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## **Publication List**

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Applicant:

**Dr. María Moreno-Villanueva**

## Publication list

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### 2019

1. **Moreno-Villanueva M**, Kramer A, Hammes T, Venegas-Carro M, Thumm P, Bürkle A, Gruber M. Influence of Acute Exercise on DNA Repair and PARP Activity before and after Irradiation in Lymphocytes from Trained and Untrained Individuals. *Int J Mol Sci.* 2019 Jun 19;20(12). *PMID: 31248182*
2. **Moreno-Villanueva M**, Zhang Y, Feiveson A, Mistretta B, Pan Y, Chatterjee S, Wu W, Clanton R, Nelman-Gonzalez M, Krieger S, Gunaratne P, Crucian B, Wu H. Single-Cell RNA-Sequencing Identifies Activation of TP53 and STAT1 Pathways in Human T Lymphocyte Subpopulations in Response to Ex Vivo Radiation Exposure. *Int J Mol Sci.* 2019 May 10;20(9). *PMID: 31083348*
3. Pinchuk I, Weber D, Kochlik B, Stuetz W, Toussaint O, Debaqc-Chainiaux F, Dollé MET, Jansen EHJM, Gonos ES, Sikora E, Breusing N, Gradinaru D, Sindlinger T, **Moreno-Villanueva M**, Bürkle A, Grune T, Lichtenberg D. Gender- and age-dependencies of oxidative stress, as detected based on the steady state concentrations of different biomarkers in the MARK-AGE study. *Redox Biol.* 2019 Jun;24:101204. *PMID: 31022674*
4. **(Review) Maria Moreno-Villanueva** and Honglu Wu. Radiation and microgravity – Associated stress factors and carcinogenesis. REACH Volume 13, March 2019 100027  
[doi.org/10.1016/j.reach.2019.100027](https://doi.org/10.1016/j.reach.2019.100027)

### 2018

5. M. Liset Rietman, Annemieke M. W. Spijkerman, Albert Wong, Harry van Steeg, Alexander Bürkle, **María Moreno-Villanueva**, Thilo Sindlinger, Claudio Franceschi, Beatrix Grubeck-Loebenstein<sup>5</sup>, Jürgen Bernhardt, P. Eline Slagboom, Olivier Toussaint, Florence Debaqc-Chainiaux, Ewa Sikora, Efsthios S. Gonos, Nicolle Breusing, Daniela Weber, Tilman Grune, Andrea Basso, Francesco Piacenza, Marco Malavolta, Sebastiano Collino, Eugene H.J.M. Jansen, W. M. Monique Verschuren, Martijn E. T. Dollé, Antioxidants linked with physical, cognitive and psychological frailty: Analysis of candidate biomarkers derived from the MARK-AGE Study. *Mech Ageing Dev.* 2019 Jan;177:135-143. *PMID: 29719199*
6. **(Review) Maria Moreno-Villanueva** and Alexander Bürkle. Epigenetic and redox biomarkers: Novel insights from the MARK-AGE Study. *Mech Ageing Dev.* 2019 Jan;177:128-134. *PMID: 29969595*

7. **Moreno-Villanueva M**, Feiveson AH, Krieger S, Kay Brinda A, von Scheven G, Bürkle A, Crucian B, Wu H. Synergistic Effects of Weightlessness, Isoproterenol, and Radiation on DNA Damage Response and Cytokine Production in Immune Cells. *Int J Mol Sci*. 2018 Nov 21;19(11). PMID: 30469384
8. **María Moreno-Villanueva**, Gudrun von Scheven, Alan Feiveson, Alexander Bürkle, Honglu Wu, Namni Goel. The Degree of Radiation-Induced DNA Strand Breaks Is Altered by Acute Sleep Deprivation and Psychological Stress and Is Associated with Cognitive Performance in Humans. *Sleep*. 2018 Jul 1;41(7). PMID: 29596659
9. Mara Thomas, Philipp Palombo, Tamara Schuhmacher, Gudrun von Scheven, Viktoriia Bazylanska, Judy Salzwedel, Nadine Schäfer, Alexander Bürkle and **María Moreno-Villanueva**. Impaired PARP activity in response to  $\beta$ -adrenergic stimulation: indications for individual susceptibility to chronic stress. *Toxicol In Vitro*. 2018 Feb 10;50:29-39. PMID: 29438734

