

CURRICULUM VITAE



Name Consuelo Borrás
Present post Full Professor in Physiology
(04/2011-)

Work address Department of
Physiology
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Academic Qualifications

Master of Bioethics	Catholic University of Valencia	09/2006-09/2008
Ph.D. Physiology	University of Valencia	06/1999-11/2003
Degree in Pharmacy	University of Valencia	09/1994-06/1999

Previous Academic Appointments

Associate professor	University of Valencia	04/2011-11/2019
Assistant professor	University of Valencia	04/2008-04/2011
Post-doctoral Researcher	Clinical Hospital of Valencia Foundation	09/2007-04/2008
Lecturer in Physiology	Catholic University of Valencia	09/2005-08/2007
Superior Research Technician	University of Valencia	01/2003-08/2005
Ph.D. Student (Grant from the Ministry of Education)	University of Valencia	01/2000-12/2003

Honours

- “Premio Extraordinario de Licenciatura” University of Valencia, 1999
- Prize for the best Ph.D. thesis “Premio Extraordinario de Doctorado” University of Valencia, 2003
- Young Investigator Award in recognition of extraordinary scientific achievements in the field of free radical research, awarded by "The Society for Free Radical Research International" Buenos Aires, 2004.
- “Premio Medalla García Blanco” (2005) in recognition of research career for young investigators.
- Catherine Pasquier Award (2009) by "The Society for Free Radical Research Europe"
- V Award in Basic Research por La fundación para la Investigación del Hospital Clínico Universitario de Valencia (INCLIVA)(2010)
- Award for the best lecturer of 3rd course in the Faculty of Medicine of the University of Valencia (2017-2018)

Research interests

Gender differences in aging, frailty, estrogens and phytoestrogens, Alzheimer, extreme longevity, stem cells, extracellular vesicles

Funded Research Grants as Principal Investigator

- Generalitat Valenciana 01/2007-12/2009. Oxidative stress and diabetes: protective role of estrogens
- Catholic University of Valencia. Two small grants to develop a project entitled “Phytoestrogens and up-regulation of antioxidant/longevity-related genes”
- Generalitat Valenciana 07/2010-07/2011. “Study of longevity-related parameters in women treated with estradiol and progesterone after an induced-menopause”

- INCLIVA 01/2013-12/2013. Intramural call: “Study of longevity-related parameters in women treated with estradiol and progesterone after an induced-menopause”
- INCLIVA 01/2015-12/2015. Intramural call: “Effect of genistein and/or bexarotene in the treatment of Alzheimer’s disease in APP/PS1 mice”
- Conselleria de Sanitat APM-03/15. “Perfiles metabólicos para la detección temprana de la fragilidad en ancianos”.
- Generalitat Valenciana AICO/2016/067. “Effect of genistein and/or bexarotene in the treatment of Alzheimer’s disease in APP/PS1 mice”
- European Commission. INTIMIC-085 “Maternal obesity and cognitive dysfunction in the offspring: cause-effect role of the GUT MicrobiOME and early dietary prevention. HDHL-INTIMIC "Interrelation of the Intestinal Microbiome, Diet and Health".
- Ministerio de Economía y Competitividad PCIN-2017-117 “Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana”.

Funded Research Grants as Co-applicant

- More than 35 research grants as co-applicant, three of them from European Community

Citation report

Results found: 95

Sum of the Times Cited: 5214

420 cites /year, 5 last years

h-index: 36

Five most cited papers. Average citations: 1779

- Gomez-Cabrera MC, Domenech E, Romagnoli M, Arduini A, Borrás C, Pallardo FV, Sastre J, Viña J. Oral administration of vitamin C decreases muscle mitochondrial biogenesis and hampers training-induced adaptations in endurance performance. *Am J Clin Nutr.* 2008 Jan;87(1):142-9. (Impact factor: 6.7; 481 citations)
- Borrás C, Sastre J, García-Sala D, Lloret A, Pallardó FV, Viña J. Mitochondria from females exhibit higher antioxidant gene expression and lower oxidative damage than males. *Free Radic Biol Med.* 2003;34(5):546-52. (Impact factor: 6.1; 380 citations)
- Matheu A, Maraver A, Klatt P, Flores I, Garcia-Cao I, Borrás C, Flores JM, Viña J, Blasco MA, Serrano M. Delayed ageing through damage protection by the Arf/p53 pathway. *Nature.* 2007;448(7151):375-9. (Impact factor: 34.5; 342 citations)
- Gomez-Cabrera MC, Borrás C, Pallardó FV, Sastre J, Ji LL, Viña J. Decreasing xanthine oxidase-mediated oxidative stress prevents useful cellular adaptations to exercise in rats. *J Physiol.* 2005 Aug 15;567(Pt 1):113-20. (Impact factor: 4.8; 302 citations)

