimentation, de l’Environnement et du Travail” (ANSES), France, Online.

2020

Endo2020, Chair of Symposium, The Endocrine Society Annual Meeting, San Francisco, USA (Cancelled due to COVID-19).

2019

International Diabetes Federation Congress, Busan, South Korea

Second African Conference on health effects of endocrine disruptors, Pretoria, South Africa

VI Symposium on Biomedical Research “Advances and perspectives in Molecular Endocrinology”, Madrid, Spain

ECE 2019, European Congress of Endocrinology, Lyon, France

VII Meeting of the Spanish Network on Ion Channels, Caceres, Spain

2018

Actions of Endocrine Disrupting Chemicals Briefing. European Parliament, Brussels, Belgium

XXXIII Federação de Sociedades de Biologia Experimental (FeSBE), Campos do Jordao, Brazil

Discussion leader Gordon Research Conference on Environmental Endocrine Disruptors, Les Diablerets, Switzerland

Department of Internal Medicine, University of Tübingen, Germany

2017

Workshop on Bisphenol-A hazard assessment protocol. European Food and safety Authority, Brussels, Belgium

Consultative Meeting on Endocrine Disrupting Chemicals, United Nations Environment, Geneva, Switzerland

Expert Workshop for testing on Endocrine Disruptors, European Commission, Brussels, Belgium

Centro Andaluz de Biología Molecular y Medicina Regenerativa, CABIMER, Sevilla, Spain

Scientific Debate on type 1 diabetes, environment or genes? with Dr Pere Santamaria, moderated by Dr Ramon Gomis. IDIBAPS, Barcelona

2016

Spanish Diabetes Society Meeting, Bilbao, Spain

Instituto Maimonides de Investigación Médica, Córdoba, Spain

Workshop on Type 2 Diabetes. Etiology, complications and perspectives, Universidad Rey Juan Carlos, Madrid, Spain

12 Congreso SEEDO, Málaga, Spain

Instituto de Biomedicina de Sevilla, IBIS, Sevilla, Spain

2015

2nd International Workshop on Obesity and Environmental Contaminants, Uppsala, Sweden

XXIVème Séminaire Nicois d'Endocrinologie, Diabétologie et Reproduction. Nice, France.

III Congreso FESNAD, Sevilla, Spain

CIBEROBN International Meeting. Madrid, Spain

2014

Food Packaging Forum workshop on hazardous materials. Zurich, Switzerland.

2013

Health effects of endocrine disruptors on the population in Germany Expert meeting on Metabolic Disorders. German Federal Environment Agency, Berlin, Germany

Sociedad Española de Bioquímica y Biología Molecular, Madrid, Spain

Antidiabetogenic action of ERbeta agonists. International Union of Physiological Societies (IUPS2013). Birmingham, UK

Participação dos hormônios estrogênicos sobre o mecanismo de secreção de insulina. Tópicos especiais em secreção e ação dos hormônios. Campinas, Brazil

State University of Santa Catarina, Florianopolis, Brazil

School of Biomedical Sciences. Chinese University of Hong Kong, Hong Kong.

School of Medicine National Yang-Ming University, Taipei, Taiwan.

Tri-Service General Hospital. Taipei, Taiwan

National Taiwan University. Taipei, Taiwan
Taipei Veterans General Hospital, Taipei, Taiwan.
Asia University, Taichung, Taiwan
China Medical University, Taichung, Taiwan

2012

II Workshop controle glicêmico: participação do pâncreas endócrino, Campinas, Brazil
I Workshop sobre mecanismos moleculares associados a desordens metabólicas, Limeira, Brazil
Irish Epithelial Physiology Group Meeting, Kilkenny, Republic of Ireland.
ERC Seminar. Royal College of Surgeons in Ireland, Dublin, Ireland
Israel Endocrine Society Meeting 2012, Tel Aviv, Israel
Environmental Stressors in the Developmental Origins of Disease: Evidence and Mechanisms. PPTOXIII. Paris, France
13th Servier-IGIS Symposium, Chairperson, Saint Jean Cap Ferrat, Nice, France
Mediterranean Molecular Medicine Center, INSERM, Nice, France

