



MINISTERIO
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Plan de Recuperación,
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AGENCIA
ESTATAL DE
INVESTIGACIÓN

CURRICULUM VITAE (CVA)

The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION		CV date	30/04/2023
First name	Manuel		
Family name	Tena Sempere		
Gender	Male	Birth date	██████████
Social Security, Passport, ID number			
e-mail	fi1tesem@uco.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-4741-5567	

A.1. Current position

Position	Full Professor of Physiology		
Initial date	16/08/2007		
Institution	University of Córdoba		
Department/Center	Cell Biology, Physiology and Immunology	Maimonides Institute for Biomedical Research of Córdoba (IMIBIC)	
Country	Spain	Telephone number	957213746
Key words	Puberty, Kiss1, Kisspeptin, GnRH, reproduction, obesity, leptin		

A.2. Previous positions (research activity interruptions, see call)

Period	Position/Institution/Country/Interruption cause
2002-2007	Associate Professor of Physiology/University of Córdoba/ Spain
2000-2002	Adjunct Professor of Physiology/University of Córdoba/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Medicine	University of Córdoba/Spain	1995
Licensed in Medicine (MD)	University of Córdoba/Spain	1993

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Manuel Tena-Sempere (1969) MD, PhD is Full Professor of Physiology in the Department of Cell Biology, Physiology and Immunology of the University of Córdoba. He is also (i) research Group Leader at the Maimonides Institute of Biomedical Research of Córdoba (IMIBIC), where he served as deputy scientific director (2012-2019); (ii) Head of the Research Group BIO-310 of the Andalusian Research Plan (PAIDI); and (iii) PI of a research group at the Spanish Network of Biomedical Research in Obesity and Nutrition (CIBEROBN), of which he is Head of its formative program. His expertise lies in Reproductive and Metabolic Neuroendocrinology, with attention to the neuro-endocrine regulation of the reproductive axis along the lifespan, and in particular to the neurohormonal and molecular mechanisms responsible for the control of puberty onset and fertility in mammals. His work has pioneered the study of the reproductive actions of different hormones with key roles in energy homeostasis, and has characterized the effects of gonadal factors on the control of body weight and metabolism. In addition, he has significantly contributed to the characterization of the physiological roles of kisspeptins in the control of pubertal and key aspects of reproductive function, including the metabolic regulation of puberty & fertility. The ultimate aim of Tena-Sempere work is to unveil the pathophysiological basis of pubertal and reproductive alterations in adverse metabolic conditions, e.g., obesity, and to elucidate the role of gonadal dysfunction in the progression of metabolic diseases. Moreover, he has investigated the endocrine and molecular mechanisms for the neuropeptide control of reproduction and metabolism, with attention also to microRNA and epigenetic regulation, and has undertaken translational studies to identify novel biomarkers & therapeutic targets for improved diagnosis, stratification and treatment of highly prevalent conditions, including infertility, pubertal disorders, obesity and polycystic ovary syndrome.



Tena-Sempere has published >360 articles in international peer-reviewed journals during his career, including a significant number (>100) of research papers and invited reviews in authoritative journals in the last 7 years, with >80 papers as senior (last/corresponding) author in the last decade. Furthermore, Dr. Tena-Sempere keeps active scientific collaborations with a large number of international groups working in Neuroendocrinology of Reproduction and Energy Balance area. Journals of publication of Tena-Sempere work (incl. collaborations) are: Nat Commun, Cell Metab, Nat Neurosci, Science, Sci Trans Med, PNAS, EMBO Mol Med, PLoS Biology, J Clin Invest, Diabetes, J Neurosci, Physiol Rev, Nature Rev Endocrinol, Front Neuroendocrinol, Environ Health Perspectives, Endocrinology, J Clin Endocrinol Metab, Trend Endocrinol Metab, Cell Reports, J Physiol, Am J Physiol, Hum Reprod Update, Fertility & Sterility, Human Reprod and Biol Reprod, among others, appearing as top 1% scientists (rank: 240 out of 69094) for career-long citation history in the area of Endocrinology & Metabolism, with >22740 total citations and an *H-Index*: 87 (Web of Science; December 2022).

