

Date of the CVA	21/01/2020
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Section A. PERSONAL DATA

Name and Surname	Marta Cosin Tomas		
DNI/NIE/Passport		Age	
Researcher's identification number	Researcher ID		
	Scopus Author ID		
	ORCID	0000-0001-5012-8983	

A.1. Current professional situation

Institution	Fundación Instituto de Salud Global de Barcelona		
Dpt. / Centre			
Address	Dr. Aiguader, 88, 08003, Barcelona		
Phone	Email	marta.cosin@gmail.com	
Professional category	Postdoctoral fellow	Start date	2020
UNESCO spec. code	241500 - Molecular biology		
Keywords	Pollution; Epigenetics; Psychobiology development		

A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
Biomedicina	Universitat de Barcelona	2017
Màster Salut Pública (Salut ambiental)	Universidad Pompeu Fabra	2011
Bioquímica	Universitat Autònoma de Barcelona	2010

A.3. General quality indicators of scientific production

Number of publications: 13

Publications as first author: 5/13

Publications as second/third author: 4/13

Publications in quartile score 1 (Q1): 11/13

Number of citations (Source: Google Scholar, 22/01/2020): 429

H-index: 8

i10-index: 7

Section B. SUMMARY OF THE CURRICULUM

Marta Cosin-Tomas is an outstanding postdoctoral researcher with broad research capacities and both national and international experience. She has published 13 scientific papers (5 as first author, 4 as second and third author), that have been cited 429 times (377 since 2015), with an h-index of 8 and i10-index of 7. Additionally, she is preparing 2 papers as first author. Most of her publications (11) are in Q1 (from which 5 are as first author). During her graduate studies she was elected member of the senate of Autonomous University of Barcelona (UAB) as a student representative of her faculty and she was awarded a one-year fellowship (Beca de Colaboración AGAUR) for undergraduate students to join a research lab at the Neuroscience Institute. Before starting her postgraduate studies she was awarded a FARO global fellowship (Ministry of Science and Innovation) to develop a short stay (9 months) in a foreign scientific center (Academisch Medisch Centrum of Amsterdam). Due to her increasing concerns about environmental influences on health, she completed a M.Sc. in Public Health, special field Environmental Health. Her M.Sc. thesis was centered on prenatal exposure to trace metals, and their potential health effects on developing offspring. As she progressed through the postgraduate studies, she developed an interest for gene x environment interactions as well as for the modulation of environmental factors to prevent pathological conditions. Within this context, she became very interested in epigenetic mechanisms as potential orchestrators of these complex interactions. Accordingly, she conducted her Ph.D under the supervision of Dr. Kaliman and Dr. Pallàs at the University of Barcelona. Her work focused on the contribution of epigenetic mechanisms to aging and Alzheimer's disease (AD), and the effect of voluntary

exercise on transcriptional and epigenetic modifications in the brain of AD models. During the Ph.D program, she was awarded to visit other labs. From September 2015 to May 2016, she conducted research in Dr. Rozen's lab at McGill University, where she studied epigenetic and transcriptional changes associated with risk of AD in mice with a dietary or genetic folate deficiency. She also participated in two studies on the effects of stress reduction on histone deacetylases, telomere-related genes and inflammation (in collaboration with the University of Wisconsin and the University of California Davis). These international collaborations resulted in 5 relevant publications. After finishing the Ph.D, she was awarded twice with a postdoctoral fellowship by the funding agency for health research in Québec (Canada). Thus, she was a postdoctoral researcher at Dr. Rozen's lab at the internationally-renowned Research Institute of McGill University Health Center. Her project aimed to increase our understanding of the impact of high folate consumption during pregnancy on brain epigenetics and neurodevelopment. A first manuscript on this work has been submitted to the journal *Molecular nutrition and food research*. Moreover, she has been recently awarded a Juan de la Cierva – formación fellowship to join Prof. Jordi Sunyer at ISGlobal, in Barcelona, to study the role of epigenetics in the impact of air pollution on neurodevelopment. During these years, Marta has presented her work at numerous conferences (awarded in 4 occasions), and she has volunteered organizing scientific meetings.