## 2017

10. Srinivasan Shanmugarajan, Ye Zhang, **María Moreno-Villanueva**, Ryan Clanton, Larry H. Rohde, Govindarajan T. Ramesh, Jean D. Sibonga and Honglu Wu. Combined Effects of Simulated Microgravity and Radiation Exposure on Osteoclast Cell Fusion. *Mol Cell Biochem*, 2017.
11. Birgit Weinberger, Ewa Sikora, Konstantinos Voutetakis, Michael Keller, Christina Putzer, Daniel Breitenberger, Olivier Toussaint, Tilman Grune, Jürgen Bernhard, Efstathios Gonos, **María Moreno-Villanueva**, Florence Chainiaux, Alexander Bürkle, Beatrix Grubeck-Loebenstein, Simone Fiegl, claudio franceschi, Mikko Hurme, Nicolle Breusing, Bernhard Koller. Protection against Tetanus and Diphtheria in Europe: the impact of age, gender and country of origin based on data from the MARK-AGE Study. *Exp Gerontol*. 2017. PMID: 29017961.
12. Fabio Ciccarone, Elisabetta Valentini, Marco Malavolta, Michele Zampieri, Maria Giulia Bacalini, Roberta Calabrese, Tiziana Guastafierro, Anna Reale, Claudio Franceschi, Miriam Capri, **María Moreno-Villanueva**, Alexander Bürkle, Paola Caiafa. DNA hydroxymethylation levels are altered in blood cells from Down syndrome persons enrolled in the MARK-AGE project. *J Gerontol A Biol Sci Med Sci*. 2017, PMID: 29069286.
13. Giacconi R, Costarelli L, Piacenza F, Basso A, Bürkle A, **Moreno-Villanueva M**, Gonos E, Schulz C, Grubeck-Loebenstein B, Sikora E, Toussaint O, Franceschi C, Hervonen A, Slagboom E, Ciccarone F, Zampieri M, Caiafa P, Mocchegiani and Malavolta M. Zinc-induced Metallothionein in centenarian offsprings from MARK-AGE population. *J Gerontol A Biol Sci Med Sci*. 2017. PMID: 29045571.

14. Ashley Purgason, Ye Zhang, Stanley Hamilton, Daila S. Gridley, Ayodotun Sodipe, Olufisayo Jejelowo, Govindarajan T. Ramesh<sup>6</sup>, **María Moreno-Villanueva**, and Honglu Wu. Apoptosis and Expression of Apoptosis-related Genes in Mouse Intestinal Tissue after Whole-body Proton Exposure. *Mol Cell Biochem*, 2017. PMID: 29098506.
  15. Miriam Deniz, Tatiana Romashova, Sarah Kostezka, Anke Faul, Theresa Gundelach, **María Moreno-Villanueva**, Wolfgang Janni, Thomas W. Friedl, and Lisa Wiesmüller. Increased Single-Strand Annealing rather than Non-Homologous Recombination Predicts Hereditary Ovarian Carcinoma. *Oncotarget*, 9;8(58):98660-98676, 2017. PMID: 29228718
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  17. Ye Zhang, **María Moreno-Villanueva**, Stephanie Krieger, Govindarajan T. Ramesh, Srujana Neelam and Honglu Wu. Transcriptomics, NF-κB Pathway, and Their Potential Spaceflight-Related Health Consequences. *Int J Mol Sci*. 2017 May 31;18(6), PMID: 28561779
  18. **(Review) María Moreno-Villanueva**, Michael Wong, Tao Lu, Ye Zhang & Honglu Wu Interplay of space radiation and microgravity in DNA damage and DNA damage response. *npj Microgravity* (2017) 3:14 PMID: 28649636
  19. Cole JH, Underwood J, Caan MW, De Francesco D, van Zoest RA, Leech R, Wit FW, Portegies P, Geurtsen GJ, Schmand BA, Schim van der Loeff MF, Franceschi C, Sabin CA, Majoie CB, Winston A, Reiss P, Sharp DJ; COBRA collaboration. Increased brain-predicted aging in treated HIV disease. *Neurology*. 2017 Apr 4;88(14):1349-1357. PMID: 28258081
- 2016**
20. Stuetz W, Weber D, Dollé ME, Jansen E, Grubeck-Loebenstien B, Fiegl S, Toussaint O, Bernhardt J, Gonos ES, Franceschi C, Sikora E, **Moreno-Villanueva M**, Breusing N, Grune T, Bürkle A. Plasma Carotenoids, Tocopherols, and Retinol in the Age-Stratified (35-74 Years) General Population: A Cross-Sectional Study in Six European Countries. *Nutrients*. 2016 Sep 30;8(10). PMID: 27706032
  21. Valentini E, Zampieri M, Malavolta M, Bacalini MG, Calabrese R, Guastafierro T, Reale A, Franceschi C, Hervonen A, Koller B, Bernhardt J, Slagboom PE, Toussaint O, Sikora E, Gonos ES, Breusing N, Grune T, Jansen E, Dollé ME, **Moreno-Villanueva M**, Sindlinger T, Bürkle A, Ciccarone F, Caiafa P. Analysis of the machinery and intermediates of the 5hmC-mediated DNA

demethylation pathway in aging on samples from the MARK-AGE Study. *Aging* (Albany NY). 2016 Aug 29;8(9):1896-1922. PMID: 27587280

