



3.1 Neuroscience Area



 Publications: **18**  Impact Factor: **137.495**  QI: **14**

Vascular Physiology and Pharmacology Group

Research Activity

Doctoral theses

Moreno Fernández S. Efecto de un hidrolizado de proteínas de clara de huevo en un modelo de obesidad inducido por dieta. Evaluación de su eficacia y seguridad en humanos [dissertation]. Madrid: Universidad Autónoma de Madrid; 2018 (23/10/2018).

Directors: Miguel Castro M, Garcés M.



Publications

- Alonso J, Canes L, García-Redondo AB, de Frutos PG, Rodríguez C, Martínez-González J. The nuclear receptor NOR-1 modulates redox homeostasis in human vascular smooth muscle cells. *J Mol Cell Cardiol.* 2018; 122:23-33. Article. IF: 5.056; Q1
- Assersen KB, Jensen PS, Briones AM, Rasmussen LM, Marcussen N, Toft A, Vanhoutte PM, Jensen BL, Hansen PBL. Periarterial fat from two human vascular beds is not a source of aldosterone to promote vasocon-

striction. *Am J Physiol-Renal.* 2018; 315(6): F1670-82. Article. IF: 3.323; Q1

- Avendaño MS, García-Redondo AB, Zalba G, González-Amor M, Aguado A, Martínez-Revelles S, Beltrán LM, Camacho M, Cachofeiro V, Alonso MJ, Salaices M, Briones AM. mPGES-1 (Microsomal Prostaglandin E Synthase-1) mediates vascular dysfunction in hypertension through oxidative stress. *Hypertension.* 2018; 72(2): 492-502. Article. IF: 7.017; D1
- Balfagón G, Blanco-Rivero J, Márquez-Rodas I. Preventive therapies for chronic migraine. *New Engl J Med.* 2018; 378(8): 773-4. Letter. IF: 70.67; D1
- Bonache MA, Moreno-Fernández S, Miguel M, Sabater-Muñoz B, González-Muñoz R. Small library of triazolyl polyphenols correlating antioxidant activity and stability with number and position of hydroxyl groups. *ACS Comb Sci.* 2018; 20(12): 694-9. Article. IF: 3.2; Q2
- Cat AND, Callera GE, Friederich-Persson M, Sánchez A, Dulak-Lis MG, Tsiropoulou S, Montezano AC, He Y, Briones AM, Jaisser F, Touyz RM. Vascular dysfunction in obese diabetic db/db mice involves the interplay between aldosterone/mineralocorticoid receptor and Rho kinase signaling. *Sci Rep-Uk.* 2018; 8: 2952. Article. IF: 4.011; Q1
- de las Heras N, Klett-Mingo M, Ballesteros S, Martín-Fernández B, Escribano O, Blanco-Rivero J, Balfagón G, Hribal ML, Benito M, Lahera V, Gómez-Hernández A. Chronic exercise improves mitochondrial function