2011

Symposium Controle glicêmico: participação do pâncreas endócrino, Campinas, Brazil
ENDO2011, The Endocrine Society, Boston, USA
Spanish Society of Diabetes Meeting, Málaga, Spain
NTP Workshop on the Potential Role of Environmental Chemicals in the Development of Diabetes and Obesity, Raleigh, USA
XXII National Meeting of the Spanish Society of Diabetes, Málaga, Spain
Toxalim, Institute Nationale de la Recherche Agricole, Toulouse, France
School of Medicine, University of Lund, Malmö, Sweden
Instituto de Biologia, Universidade Estadual de Campinas, Brazil
Faculdade de Medicina, Universidade Estadual de Campinas, Brazil

2010

Fondation IPSEN, Multi-System Endocrine Disruption Meeting, Paris
E.HORMONE 2010, Tulane University, New Orleans, USA
FASEB Summer Research Conference, “The Physiology of Integrated Nuclear and Extranuclear Steroid Signaling”, Snowmass Village, Colorado, USA
ECE 2010 European Society of Endocrinology, Prague, Czech Republic
Department of Physiology, University of Cantabria, Santander, Spain

2009

E.HORMONE, 30th Anniversary Celebration of First Estrogens in the Environment Meeting. Bioenvironmental Research Center, New Orleans, USA

VI International Meeting on Rapid Responses to Steroid Hormones, Elche, Spain
(Organiser)

The Physiological Society Main Meeting. University College Dublin, Dublin, Ireland

II Encontro. Mecanismos Celulares e Moleculares en na Secreção da Insulina e no
Controle Metabólico: Obesidade. Universidade de Matto Grosso, Brasil

2009 XXXV Congreso de la Sociedad Española de Ciencias Fisiológicas (SECF),
Valencia, Spain

School of Medicine, University of La Laguna, Tenerife, Spain

2008

E.HORMONE, environmental signaling in urban ecosystems, New Orleans, USA

2008 Congreso de la Sociedad Española de Diabetes. Sevilla, Spain

Role of endocrine disruptors from the environment in the etiology of obesity and
diabetes. Satellite meeting of the 16th European Congress on Obesity (ECO 2008).
Geneva, Switzerland

2007

5th International Rapid Responses to Steroid Hormones Meeting. Dublin, Ireland

4th Copenhagen Workshop on Endocrine Disruptors. Consumer products and endocrine
disruptors: possible effects on human populations. Rigshospitalet, Copenhagen, Denmark

Joint Meeting of the Spanish Society of Physiological Sciences and the Physiological
Society. Valladolid, Spain

Biomedical Research Park Foundation, Barcelona, Spain

2006

Bisphenol-A conference. Panel experts. National Institute of Environmental Health
Sciences (NIEHS), Chapel Hill, USA

Gordon Research Conference on Environmental Endocrine Disruptors. Il Ciocco, Italy

17th International symposium of the journal of steroid biochemistry and molecular
biology. Seefeld (tyrol), Austria

The International Symposium on Hypertension. Osijek, Croacia

2005

VII Conferencia sobre disruptores endocrinos. La Coruña, Spain

Post European Association for the Study of Diabetes Symposium. Alicante, Spain

Fourth International Meeting on Rapid Responses to Steroid Hormones. San Diego,
USA

XXXIII Congress of the Spanish Society of Physiological Sciences, joint meeting with
The Physiological Society of Great Britain and the Dutch Physiological Society.
(organiser and co-chairman of the Symposium: Compartmentalisation of cellular
signalling). Sevilla, Spain

Instituto de Biomedicina de Valencia, CSIC. Valencia, Spain

Department of Physiology, University of Valencia, Valencia, Spain

2004

Steroid hormone receptor superfamily and molecular signaling. International Symposium. Trivandrum, Kerala, India (I was unable to attend due to my mother's serious illness)

46 Congress of the Spanish Society of Endocrinology and Nutrition. Barcelona, Spain

Instituto de Investigaciones Biológicas “Alberto Sols”. Madrid, Spain

Unitat de Reserca Biomedica. Hospital Vall d’Hebron, Barcelona, Spain

2003

E.HORMONE. the 5th anniversary symposium on the environment and hormones. New Orleans. USA.

Third International Meeting on Rapid responses to Steroid Hormones, Florencia, Italy.

VI National Conference on Endocrine disruptors. Elche, Spain.

XXXII Congress of the Spanish Society of Physiological Sciences and The Physiological Society. Puerto de la Cruz, Tenerife, Spain.

