Curriculum vitae **GIOVANNA BUTERA**

Date and place of birth: March 10, 1989- Palermo, Italy.

Citizenship: Italian.

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EDUCATION

2015/2018: PhD in Biomolecular Medicine (Doctor Europaeus), Doctoral School in Life and Health Sciences, University of Verona, Italy. Thesis title: Mutant p53-dependent alterations of cancer metabolism and tumor microenvironment in pancreatic adenocarcinoma cells.

2015: Master's Degree in Molecular Biology (110/110 cum laude), University of Parma, Italy. Master project entitled "Role of mutant p53 in the regulation of ROS in Cancer".

2013: Bachelor's Degree in Biological Sciences, University of Palermo, Italy.

RESEARCH EXPERIENCE

2019- Present: Postdoctoral Fellow in the laboratory of Prof. Donadelli, University of Verona, Italy. I'm investigating biomarkers in serum from patients with pancreatic cancer having the TP53 wild-type or mutated gene.

2015-2018: PhD in Biomolecular Medicine, Doctoral School in Life and Health Sciences, University of Verona, Italy. Thesis title: Mutant p53-dependent alterations of cancer metabolism and tumor microenvironment in pancreatic adenocarcinoma cells. My PhD course was focused on the study of the molecular mechanisms responsible for the chemoresistance of pancreatic ductal adenocarcinoma cells having mutation in the TP53 gene. During the course, I spent three months in IPATIMUP Institute, University of Porto under the guidance of Professor Melo.

2015: Research internship for the Master's degree in Molecular Sciences, Biochemistry Section, University of Verona, Italy. I studied the role of mutant p53 in the regulation of ROS in cancer cells, identifying a signaling pathway that stimulates cell proliferation and chemoresistance in contrast to wild type p53.

FUNDING PROJECTS

- Hacking pancreatic adenocarcinoma drug resistance with novel NO-GEM prodrugs targeting mitochondria and encapsulated in decorated liposomes (Joint Project 2017; PI Prof. Massimo Donadelli)

- From secretome knowledge to personalized therapy in pancreatic cancer patients with mutant p53 (Joint Project 2015; PI Prof. Massimo Donadelli)

AWARDS

2018: Best Poster Prize Journal of Experimental and Clinical Cancer Research (JECCR) at Annual Conference of Italian Association of Cell Cultures (AICC). Title of the winning project: “Mutant p53 proteins influence secretome of pancreatic cancer cells”.27-28th November 2018-Bologna,Italy.

2018: Travel grant/short-term fellowship for the course in Cancer Metabolism. Title of the selected project:” Mutant p53 proteins trigger chemoresistance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells”. 29,30th November 2018-Bertinoro, Italy.

2018: Travel grant/short-term fellowship for the course in “"Winter School in Applied Bioinformatics". Title of the selected project: “Mutant p53 proteins trigger chemoresitance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells. 21-25th January 2018-Alba di Canazei (TN), Italy.

2017: Short-term fellowship “Boehringer Ingelheim” for international mobility at the University of Porto, Portugal.

2017: Short-Term Fellowships “European Molecular Biology Organization (EMBO)” for international mobility at the University of Porto, Portugal.

2017: Best Abstract at University of Verona (PhD day). Title of the winning abstract: “Mutant p53 proteins trigger chemoresitance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells “.6-7th December 2017 -Verona,Italy.

INVITED ORAL PRESENTATIONS:

“Mutant p53 proteins trigger chemoresistance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells” .Università of Verona, PhD day ; 6-7th December 2017 , Verona , Italy .

“Mutant p53 proteins trigger chemoresistance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells” .Winter School in Applied Bioinformatics, 21-25th January 2018, Alba di Canazei(TN),Italy.

“Mutant p53 proteins trigger chemoresistance stabilizing GAPDH in the cytoplasm of pancreatic cancer cells”. 'A. Castellani' of PhD students in biochemical sciences" .4-8th June 2018, Brallo di Pregola (PV), Italy.

POSTER PRESENTATIONS

Author of twenty scientific poster presented at national and international congresses, out of two have received the award for Best Poster of the conference.

PUBLICATIONS

1) Regulation of Autophagy by Nuclear GAPDH and Its Aggregates in Cancer and Neurodegenerative Disorders. Butera G *et al.* Int J Mol Sci. 2019 Apr 26;20(9) doi: 10.3390/ijms20092062.

2) Oncometabolites in cancer aggressiveness and tumor repopulation. Dando et al. Biol Rev Camb Philos Soc. 2019 Apr 10. doi: 10.1111/brv.12513

3) Mutant p53 prevents GAPDH nuclear translocation in pancreatic cancer cells favoring glycolysis and 2-deoxyglucose sensitivity Butera *et al***.** Biochim Biophys Acta Mol Cell Res. 2018 Dec; 1865(12):1914-1923. doi: 10.1016/j.bbamcr.2018.10.005

4) Mutant p53 blocks SESN1/AMPK/PGC-1α/UCP2 axis increasing mitochondrial $O2^{-\cdot}$ production in cancer cells.Cordani *et al.* Br J Cancer. 2018 Oct;119(8):994-1008. doi: 10.1038/s41416-018-0288-2

5) Autocrine mechanisms of cancer chemoresistance
Butera *et al.* Semin Cell Dev Biol. 2018 Jun; 78:3-12. doi: 10.1016/j.semcdb.2017.07.019

6) UCP2 inhibition induces ROS/Akt/mTOR axis: Role of GAPDH nuclear translocation in genipin/everolimus anticancer synergism**.** Dando *et al*. Free Radic Biol Med. 2017 Dec; 113:176-189. doi: 10.1016/j.freeradbiomed.2017.09.022.

7) A comparison study on RNase A oligomerization induced by cisplatin, carboplatin and oxaliplatin**.** Picone *et al*. J Inorg Biochem. 2017 Aug; 173:105-112. doi: 10.1016/j.jinorgbio.2017.05.005.

8) The antioxidant mitochondrial protein UCP2 promotes cancer development connecting the Warburg effect and autophagy. Cordani *et al*. Traslational Medicine Reports 2017.DOI https://doi.org/10.4081/tmr.6451

9) The antioxidant uncoupling protein 2 stimulates hnRNPA2/B1, GLUT1 and PKM2 expression and sensitizes pancreas cancer cells to glycolysis inhibition. Brandi *et al.* Free Radic Biol Med. 2016 Dec; 101:305-316. doi: 10.1016/j.freeradbiomed.2016.10.499

10) Molecular interplay between mutant p53 proteins and autophagy in cancer cells.
Butera *et al*. BBA Rev Cancer. 2017

11) Mutant p53 proteins alter cancer cell secretome and tumour microenvironment: Involvement in cancer invasion and metastasis Cordani *et al*. Cancer Lett. 2016 Jul 1;376(2):303-9. doi: 10.1016/j.canlet.2016.03.046