Tena-Sempere has received various international awards, including the Award of the American Endocrine Society-*Richard E. Weitzman Award* (2012) and Awards of the European Endocrine Society – *European Journal of Endocrinology* (2011) & *Geoffrey Harris Prize* (2023). In 2015, he was awarded *Finnish Distinguished Professor*, from the Finnish Academy, under the prestigious FiDiPro Program (2015-2019). Tena-Sempere has acted as invited speaker in >120 conferences, including plenary lectures at the congresses of European Neuroendocrine Association, European Society of Comparative Endocrinology, European Society of Pediatric Endocrinology, European Endocrine Society and European Society of Andrology. He has served also as Associate Editor or Editor of >15 scientific journals, as well as member of national and international committees, incl. the National Research Agency (Gestor/Coordinator Area BFI/BIF; 2014-2019). Tena-Sempere was Head of the themed Area of Reproductive Endocrinology of the European Endocrine Society (2017-2020) and has been/is PI of >30 competitive research projects, funded by local, regional, national and European agencies, as well as by private foundations and diverse pharmaceutical companies. In terms of mentorship, Prof. Tena-Sempere has supervised 19 PhD Theses, being proactive in training activities, including the supervision not only of undergraduate and graduate students, but also post-doctoral fellows, thereby contributing to train a new generation of researchers in the field of Neuroendocrinology. Most of the fellows mentored by Tena-Sempere have been successful in obtaining grants and research positions at institutions to continue their research careers.

Part C. RELEVANT MERITS

C.1. Publications (10 representative papers as last/corresponding author* in the last 5 years)

1. Argente J; et al, **Tena-Sempere, M*** (7/7) 2023 Molecular basis of normal and pathological puberty: From basic mechanisms to clinical implications. *Lancet Diabetes & Endocrinology* S2213-8587(22)00339-4. DOI:10.1016/S2213-8587(22)00339-4. **IF: 44.86**. Journal Rank: 2/143 in Endocrinology and Metabolism (**D1**)
2. Roa J, Ruiz-Cruz M, Ruiz-Pino F; et al, **Tena-Sempere, M*** (19/19) 2022 Dicer ablation in Kiss1 neurons impairs puberty and fertility preferentially in female mice. *Nature Communications* 13:4663. DOI:10.1038/s41467-022-32347-4. **IF: 17.4**. Journal Rank: 4/73 in Multidisciplinary Sciences (**D1**)
3. Perdices-Lopez C, Avendano MS, Barroso A; et al, **Tena-Sempere M*** (17/17) 2022 Connecting nutritional deprivation and pubertal inhibition via GRK2-mediated repression of kisspeptin actions in GnRH neurons. *Metabolism - Clinical & Experimental* 129:155141. DOI: 10.1016/j.metabol.2022.155141. **IF: 13.9**. Journal Ranking: 9/143 in Endocrinology and Metabolism (**D1**).
4. Franssen D, Barroso A, Ruiz-Pino F; et al, **Tena-Sempere M*** (15/15) 2021 AMP-activated protein kinase (AMPK) signaling in GnRH neurons links energy status and reproduction. *Metabolism - Clinical & Experimental* 115:154460. DOI: 10.1016/j.metabol.2020.154460. **IF: 13.9**. Journal Ranking: 9/143 in Endocrinology and Metabolism (**D1**).
5. Heras V, Castellano JM, Fernandois D; et al, **Tena-Sempere M*** (20/20) 2020 Central Ceramide Signaling Mediates Obesity-Induced Precocious Puberty. *Cell Metabolism* 32(6): 951-966. DOI:10.1016/j.cmet.2020.10.001. **IF: 27.28**. Journal Ranking: 3/143 in Endocrinology and Metabolism (**D1**).