4th European Biophysics Congress, Alicante, Spain. (Organiser and chairman of Cellular Biophysics session)

Fundación Carlos Haya. Málaga. Spain

2002

Instituto de Biología y Genética Molecular, CSIC-Universidad de Valladolid. Valladolid, Spain

Department of Physiology, University of La Laguna, Tenerife, Spain

2001

Genomic vs non-genomic steroid actions: encountered or unified views, Fundación Juan March. Madrid, Spain

V National Conference on Endocrine Disruptors. Madrid, Spain

2000

III Meeting of the Spanish Federation of Experimental Biological Societies, Alicante, Spain

XXIII Congreso de la Sociedad Española de Bioquímica y Biología Molecular, Granada, Spain

IV European Meeting of glial cell function in health and disease, Barcelona, Spain

1999 Department of Physiology, University François Rabelais, Tours, Francia

1998 Calcium signaling in nervous system, Berlín, Germany

1996 Eurotox 96, Alicante, Spain.

1995 VI Congreso de la Sociedad Española de Neurociencias (VI Congress of the Spanish Neuroscience Society), Valladolid, Spain. (chairman of Calcium Signalling session)

Meeting organiser

Chair, Gordon Research Conference on Environmental Endocrine Disruptors, Il Ciocco, Italy, 2024 (<https://www.grc.org/environmental-endocrine-disruptors-conference/2024/>)

Vice-Chair, Gordon Research Conference on Environmental Endocrine Disruptors, Maine, USA 2022 (<https://www.grc.org/environmental-endocrine-disruptors-conference/2022/>)

9th International Meeting on rapid Responses to steroid Hormones RRS2015, 7th-10th June 2015, Taipei, Taiwan

8th International Meeting on rapid Responses to steroid Hormones RRS2013, 19th-21th September 2013, Erie, Pennsylvania, USA (Scientific Committee)

7th International Meeting on rapid Responses to steroid Hormones RRS2011, 14th-17th September 2011, Crete, Greece (Scientific Committee)

6th International Meeting on Rapid Responses to Steroid Hormones RRS2009, 2nd to 5th September 2009 Elche, Spain (Main organiser)

XXXV Congress of the Spanish Society of Physiological Sciences, Valencia, Spain, 2009 (Scientific Committee)

XXXIII Congress of the Spanish Society of Physiological Sciences joint meeting with The Physiological Society of Great Britain and The Dutch Physiological Society, Sevilla, Spain 2005 (Symposium Organiser)

IV European Congress of Biophysics, Alicante, Spain, 2003 (Scientific Committee)

Panelist

2014-2018 Associate coordinator for Biomedicine, National Evaluation and Foresight Agency, Ministry of Economy and Competitiveness, Madrid, Spain.

Since 2019 Ad Hoc member of evaluation panels. Spanish Agency of Research, Ministry of Science, Innovation and Universities, Madrid, Spain.

Since 2023 External Board of Advisors, Instituto de Biomedicina y Genética Molecular. Universidad de Valladolid-CSIC, Valladolid, Spain.

Since 2016 International Board of Advisors for the Obesity and Comorbidities Research Center (OCRC), FAPESP, Sao Paulo, Brazil.

Since 2017 Scientific Advisory Board, Food Packaging Forum Foundation, Zurich, Switzerland.

2012 Expert Advisory Group on Endocrine Disruptors, European Commission, Arona, Italy.

2009 Special Emphasis Panel: Bisphenol-A Health Effects. GO Grants Review Meeting. NIH/NIEHS, NC, USA.

2010-2011 Juan de la Cierva Program, Agencia Nacional de Evaluación y Prospectiva, Spain.

2013, 2020, 2022 Ramón y Cajal Program, Agencia Nacional de Evaluación y Prospectiva, Spain

2006 Chapel Hill bisphenol-A expert panel. North Carolina, USA

Research agencies reviewer

National Evaluation and Foresight Agency, Spain; NIH/NIEHS, USA; Science Foundation Ireland; Evaluation Agency of Catalonia, Spain; Research into Ageing, London, UK; Diabetes UK; BBSRC, UK; MRC, UK; Czech Science Foundation; Agencia Nacional de Promoción Científica, Tecnológica y de Innovación. Ministerio de Educación, Ciencia y Tecnología, Argentina; Agence Nationale de la Recherche, France; Council for Earth and Life Sciences, The Netherlands.

External reviewing/editing:

Editing

Associate Editor: *Frontiers in Physiology* (Membrane Physiology and Biophysics)

Editorial Board: *Plos One* 2012-2018, Associate Editor *Frontiers in Physiology* (*Frontiers in membrane Physiology and Membrane Biophysics*), *Frontiers in Endocrinology* (reviewing Editor), *The Journal of Physiology and Biochemistry* (2009-2019).