Title: Oral administration of vitamin C decreases muscle mitochondrial biogenesis and hampers training-induced adaptations in endurance performance

- Tomás-Loba A, Flores I, Fernández-Marcos PJ, Cayuela ML, Maraver A, Tejera A, Borrás C, Matheu A, Klatt P, Flores JM, Viña J, Serrano M, Blasco MA. Telomerase reverse transcriptase delays aging in cancer-resistant mice. *Cell.* 2008 Nov 14;135(4):609-22 (Impact factor: 31.2; 274 citations)

Publications (last 5 years)

- 1: Pamplona R, Borrás C, Jové M, Pradas I, Ferrer I, Viña J. Redox lipidomics to better understand brain aging and function. *Free Radic Biol Med.* 2019 Nov 20;144:310-321. doi: 10.1016/j.freeradbiomed.2019.03.016. Epub 2019 Mar 18. Review. PubMed PMID: 30898667.
- 2: Inglés M, Mas-Bargues C, Gimeno-Mallench L, Cruz-Guerrero R, García-García FJ, Gambini J, Borrás C, Rodríguez-Mañas L, Viña J. Relation Between Genetic Factors and Frailty in Older Adults. *J Am Med Dir Assoc.* 2019 Nov;20(11):1451-1457. doi: 10.1016/j.jamda.2019.03.011. Epub 2019 May 8. PubMed PMID: 31078485.
- 3: Gimeno-Mallench L, Mas-Bargues C, Inglés M, Olaso G, Borrás C, Gambini J, Viña J. Resveratrol shifts energy metabolism to increase lipid oxidation in healthy old mice. *Biomed Pharmacother.* 2019 Oct;118:109130. doi: 10.1016/j.biopha.2019.109130. Epub 2019 Jul 12. PubMed PMID: 31306969.
- 4: Inglés M, Mas-Bargues C, Berna-Erro A, Matheu A, Sanchís P, Avellana JA, Borrás C, Viña J. Centenarians Overexpress Pluripotency-Related Genes. *J Gerontol A Biol Sci Med Sci.* 2019 Aug 16;74(9):1391-1395. doi: 10.1093/gerona/gly168. PubMed PMID:

30052797.

5: Díaz A, López-Grueso R, Gambini J, Monleón D, Mas-Bargues C, Abdelaziz KM, Viña J, Borrás C. Sex Differences in Age-Associated Type 2 Diabetes in Rats-Role of Estrogens and Oxidative Stress. *Oxid Med Cell Longev*. 2019 Apr 7;2019:6734836. doi: 10.1155/2019/6734836. eCollection 2019. PubMed PMID: 31089412; PubMed Central PMCID: PMC6476064.

6: Mas-Bargues C, Sanz-Ros J, Román-Domínguez A, Inglés M, Gimeno-Mallench L, El Alami M, Viña-Almunia J, Gambini J, Viña J, Borrás C. Relevance of Oxygen Concentration in Stem Cell Culture for Regenerative Medicine. *Int J Mol Sci*. 2019 Mar 8;20(5). pii: E1195. doi: 10.3390/ijms20051195. Review. PubMed PMID: 30857245; PubMed Central PMCID: PMC6429522.

7: Pradas I, Jové M, Huynh K, Puig J, Ingles M, Borrás C, Viña J, Meikle PJ, Pamplona R. Exceptional human longevity is associated with a specific plasma phenotype of ether lipids. *Redox Biol*. 2019 Feb;21:101127. doi: 10.1016/j.redox.2019.101127. Epub 2019 Jan 29. PubMed PMID: 30711699; PubMed Central PMCID: PMC6357979.

8: Carrasco-García E, Moreno-Cugnon L, García I, Borrás C, Revuelta M, Izeta A, Lopez-Lluch G, de Pancorbo MM, Vergara I, Vina J, Matheu A. SOX2 expression diminishes with ageing in several tissues in mice and humans. *Mech Ageing Dev*. 2019 Jan;177:30-36. doi: 10.1016/j.mad.2018.03.008. Epub 2018 Mar 21. PubMed PMID: 29574045.

