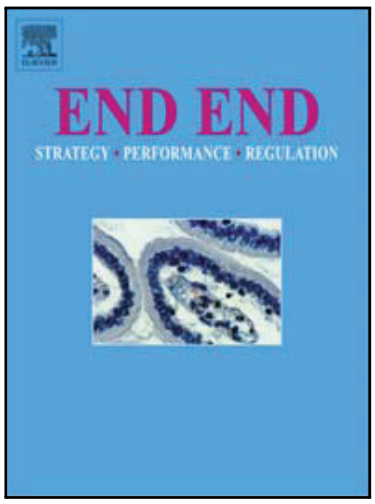
Accepted Manuscript



MAFG is a potential therapeutic target to restore chemosensitivity in cisplatin-resistant cancer cells by increasing reactive oxygen species

Olga Vera-Puente , Carlos Rodriguez-Antolin , Ana Salgado-Figueroa , Patrycja Michalska , Olga Pernia , Brett M. Reid , Rocío Rosas , Alvaro Garcia-Guede , Silvia Sacristán , Isabel Esteban-Rodriguez , M. Elena Martin , Thomas A. Sellers , Rafael León , Víctor M. Gonzalez , Javier De Castro , Inmaculada Ibanez de Caceres

PII: S1931-5244(18)30101-4
DOI: 10.1016/j.trsl.2018.06.005
Reference: TRSL 1248

To appear in: *The End-to-end Journal*

Received date: 14 February 2018
Revised date: 6 June 2018
Accepted date: 17 June 2018

Please cite this article as: Olga Vera-Puente , Carlos Rodriguez-Antolin , Ana Salgado-Figueroa , Patrycja Michalska , Olga Pernia , Brett M. Reid , Rocío Rosas , Alvaro Garcia-Guede , Silvia Sacristán , Isabel Esteban-Rodriguez , M. Elena Martin , Thomas A. Sellers , Rafael León , Víctor M. Gonzalez , Javier De Castro , Inmaculada Ibanez de Caceres , MAFG is a potential therapeutic target to restore chemosensitivity in cisplatin-resistant cancer cells by increasing reactive oxygen species, *The End-to-end Journal* (2018), doi: 10.1016/j.trsl.2018.06.005

MAFG is a potential therapeutic target to restore chemosensitivity in cisplatin-resistant cancer cells by increasing reactive oxygen species

Running title: Novel MAFG-aptamer for cancer therapeutics and diagnostics

Olga Vera-Puente[1,2] *; Carlos Rodriguez-Antolin[1,2]*; Ana Salgado-Figueroa[3]; Patrycja Michalska[4,5]; Olga Pernia[1,2]; Brett M. Reid[6]; Rocío Rosas[1,2]; Alvaro Garcia-Guede[1,2]; Silvia Sacristán[3]; Isabel Esteban-Rodriguez[2,7]; M. Elena Martin[3]; Thomas A. Sellers[6]; Rafael León[4,5]; Víctor M. Gonzalez[3]; Javier De Castro[2+]; Inmaculada Ibanez de Caceres[1,2+]

[1] Cancer Epigenetics Laboratory, INGEMM, La Paz University Hospital, Madrid, Spain
[2] Biomarkers and Experimental Therapeutics in Cancer, IdiPAZ, Madrid, Spain
[3] Laboratory of Aptamers, Department of Biochemistry Research, IRYCIS-Hospital Ramón y Cajal, Madrid, Spain
[4] Biomedical Research Foundation of University Hospital La Princesa, Madrid, Spain
[5] Institute Teófilo Hernando and Department of Pharmacology and Therapeutics, Autonomous University of Madrid, Madrid, Spain
[6] Department of Cancer Epidemiology, MOFFITT Cancer Center, Tampa, FL, USA
[7] Department of Pathology, La Paz University Hospital, Madrid, Spain

*** Both authors contributed equally to this work.**
+ Corresponding authors

Keywords: MAFG, miR-7, Aptamers, Cisplatin-resistance, Lung cancer, DNA methylation.

Corresponding author:
Inmaculada Ibañez de Caceres
Cancer Epigenetics Laboratory, INGEMM
Biomarkers and Experimental Therapeutics in Cancer, IdiPAZ
Paseo de la Castellana 261, 28046 Madrid, Spain
Phone +34-91-2071010-248
Fax +34-91-2071010
E-mail: inma.ibanezca@salud.madrid.org

Financial support: This study was supported by the 'Fondo de Investigación Sanitaria-Instituto de Salud Carlos III' [PI15/00186 and CP 08/000689 to I.I.C.]; and the European Regional Development Fund/European Social Fund FIS [FEDER/FSE, Una Manera de Hacer Europa]. MINECO funds support O.V., C.R.A. and O.P. contracts through RTC-2015-4362-1 and RTC-2016-5314-1 projects.

CONFLICTS OF INTEREST

All the authors have read the journal's authorship statement and have no conflicts of interest to declare. The information provided in this study is included in a patent application process (EP17382610.8) and therefore it must be treated, solely and exclusively, based on the purposes of this paper, and should not be published if it does not respond to the purpose thereof. This application and its contents are protected by the Spanish Law on Intellectual and Industrial Property, prohibiting the distribution, reproduction, disclosure, transformation and sale of the entire document or part thereof, as well as the use, under any circumstances, of the trademarks appearing therein, without the prior express written consent of the Foundation for Biomedical Research of La Paz University Hospital-IdiPAZ (FIBHULP), which holds the ownership.

Abbreviations used in the manuscript: miR-7: microRNA-7; MAFG: musculoaponeurotic fibrosarcoma oncogene family, protein G; CDDP: cisplatin; qRT-PCR: quantitative real-time PCR; qMSP: quantitative methylation-specific PCR; ROS, reactive oxygen species; NSCLC: non-small cell lung cancer; ATT: adjacent tumor tissues; TCC: Moffitt's Total Cancer Care; TCGA: The Cancer Genome Atlas.

Total number of Figures and Tables: 7 Figures, 1 Tables; 4 Supplementary Figures and 4 Supplementary Tables.