Guest Editor, Special Issue of *STEROIDS*, Elsevier. Proceedings of the 6th International Meeting on Rapid Responses to Steroid Hormones RRS2009, Elche, Spain

Topic Editor Endocrine Disruptors and Metabolism. *Frontiers in Endocrinology*, 22 articles, Gibert, Nadal and Sargis Eds.

Ad hoc reviewer

Endocrine Reviews, *Nature Communications*, *Lancet Diabetes and Metabolism*, *PNAS*, *Nature Review Endocrinology*, *FASEB Journal*, *Trends in Pharmacological Sciences*, *Trends in Endocrinology and Metabolism*, *Chemosphere*, *The Journal of Physiology*, *American Journal of Physiology*, *Pflügers Archiv*, *Acta Physiologica*, *Endocrinology*, *Diabetologia*, *Environmental Health Perspectives*, *PloS One*, *Cell Calcium*, *The Journal of Neurochemistry*, *Molecular Membrane Biology*, *Neuroscience*, *Biochemical Pharmacology*, *Life Sciences*, *Molecular and Cellular Endocrinology*, *Steroids*, *Journals of Endocrinology*, *Journal of Steroid Biochemistry and Molecular Biology*, *Journal of Neuroendocrinology*, *Carcinogenesis*, *International Journal of Andrology*, *Food and Chemical Toxicology*, *Journal of Neuroscience Methods*, *Biochemical Pharmacology*, *Environment International*, *Cellular and Molecular Life Sciences*, *Free Radical Biology and Medicine*.

PhD Supervision

1997 Esther Teresa Fuentes Marhuenda “Caracterización de la albúmina como mensajero extracelular en astrocitos y células endoteliales”. “Cum Laude”. Supervisors: Bernat Soria and Angel Nadal.

2000 Ivan Quesada Moll “Señales de Ca²⁺ globales y locales en las células del islote de Langerhans”. “Cum Laude”. Supervisors: Bernat Soria, Franz Martin and Angel Nadal.

2001 Ana Belén Roperó Lara “Caracterización del receptor y de los mecanismos de señalización implicados en el efecto no genómico del 17β-estradiol en el islote de Langerhans de ratón”. “Cum Laude”. Supervisors: Bernat Soria and Angel Nadal.

- 2007 Maria del Carmen Viso León “Vías alternativas de actuación de los estrógenos naturales y ambientales en dos modelos de células excitables”. “Cum Laude”. Supervisors: Angel Nadal and Cristina Ripoll.
- 2007 Paloma Alonso-Magdalena “Efectos de los estrógenos y los xenoestrógenos en la función del islote de Langerhans”. “Cum Laude”. Supervisor: Angel Nadal.
- 2008 Pablo Juan Picó “Estudio de la regulación de la señal de calcio por acetiletanolamidas y derivados en islotes de Langerhans de ratón”. “Cum Laude” and extraordinary award. Supervisors: Angel Nadal y Esther Fuentes.
- 2014 Marta García-Arévalo Provencio “Efecto de la exposición intraútero a bisfenol-A en la homeostasis de la glucosa en ratones”. “Cum laude”. Supervisors: Angel Nadal y Paloma Alonso-Magdalena.
- 2015 Esperanza Irlés Vidal “Adaptaciones funcionales de la célula beta pancreática en un modelo de obesidad genética en ratón”. “Cum laude”. Supervisors: Ivan Quesada y Angel Nadal.
- 2017 Sabrina Villar-Pazos “Alteraciones funcionales en la célula β pancreática debidas a la exposición persistente a dosis medioambientalmente relevantes de bisfenol-A”. “Cum laude” and extraordinary award. Supervisors: Angel Nadal
- 2020 Cristina Quesada-Candela “Adaptaciones de la célula α pancreática durante el final de la gestación en el ratón: papel de las hormonas gestacionales”. “Cum laude”. Supervisors: Ivan Quesada and Angel Nadal
- 2021 Talia Boronat-Belda “Papel del receptor de estrógenos beta en los efectos de la exposición prenatal al Bisfenol-A en la célula beta pancreática”. “Cum laude”. Supervisors: Angel Nadal and Paloma Alonso-Magdalena
- 2023 Ignacio Babiloni-Chust “Papel de los receptores de estrógenos ER α , ER β y el receptor de estrógenos acoplado a proteínas G (GPER) en la viabilidad de la célula β ”. “Cum Laude”. Supervisors: Angel Nadal and Laura Marroqui