9: Viña J, Borrás C, Gomez-Cabrera MC. A free radical theory of frailty. *Free Radic Biol Med*. 2018 Aug 20;124:358-363. doi: 10.1016/j.freeradbiomed.2018.06.028. Epub 2018 Jun 26. Review. PubMed PMID: 29958933.

10: Inglés M, Gimeno-Mallench L, Mas-Bargues C, Dromant M, Cruz-Guerrero R, García-García FJ, Rodríguez-Mañas L, Gambini J, Borrás C, Viña J. [Identification of single nucleotide polymorphisms related to frailty]. *Rev Esp Geriatr Gerontol*. 2018 Jul - Aug;53(4):202-207. doi: 10.1016/j.regg.2017.11.003. Epub 2018 Apr 7. Spanish. PubMed PMID: 29636291.

11: Mirón Mombiola R, Facal de Castro F, Moreno P, Borrás C. Ultrasonic Echo Intensity as a New Noninvasive In Vivo Biomarker of Frailty. *J Am Geriatr Soc*. 2017 Dec;65(12):2685-2690. doi: 10.1111/jgs.15002. Epub 2017 Sep 7. PubMed PMID: 28884787.

12: Borrás C, Serna E, Gambini J, Inglés M, Vina J. Centenarians maintain miRNA biogenesis pathway while it is impaired in octogenarians. *Mech Ageing Dev*. 2017 Dec;168:54-57. doi: 10.1016/j.mad.2017.07.003. Epub 2017 Jul 25. PubMed PMID: 28754532.

13: Viña-Almunia J, Mas-Bargues C, Borrás C, Gambini J, El Alami M, Sanz-Ros J, Peñarrocha M, Vina J. Influence of Partial O₂ Pressure on the Adhesion, Proliferation, and Osteogenic Differentiation of Human Dental Pulp Stem Cells on β -Tricalcium Phosphate Scaffold. *Int J Oral Maxillofac Implants*. 2017 November/December;32(6):1251-1256. doi: 10.11607/jomi.5529. Epub 2017 Sep 22. PubMed PMID: 28938034.

14: Mas-Bargues C, Viña-Almunia J, Inglés M, Sanz-Ros J, Gambini J, Ibáñez-Cabellos JS, García-Giménez JL, Viña J, Borrás C. Role of p16(INK4a) and BMI-1 in oxidative stress-induced premature senescence in human dental pulp stem cells. *Redox Biol*. 2017 Aug;12:690-698. doi: 10.1016/j.redox.2017.04.002. Epub 2017 Apr 7. PubMed PMID: 28410532; PubMed Central PMCID: PMC5390672.

15: Inglés M, Gambini J, Mas-Bargues C, García-García FJ, Viña J, Borrás C. Brain-Derived Neurotrophic Factor as a Marker of Cognitive Frailty. *J Gerontol A Biol Sci Med Sci*. 2017 Mar 1;72(3):450-451. doi: 10.1093/gerona/glw145. PubMed PMID: 27449141.

16: Jové M, Naudí A, Gambini J, Borrás C, Cabré R, Portero-Otín M, Viña J, Pamplona R. A Stress-Resistant Lipidomic Signature Confers Extreme Longevity to Humans. *J Gerontol A Biol Sci Med Sci*. 2017 Jan;72(1):30-37. Epub 2016 Mar 24. PubMed PMID: 27013396.

17: Borrás C, Abdelaziz KM, Gambini J, Serna E, Inglés M, de la Fuente M, Garcia I, Matheu A, Sanchís P, Belenguier A, Errigo A, Avellana JA, Baretino A, Lloret-Fernández C, Flames N, Pes G, Rodríguez-Mañas L, Viña J. Human exceptional longevity: transcriptome from centenarians is distinct from septuagenarians and reveals a role of Bcl-xL in successful aging. *Aging (Albany NY)*. 2016 Oct 28;8(12):3185-

3208. doi: 10.18632/aging.101078. PubMed PMID: 27794564; PubMed Central PMCID: PMC5270663.

18: Viña J, Tarazona-Santabalbina FJ, Pérez-Ros P, Martínez-Arnau FM, Borrás C, Olaso-Gonzalez G, Salvador-Pascual A, Gomez-Cabrera MC. Biology of frailty: Modulation of ageing genes and its importance to prevent age-associated loss of function. *Mol Aspects Med.* 2016 Aug;50:88-108. doi: 10.1016/j.mam.2016.04.005. Epub 2016 May 6. Review. PubMed PMID: 27164416.