- and insulin sensitivity in brown adipose tissue. *Front Physiol.* 2018; 9: 1122. Article. IF: 3.201; Q2
- Garcés-Rimón M, González C, Vera G, Uranga JA, López-Fandino R, López-Miranda V, Miguel M. Pepsin egg white hydrolysate improves glucose metabolism complications related to metabolic syndrome in Zucker fatty rats. *Nutrients.* 2018; 10(4): 441. Article. IF: 4.171; Q1
 - García-Redondo AB, Esteban V, Briones AM, del Campo LSD, González-Amor M, Méndez-Barbero N, Campanero MR, Redondo JM, Salices M. Regulator of calcineurin 1 modulates vascular contractility and stiffness through the upregulation of COX-2-derived prostanoids. *Pharmacol Res.* 2018; 133: 236-49. Article. IF: 5.574; D1
 - Lefranc C, Friederich-Persson M, Palacios-Ramírez R, Cat AND. Mitochondrial oxidative stress in obesity: role of the mineralocorticoid receptor. *J Endocrinol.* 2018; 238(3): R143-59. Review. IF: 4.381; Q1
 - Llevenes P, Balfagón G, Blanco-Rivero J. Thyroid hormones affect nitrergic innervation function in rat mesenteric artery: Role of the PI3K/AKT pathway. *Vasc Pharmacol.* 2018; 108: 36-45. Article. IF: 3.33; Q2
 - Marín-Royo G, Martínez-Martínez E, Gutiérrez B, Jurado-López R, Gallardo I, Montero O, Bartolomé MV, Román JAS, Salices M, Nieto ML, Cachofeiro V. The impact of obesity in the cardiac lipidome and its consequences in the cardiac damage observed in obese rats. *Clin Investig Arterioscler.* 2018; 30(1): 10-20. Article. Not Indexed
 - Martínez CS, Vera G, Ocio JAU, Pecanha FM, Vassallo DV, Miguel M, Wiggers GA. Aluminum exposure for 60 days at an equivalent human dietary level promotes peripheral dysfunction in rats. *J Inorg Biochem.* 2018; 181: 169-76. Article. IF: 3.224; Q1
 - Moreno-Fernández S, Garcés-Rimón M, González C, Uranga JA, López-Miranda V, Vera G, Miguel M. Pepsin egg white hydrolysate ameliorates metabolic syndrome in high-fat/high-dextrose fed rats. *Food Funct.* 2018; 9(1): 78-86. Article. IF: 3.241; Q1
 - Moreno-Fernández S, Garcés-Rimón M, Uranga JA, Astier J, Landrier JF, Miguel M. Expression enhancement in brown adipose tissue of genes related to thermogenesis and mitochondrial dynamics after administration of pepsin egg white hydrolysate. *Food Funct.* 2018; 9(12): 6600-8. Article. IF: 3.241; Q1
 - Moreno-Fernández S, Garcés-Rimón M, Vera G, Astier J, Landrier JF, Miguel M. High fat/high glucose diet induces metabolic syndrome in an experimental rat model. *Nutrients.* 2018; 10(10): 1502. Article. IF: 4.171; Q1
 - Rizzetti DA, da Silva TM, Escobar AG, Piagette J, Pecanha FM, Vassallo DV, Alonso MJ, Salices M, Wiggers GA. Mercury-induced vascular dysfunction is mediated by angiotensin II AT-1 receptor upregulation. *Environ Res.* 2018; 162: 287-96. Article. IF: 5.026; D1
 - Zhenyukh O, González-Amor M, Rodríguez-Díez RR, Esteban V, Ruiz-Ortega M, Salices M, Mas S, Briones AM, Egido J. Branched-chain amino acids promote endothelial dysfunction through increased reactive oxygen species generation and inflammation. *J Cell Mol Med.* 2018; 22(10): 4948-62. Article. IF: 4.658; Q1

Public projects

Alonos Gordo MJ. Modulación por NFR2 del daño vascular asociado a la

patología hipertensiva. Relación con TLR4 (SAF2015-69294-R). MINECO. 2016-2019.

Management centre: URJC

Miguel Castro M. Hidrólisis de proteínas vegetales de alto valor biológico: obtención de péptidos antioxidantes y nuevas texturas culinarias para la elaboración de productos sin gluten. (AGL-2017-89213). MINECO. 2018-2021.

Management centre: CSIC

Salices Sánchez M, Briones Alonso AM. Novel inflammatory mechanisms of vascular damage in hypertension and obesity. Role of pro-resolving lipid mediators as possible therapeutic strategy. (SAF2016-80305-P). MINECO. 2017-2020.

Management centre: UAM

Salices Sánchez M. Ciber Enfermedades Cardiovasculares (CB16/11/00286). ISCIII. 2017-2022.

Management centre: UAM

Salices Sánchez M. Mediadores y mecanismos moleculares de patologías aórticas y valvulares (B2017/BMD-3676). CM. 2018-2021.

Management centre: UAM

Private projects

Blanco Rivero J. Beneficio de la suplementación con agentes simbióticos en la prevención y mejora de las alteraciones de la innervación perivascular asociadas a la ingesta de una dieta rica en grasas. Italfarmaco S.A. 2018-2019.