6. Ruiz-Pino F, Miceli D, Franssen D; et al, **Tena-Sempere M*** (8/8) 2019 Environmentally Relevant Perinatal Exposures to Bisphenol A Disrupt Postnatal Kiss1/NKB Neuronal Maturation and Puberty Onset in Female Mice. *Environmental Health Perspectives* 127(10): 107011. DOI:10.1289/EHP5570. **IF: 8.34**. Journal Rank: 2/92 in Toxicology (**D1**)
7. Heras V, Sangiao-Alvarellos S, Manfredi-Lozano M; et al, **Tena-Sempere M*** (20/20) 2019 Hypothalamic miR-30 regulates puberty onset via repression of the puberty-suppressing factor, Mkrn3. *PLoS Biology* 17(11):e3000532. DOI:10.1371/journal.pbio.3000532. **IF: 8.02**. Journal Ranking: 6/93 in Biology (**D1**)
8. Romero-Ruiz A, Avendaño MS, Dominguez F; et al, **Tena-Sempere M*** (17/17) 2019 Deregulation of miR-324/KISS1/kisspeptin in early ectopic pregnancy: mechanistic findings with clinical and diagnostic implications. *American Journal Obstetrics & Gynecology* 220(5): 480.e1-480.e17. DOI:10.1016/j.ajog.2019.01.228. **IF: 8.66**. Journal Ranking: 2/83 in Obstetrics & Gynecology (**D1**).
9. Vazquez MJ, Toro CA, Castellano JM; et al, **Tena-Sempere M*** (17/17) 2018 Sirt1 mediates obesity- and nutrient-dependent perturbation of pubertal timing by epigenetically controlling Kiss1 expression. *Nature Communications* 9(1):4194. DOI:10.1038/s41467-018-06459-9. **IF: 12.35**. Journal Rank: 3/64 in Multidisciplinary Sciences (**D1**)
10. Roa J, Barroso A, Ruiz-Pino F; et al, **Tena-Sempere M*** (19/19) 2018 Metabolic regulation of female puberty via hypothalamic AMPK-Kisspeptin signaling. *Proceedings of the National Academy of Sciences USA* 115(45):E10758 - E10767. DOI:10.1073/pnas.1802053115. **IF: 9.58**. Journal Ranking: 7/69 in Multidisciplinary Sciences (**D1**)

C.2. Congresses

- 2022 25th European Congress of Endocrinology – **Plenary Lecture**. Istanbul
- 2022 23rd Annual Congress European Neuroendocrine Association – **Plenary Lecture**. Lyon
- 2022 10th Intl. Congress of Neuroendocrinology – Invited Conference. Glasgow
- 2022 24th European Congress of Endocrinology – **Plenary Lecture**. Milan
- 2022 104th Congress American Endocrine Society – Invited Conference. Atlanta
- 2021 22nd Congress the Argentinean Soc. Endocrinol & Metab – **Plenary Lecture**. Virtual
- 2020 12th International Congress of Andrology – **Plenary Lecture**. Virtual
- 2020 31st Congress of the Chilean Society of Endocrinology – **Plenary Lecture**. Virtual
- 2019 58th Meeting of European Soc. of Pediatric Endocrinology – **Plenary Lecture**. Vienna
- 2018 18th International Congress Endocrinology (ICE2018) – Invited Conference. Cape Town
- 2016 17th Annual Congress European Neuroendocrine Association – **Plenary Lecture**. Milan

C.3. Research projects

1. **Reference:** ERC AdG-101096793 (DOPA-Kiss)
Title: Dissecting the brain basis of obesity-induced pubertal alterations-A view to a Kiss
Principal Investigator: **M. Tena-Sempere** (University of Cordoba)
Institution: European Commission (ERC Advanced Grant) - Call 2022
Period: 01/09/2023-01/09/2028; Funds: 2.499.995,00 €
2. **Reference:** HORIZON-101080219 (eprObes)
Title: Preventing lifetime obesity by early risk-factor identification, prognosis and intervention
Principal Investigator / Coordinator: **M. Tena-Sempere** (CIBEROBN; University of Cordoba)
Institution: European Commission - Call 2022
Period: 01/05/2023-01/05/2028; Funds: 9.875.071,25 €
3. **Reference:** PID2020-118660GB-I00
Title: Nutrient and metabolic sensing in Kiss1 neurons as key mechanism for the control of puberty: Implications for pubertal disorders associated to early-onset obesity
Principal Investigator: **M. Tena-Sempere** (University of Cordoba)
Institution: Agencia Estatal de Investigación - Call 2020
Period: 01/09/2021-31/08/2024; Funds: 468.270,00 €
4. **Reference:** DTS20/00117
Title: Development and validation of novel nanodrugs for the treatment of metabolic disease linked to obesity and hypogonadism
Principal Investigator: **M. Tena-Sempere** (University of Cordoba)
Institution: Instituto Salud Carlos III - Call 2020
Period: 01/01/2021-01/01/23; Funds: 97.798,00 €



5. Reference: MSCA-2019-895420 (Reintegration)

Title: Addressing the Roles of Tachykinins in the Control of Ovulation: Focus on the Substance-P/Tachykinin Receptor Type 1 (Tac1/Tacr1) System

Principal Investigator /Coordinator: **M. Tena-Sempere** (University of Cordoba)

Institution: European Commission - Call 2019

Period: 01/05/2020-01/05/2022; Funds: 176.932,00 €

6. Reference: MSCA-2018-841482 (Reintegration)

Title: Challenging the KNDy Hypothesis Using CRISPR-Cas9 Genome Editing: Evaluation of the Role of Neurokinin B and Dynorphin in Kiss1 neurons in the Control of Fertility