19: Viña-Almunia J, Borrás C, Gambini J, El Alamy M, Peñarrocha M, Viña J. Influence of different types of pulp treatment during isolation in the obtention of human dental pulp stem cells. *Med Oral Patol Oral Cir Bucal.* 2016 May 1;21(3):e374-9. PubMed PMID: 26946201; PubMed Central PMCID: PMC4867212.

20: Gambini J, Gimeno-Mallench L, Inglés M, Olaso G, Abdelaziz KM, Avellana JA, Belenguer Á, Cruz R, Mas-Bargues C, Borrás C, Viña J. [Identification of single nucleotide polymorphisms in centenarians]. *Rev Esp Geriatr Gerontol.* 2016 May-Jun;51(3):146-9. doi: 10.1016/j.regg.2015.09.006. Epub 2015 Nov 2. Spanish. PubMed PMID: 26541311.

21: Viña J, Saez GT, Gambini J, Gomez-Cabrera MC, Borrás C. Role of NAD(+)/NADH redox ratio in cell metabolism: A tribute to Helmut Sies and Theodor Bücher and Hans A. Krebs. *Arch Biochem Biophys.* 2016 Apr 1;595:176-80. doi: 10.1016/j.abb.2015.11.027. Review. PubMed PMID: 27095235.

22: Santulli G, Borrás C, Bousquet J, Calzà L, Cano A, Illario M, Franceschi C, Liotta G, Maggio M, Molloy WD, Montuori N, O'Caomh R, Orfila F, Rauter AP, Santoro A, Iaccarino G. Models for preclinical studies in aging-related disorders: One is not for all. *Transl Med UniSa.* 2016 Jan 31;13:4-12. eCollection 2015 Dec. PubMed PMID: 27042427; PubMed Central PMCID: PMC4811343.

23: Bonet-Costa V, Herranz-Pérez V, Blanco-Gandía M, Mas-Bargues C, Inglés M, Garcia-Tarraga P, Rodriguez-Arias M, Miñarro J, Borrás C, Garcia-Verdugo JM, Viña J. Clearing Amyloid- β through PPAR γ /ApoE Activation by Genistein is a Treatment of Experimental Alzheimer's Disease. *J Alzheimers Dis.* 2016;51(3):701-11. doi: 10.3233/JAD-151020. PubMed PMID: 26890773.

24: Viña J, Inglés M, Borrás C. Response to Vidal and colleagues. *J Am Geriatr Soc.* 2015 Apr;63(4):838-9. doi: 10.1111/jgs.13362. PubMed PMID: 25900512.

25: Gambini J, Inglés M, Olaso G, Lopez-Grueso R, Bonet-Costa V, Gimeno-Mallench L, Mas-Bargues C, Abdelaziz KM, Gomez-Cabrera MC, Vina J, Borrás C. Properties of Resveratrol: In Vitro and In Vivo Studies about Metabolism, Bioavailability, and Biological Effects in Animal Models and Humans. *Oxid Med Cell Longev.* 2015;2015:837042. doi: 10.1155/2015/837042. Epub 2015 Jun 28. Review. PubMed PMID: 26221416; PubMed Central PMCID: PMC4499410.

Ph.D. Supervisor

- Juan Gambini “Efecto del estradiol y otros compuestos estrogénicos sobre la expresión de genes asociados a la longevidad”, July 2007
- Raul López Grueso “Importancia del inicio de la terapia hormonal sustitutiva sobre el consumo cerebral de glucosa”, 2010
- Ana Díaz Cuevas “Estrés oxidativo y diabetes: papel protector de los estrógenos”, 2011
- Marya El Alami “Obtención de células madre de la pulpa dental. Caracterización y adaptación a diversas condiciones de oxígeno”, 2013
- Kheira Mohamed Abdelaziz “Efecto del consumo de soja sobre la longevidad de ratones OF1 machos”, 2013
- Francisco Vicente Bonet Costa “Estudio del estrés oxidativo hepático asociado a la enfermedad de Alzheimer. Efecto del tratamiento con bexaroteno y / o genisteína”, 2013
- José Viña Almunia “Obtención y caracterización de células madre de pulpa dental humanas e interacción con \square -fosfato tricalcico”, 2014
- Marta Inglés De La Torre “Identificación de biomarcadores de fragilidad en el estudio de Toledo de envejecimiento saludable”, 2014
- Consuelo Escrivá López “Estudio de los valores de referencia para los parámetros de estrés oxidativo malondialdehído y glutatión, medidos por cromatografía líquida de alta eficacia, en humanos y animales de experimentación”, 2016
- Cristina Mas Bargues “Role of p16(INK4a) and BMI-1 in oxidative stress-induced