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

- 1 Scientific paper.** Cosin-Tomas, Marta; et al. (8/1). 2018. Temporal Integrative Analysis of mRNA and microRNAs Expression Profiles and Epigenetic Alterations in Female SAMP8, a Model of Age-Related Cognitive Decline *FRONTIERS IN GENETICS*. 9. ISSN 1664-8021.
- 2 Scientific paper.** Bahous R.*; et al. (11/1). 2018. Early Manifestations of Brain Aging in Mice Due to Low Dietary Folate and Mild MTHFR Deficiency *Molecular Neurobiology*. ISSN 08937648.
- 3 Scientific paper.** Conklin, Quinn A.; et al. (12/8). 2018. Insight meditation and telomere biology: The effects of intensive retreat and the moderating role of personality *BRAIN BEHAVIOR AND IMMUNITY*. 70. ISSN 0889-1591.
- 4 Scientific paper.** Cosin-Tomas, Marta; et al. (13/1). 2017. Plasma miR-34a-5p and miR-545-3p as Early Biomarkers of Alzheimer's Disease: Potential and Limitations *MOLECULAR NEUROBIOLOGY*. 54. ISSN 0893-7648.
- 5 Scientific paper.** Bahous, Renata H.; et al. (14/4). 2017. High dietary folate in pregnant mice leads to pseudo-MTHFR deficiency and altered methyl metabolism, with embryonic growth delay and short-term memory impairment in offspring *HUMAN MOLECULAR GENETICS*. 26. ISSN 0964-6906.
- 6 Scientific paper.** Cosín-Tomás M.; et al. (9/1). 2014. Epigenetic alterations in hippocampus of SAMP8 senescent mice and modulation by voluntary physical exercise *Frontiers in Aging Neuroscience*. 6.
- 7 Scientific paper.** Kaliman, Perla; et al. (6/3). 2014. Rapid changes in histone deacetylases and inflammatory gene expression in expert meditators *PSYCHONEUROENDOCRINOLOGY*. 40. ISSN 0306-4530.
- 8 Scientific paper.** Jesus Alvarez-Lopez, Maria; et al. (11/3). 2013. Long-Term Exercise Modulates Hippocampal Gene Expression in Senescent Female Mice *JOURNAL OF ALZHEIMERS DISEASE*. 33. ISSN 1387-2877.
- 9 Scientific paper.** 2019. Differential DNA methylation in experienced meditators after an intensive day of mindfulness-based practice: Implications for immune-related pathways. *Brain, behavior, and immunity*.
- 10 Scientific paper.** 2019. Role of Resveratrol and Selenium on Oxidative Stress and Expression of Antioxidant and Anti-Aging Genes in Immortalized Lymphocytes from Alzheimer's Disease Patients *Nutrients*.
- 11 Scientific paper.** Sanchez-Roige, Sandra; et al. (8/4). 2014. Long-term wheel running changes on sensorimotor activity and skeletal muscle in male and female mice of accelerated senescence *AGE*. 36. ISSN 0161-9152.

- 12 Scientific paper.** Alvarez-Lopez, Maria J.; et al. (10/4). 2014. Rcor2 underexpression in senescent mice: a target for inflammaging? JOURNAL OF NEUROINFLAMMATION. 11. ISSN 1742-2094.
- 13 Scientific paper.** Fort, Marta; et al. (6/2). 2014. Assessment of exposure to trace metals in a cohort of pregnant women from an urban center by urine analysis in the first and third trimesters of pregnancy ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH. 21. ISSN 0944-1344.

C.2. Participation in R&D and Innovation projects

- 1** 43232, Methylenetetrahydrofolate Reductase (Mthfr) and multifactorial diseases Canadian Institutes of Health Research. Rima Rozen. (McGill University). 01/10/2014-01/10/2019.
- 2** (Research subagreement) Gene expression study for the Shamatha Project John Templeton Foundation Grant. Clifford Saron. (University of California Davis; Center for Mind and Brain). 01/01/2015-01/01/2017.
- 3** SAF2012-39852-C02-01, Interacción Sirtuina 1-AMPK-mTOR en los procesos de fragilidad mitocondrial como diana para la prevención de la neurodegeneración: implicación en el envejecimiento Ministerio de Economía y Competitividad. Mercè Pallàs. (Universitat de Barcelona). 01/01/2013-01/01/2015.
- 4** (Research subagreement) Wisconsin Center for the Neuroscience and Psychophysiology of Meditation Office of Research and Sponsored Programs (National Institutes of Health). Richard Davidson. (University of Wisconsin Madison). 01/01/2011-01/01/2013.
- 5** SAF2010-15050, Physical exercise and aging: transcriptional and epigenetic effects in and accelerated aging mouse model Ministerio de Economía y Competitividad. Perla Kaliman. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/01/2010-01/01/2013.

C.3. Participation in R&D and Innovation contracts

C.4. Patents