Management centre: FUAM

Ruiz Ortega M. Investigación del papel de la Interleuquina-17A en el daño cardiovascular asociado a las patologías renales. Sociedad Española de Nefrología. 2017-2018.

Management centre: Fundación Jiménez Díaz

Briones Alonso AM. Relación entre prostanoides, especies reactivas de oxígeno y aldosterona del tejido adiposo y su papel en las alteraciones cardiovasculares asociadas a hipertensión y obesidad. Roche Farma S.A. 2014-Ongoing.

Management centre: FIBHULP

International projects

Miguel Castro M. Nuevas aplicaciones tecnológicas en quinua, otros pseudocereales y semillas andinas para el desarrollo de nuevos alimentos. Fundación Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia (REDCEDIA). Gobierno de Ecuador. 2017-2018.

Management centre: CSIC



3.2 Cardiovascular Area



Patents and trademarks

Garcés Rimón M, Miguel Castro M, López-Alonso Fandiño R, López-Miranda González V, Uranga Ocio J, inventors; CSIC, Universidad Rey Juan Carlos, assignees; Use of multifunctional bioactive products derived from the enzymatic hydrolysis of egg white proteins for treating metabolic syndrome. P201331767, PCT/ES2014/070880; 2013 December 04.

González-Muñiz R, Miguel Castro M, Pérez de Vega MJ, Balsera-Paredes B, S Moreno, inventors; CSIC, assignee. Compounds with antioxidant activity and uses thereof. P201630362; 2016 March 29. PCT/ES2017/070179, 28 de Marzo de 2017

González-Muñiz R, Pérez de Vega MJ, Miguel M, Balsera-Paredes B, Moreno S, inventors; CSIC, assignee. Triazolyl polyphenols with antioxidant activity and uses thereof; P201531450; 2015 November 08.

Miguel Castro M, Garcés Rimón M, López-Alonso Fandiño R, Sandoval Huertas M, inventors; CSIC, Mario Sandoval Huertas, assignees. Healthy food compositions having gel or foam textures and comprising hydrolyzed egg products. P201331886, PCT/ES2014/070902, EP3106042, US9648897, AR098685, JP2015130856, MX2014015135; 2013 December 20.

Miguel Castro M, López-Alonso Fandiño R, Ramos González MM, Aleixandre de Artiñano A, inventors; CSIC, assignee. Production of and antihypertensive properties of peptides deri-

ved from egg white proteins. P200501246 PCT/ES2006/070067; 2005 May 23.

Miguel Castro M, López-Alonso Fandiño R, Recio Sánchez MI, Ramos González MM, Aleixandre de Artiñano A, inventors; CSIC, assignee. Bioactive peptides derived from the proteins of egg white by means of enzymatic hydrolysis. P200301829, PCT/ES2004/070059, EP1661913, US8227207, AT388166, DE602004012289, DK1661913, JP2007523045; 2003 July 31.

Pérez Girón JV, Ruiz-Castellanos MJ, de Luis Jiménez O, Pérez Boto V, Sanz González R, Hernández Vélez MC, Mas Gutiérrez JA, Alonso Gordo MJ, Salaíces Sánchez M, Ros Pérez M, Coloma Jerez A, Asenjo Barahona A, Sanz Montaña JL, Puente Prieto J, Jensen J, inventors; NANOATE, S.L., assignee. Method for producing biosensors. P201031224, PCT/ES2011/070536; 2010 August 05.

Recio Sánchez MI; Quirós del Bosque A, Hernández Ledesma B, Gómez Ruiz JA, Miguel Castro M, Amigo Garrido L, López Expósito I, Ramos González MM, Aleixandre de Artiñano A, (Contreras Gómez M), inventors; CSIC, assignee. Bioactive peptides identified in enzymatic hydrolyzates of milk caseins and method of obtaining same. P200501373, PCT/ES2006/070079, EP1905779, EP2495250, US8354502, AU2006256720, BRPI0611729, CA2611416, CNI01305017, CNI03254278, JP2008545774, KR20080045108, MX2007015528, NO20080103; 2005 June 08.