- premature senescence in human dental pulp stem cells”, 2017
- Lucía Gimeno Mallench “Activación del metabolismo energético del ratón mediante el tratamiento con resveratrol o genisteína”, 2018
- Rebeca Mirón Mombiola “Development of an ultrasound-based muscle texture analysis as a potential imaging biomarker for frailty phenotype”, 2019

Invited Seminars and Talks

Over 60 invited talks or selected as oral communications at national and international conferences and academic institutions including: The Physiological Society, London; University of California, Davis; European Standards Committee on Oxidative DNA Damage, Valencia; Gender Medicine Congress, Rome; International Conference on Food Factors for Health Promotion -ICoFF2007, Kyoto; Grupo Español de Radicales Libres; Sociedad Española de Geriatria y Gerontología; Sociedad Española de Medicina Antienvjecimiento y Longevidad; Sociedad Española de Bioquímica y Biología Molecular, Sociedad Española de Medicina Geriátrica, Universidad de Valencia, Universidad Autónoma de Barcelona, Universidad Complutense de Madrid, Colegio de Farmacéuticos de la Región de Murcia, Ministerio de Ciencia y Tecnología.

Symposium and Meeting Organisation

- Young Physiology Symposium, Seville Feb 2005
- XXXV Congress of the Spanish Society of Physiological Sciences
- SFRR Europe Summer School 2014 edition

Editorial tasks

- Member of the PLoS One editorial board
- Member of the Oxidative Medicine and Cellular Longevity editorial board
- Member of Nutrition and food science, official journal of Nutrition And Food Science
- Member of the International Journal of Molecular Sciences editorial board

External Reviewing Experience

- Editor of
 - a. Plos One, indexed and with impact index 2.8, Q1, T1 (2010-present)
 - b. Oxidative Medicine And Longevity, indexed and with impact index 4.9, Q2 (2011-present)
 - c. Nutrition and Food Science, official magazine of the Nutrition And Food Science Society (2014-present)
 - d. International Journal of Molecular Sciences, indexed and with impact index 3,7, Q2 (2018-present)
- Guest editor of the special volume: Pharmacology of Anti-Cancer Drugs: Chemical Immunomodulation for Cancer Chemoprevention of Frontiers in Pharmacology, indexed in Pubmed and with impact index 4.4, Q1, T1.
- Evaluator of the following journals indexed in Pubmed: British Journal of Nutrition, Cancer Chemotherapy and Pharmacology, Journal of Diabetes and Its Complications, Drug, Healthcare and Patient Safety, European Journal of Nutrition, Gerontology, Journal of Women's Health, Journal of Neurochemistry , Mechanisms Of Aging And Development, Plos One, Experimental Gerontology, Free Radical Research, Apoptosis, Bba - Bioenergetics (Els), Cancer Chemotherapy And Pharmacology, Experimental Dermatology, Free Radical Biology And Medicine, Journal Of Bioscience And Bioengineering, Journal Of Cellular And Molecular Medicine, Neuropharmacology, Spanish Journal of Geriatrics and Gerontology, Age, Antioxidants, Redox Biology, Blood Reviews, Food and Function, Scientific Reports, European Journal of Obstetrics & Gynecology and Reproductive Biology, Redox Reports, Pharmacological Research.
- Evaluator of international research projects:
 - a. National Agency of Colombia (Colciencias Health Science and Technology Program)
 - b. German-Israeli Foundation for Scientific Research and Development (project 242)
 - c. Poland National Science Center (NCN panel NZ7) project proposal 2016/23 / D / NZ7 / 03954.
 - d. Czech Science Foundation project proposal No. 18-00121S and. BBSRC Polaris House, North Star Avenue, Swindon, Wiltshire, United Kingdom SN2 1UH, committee D, BBSRC Reference: BB / L008106 / 1
- PhD Examiner: Participation in thesis viva voce examinations for Ph.D. candidate in the University of La Laguna (Tenerife), University of Extremadura and University of Valencia

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Committees

- Society for Free Radical Research-Europe of 2011-2013, and of 2015-2018
- Spanish Society of Geriatrics and Gerontology since 2010-present
- Coordinator of the Group of free radicals of the Spanish Society of Biochemistry and Molecular Biology of 2012-2016.
- COST CM1001 member

Hobbies

- Classical music
- Sharing time with my family

Dr. Borrás can provide documents to prove all the statements included in this CV