Principal Investigator /Coordinator: **M. Tena-Sempere** (University of Cordoba)

Institution: European Commission - Call 2018

Period: 01/05/2020-01/05/2022; Funds: 162.000,00 €

7. Reference: P18-RT-4093

Title: Translational research on obesity-induced hypogonadism: Pathophysiological basis and implications for improved diagnosis and treatment. Principal Investigator: **M. Tena-Sempere**

Institution: Junta de Andalucía - Call 2018

Period: 01/01/2020-01/01/2023; Funds: 137.000,00 €

8. Reference: BFU2017-83934-P

Title: Kisspeptin signaling and Puberty - Novel Physiological Features and Patho-physiological Implications for Pubertal Disorders Associated to Obesity. PI: **M. Tena-Sempere**

Institution: Agencia Estatal de Investigación - Call 2017

Period: 01/01/2018-30/09/2021; Funds: 363.000,00 €

C.4. Contracts, technological or transfer merits

Contracts and Projects

1. Title: Estudio de una nueva estrategia terapéutica para tratar el SOP (Síndrome de Ovario Poliquístico) basado en el compuesto OXO-001 (CPP2021-008338; *Proyectos Colaboración Público-Privada*) Principal Investigator: **M. Tena-Sempere** (University of Cordoba)

Company: Oxo-Life S.L. Period: 01/01/2020-31/12/2024 Funds: 933.120,50 €

2. Title: Analysis of the effects of Oxolife proprietary compound, Oxo-001, for the treatment of reproductive and metabolic alterations of Polycystic ovary syndrome using preclinical models. Principal Investigator: **M. Tena-Sempere** (University of Cordoba)

Company: Oxo-Life S.L. Period: 01/12/2020-31/12/2022 Funds: 279.346 €

3. Title: Evaluation of Anti-Mullerian Hormone (AMH) Levels in various Mouse and Rat Models of PCOS. Principal Investigator: **M. Tena-Sempere** (University of Cordoba)

Company: Ferring Pharmaceuticals Period: 27/07/2019-27/07/2020 Funds: 12.880 €

4. Title: Detección de Kisspeptinas y miRNAs en embarazo no viable

Principal Investigator: **M. Tena-Sempere** (University of Cordoba)

Company: IVIRMA/IVI Sevilla SL Period: 01/04/2019-31/10/2021 Funds: 31.036,50 €

5. Title: NOVO Healthcare Agreement. Principal Investigator: **M. Tena-Sempere** (U. Cordoba)

Company: NOVO Nordisk Period: 01/05/2018-30/04/2019 Funds: 9.575 €

6. Title: Proof-of-Principle Studies for the Validation of Gpr54 Agonists as Therapeutic Tool in Pre-Clinical Models of Functional Hypogonadotropic Hypogonadism & Ovulatory Dysfunction. Principal Investigator: **M. Tena-Sempere** (University of Cordoba)

Company: Ferring Pharmaceuticals Period: 01/09/2013-31/08/2018 Funds: 121.260 €

Patents

1. Romero-Ruiz, A.; **Tena-Sempere, M.**; Paz, E.; Ovelleiro, D.; García-Maceira, F.I.; Perdices-Lopez, C.; Pineda-Reyes, B. Ref# (request number) P202031315. *Molecular diagnosis of polycystic ovary syndrome in non-obese women by plasma profiling of miRNAs*. Spain. 2020. Junta de Andalucía, University of Cordoba, Canvax Ltd. and CIBEROBN

2. Romero-Ruiz, A.; **Tena-Sempere, M.**; Paz, E.; Ovelleiro, D.; García-Maceira, F.I.; Perdices-Lopez, C.; Pineda-Reyes, B. Ref# (request number) P202031316. *Molecular diagnosis of polycystic ovary syndrome in obese women by plasma profiling of miRNAs*. Spain. 2020. Junta de Andalucía, University of Cordoba, Canvax Ltd. and CIBEROBN

3. Romero-Ruiz, A.; **Tena-Sempere, M.**; Avendaño-Herrador, M.S.; Pellicer, A.; Domínguez-Hernández, F.18382466.3 - 1118. *In vitro method for the diagnosis of ectopic pregnancy*. Spain. 2018. Universidad de Córdoba - Fundación IVI. Area of implementation: EUROPE