22. Bryant C. Nelson, Christa W. Wright, Yuko Ibuki, **María Moreno-Villanueva**, Hanna L. Karlsson, Giel Hendriks, Christopher M. Sims, Neenu Singh and Shareen H. Doak. Emerging metrology for high-throughput nanomaterial genotoxicology. *Mutagenesis* [Epub ahead of print]. PMID: 27565834

23. Ciccarone F, Malavolta M, Calabrese R, Guastafierro T, Bacalini M, Reale A, Franceschi C, Capri M, Hervonen A, Hurme M, Grubeck-Loebenstein B, Koller B, Bernhardt J, Schön C, Slagboom PE, Toussaint O, Sikora E, Gonos ES, Breusing N, Grune T, Jansen E, Dollé M, **Moreno-Villanueva M**, Sindlinger T, Bürkle A, Zampieri M, Caiafa P. Age-dependent expression of DNMT1 and DNMT3B in PBMCs from a large European population enrolled in the MARK-AGE study. *Aging Cell*. 2016 Aug;15(4):755-65. PMID: 27169697

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25. **(Review) Moreno-Villanueva M**, Bürkle A. Stress hormone-mediated DNA damage response: implications for cellular senescence and tumour progression. *SI Molecular basis of nutrition and ageing. Curr Drug Targets*. 2015 Oct 1. [Epub ahead of print]. PMID: 26424387

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31. **Moreno-Villanueva M\***, Capri M\*, Breusing N, Siepelmeyer A, Sevini F, Ghezzi A, Craen AJ, Hervonen A, Hurme M, Schön C, Grune T, Franceschi C, Bürkle A. MARK-AGE standard operating procedures (SOPs): A successful effort. *Mech Ageing Dev.* 2015 Mar 26. PMID: 25817206
32. **Moreno-Villanueva M\***, Kötter T\*, Sindlinger T, Baur J, Oehlke S, Bürkle A, Berthold MR. The MARK-AGE phenotypic database: Structure and strategy. *Mech Ageing Dev.* 2015 Mar 27. PMID: 25817205
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35. **(Review) Moreno-Villanueva M**, Bürkle A. Molecular consequences of psychological stress in human aging. *Exp Gerontol.* 2015 Aug;68:39-42. PMID: 25481270

## 2014

36. Alster O, Bielak-Zmijewska A, Mosieniak G, **Moreno-Villanueva M**, Dudka-Ruszkowska W, Wojtala A, Kusio-Kobiałka M, Korwek Z, Burkla A, Piwocka K, Siwicki JK, Sikora E. The role of nibrin in doxorubicin-induced apoptosis and cell senescence in Nijmegen Breakage Syndrome patients lymphocytes. *PLoS One.* 2014 Aug 13;9(8):e104964. PMID: 25119968
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## 2013

41. **Moreno-Villanueva M\***, Morath J\*, Vanhooren V, Elbert T, Kolassa S, Libert C, Bürkle A, Kolassa IT. N-glycosylation profiling of plasma provides evidence for accelerated physiological aging in post-traumatic stress disorder. *Transl Psychiatry*. 2013 Oct 29;3:e320. PMID: 24169639
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\* Co-first authorship

Book chapters

1. **Moreno-Villanueva M**, Bürkle A (2015) DNA damage, DNA repair and micronutrients in aging. Molecular Basis of Nutrition and Aging. Elsevier. Edited by Marco Malavolta and Eugenio Moccegiani
2. **Moreno-Villanueva M**, Bürkle A (2012) High-throughput assays to quantify the formation of DNA strand breaks. In: P Steinberg (ed.), High Throughput Screening Methods in Toxicity Testing. John Wiley & Sons, Inc., Hoboken, NJ, USA.

Articles in German

1. **María Moreno-Villanueva**, Marcel Pilartz, Miriam Unger. Messungen von DNA-Strangbrüchen. Schnelle und aussagekräftiger Genotoxizitätsbewertung. Biospektrum. Spezial Laborautomation, DOI: 10.1007/s12268-013-Springer-Verlag, 2013 (in German)
2. **María Moreno-Villanueva**, Miriam Unger, Marcel Pilartz, Martin Winter, Alexander Bürkle. Ein Messsystem für DNA-Schäden. Nachrichten aus der Chemie 61, Juli August 2013. [www.gdch.de/nachrichten](http://www.gdch.de/nachrichten) (in German)
3. **María Moreno-Villanueva**, Miriam Unger, Marcel Pilartz, Martin Winter. Automatisierte FADU-Methode für den Einsatz in der Toxikologie, Pharmakologie und Medizin. Labo Online: Analytik, Labortechnik, Life sciences, 2013 (in German)