



Francesco Rea

Sora (FR), Italy

Master Degree in Medical
Biotechnologies



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BIO/13 Experimental
Biology

University of L'Aquila

Research field:
Reproductive
biotechnology



Ashraf Virmani

Research, Innovation and
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Utrecht, The Netherland



Samuele Zanatta

Direttore Tecnico e
Responsabile ricerca e
sviluppo

Labomar SpA, Istrana (TV)

Company mission:

Scientific research and the
development of ever new
patented technologies. The team
works daily on high quality raw
materials, on innovative
formulations and on the
production of rigorous scientific
documentation.

Development of nutraceutical formulations for the treatment of ovarian dysfunction in polycystic ovarian syndrome (PCOS) evaluation of bio-molecular markers in the ovarian micro-environment in a mouse model of PCOS

➤ General objectives of the project

In this project it is intended to develop nutraceutical compounds based on the use of different carnitine formulations for the treatment of ovarian dysfunction in polycystic ovarian syndrome (PCOS).

➤ Industrial impact of the project

The result of this research could open up new therapeutic perspectives that would allow the company involved to be able to obtain a potential commercial advancement for the widespread use of a new nutraceutical formulation



- Co-projecting : LABOMAR SpA has co-projected the research and training during the PhD programme. LABOMAR SpA has contributed with its structure and equipment, specialized personnel and its background in the field
- Training The PhD student has been included in the Labomar Research team, whose main objectives are represented by the creation of new raw materials, transport systems (delivery) and development of formulations with increased bioavailability. The training has been focusing on the industrialization aspects of different nutraceutical prototypes and their stabilization according to the international harmonization conditions ICH by means of chemical-physical analyzes on the prototypes
- Research Labomar has been actively contributing to the research project by conducting joint experiments with the other partners. From this collaboration, several abstracts presented in national and international congresses has been produced
- Technological transfer : The company intends to develop a carnitine based supplement that could be used to increase fertility rate in the PCOS patients.



Publications

[Methylglyoxal-Dependent Glycative Stress and Deregulation of SIRT1 Functional Network in the Ovary of PCOS Mice.](#)

Emidio GD, Placidi M, Rea F, Rossi G, Falone S, Cristiano L, Nottola S, D'Alessandro AM, Amicarelli F, Palmerini MG, Tatone C.

Cells. 2020 Jan 14;9(1). pii: E209. doi: 10.3390/cells9010209.

PMID: 31947651





Scientific meeting (underlying the business expert, if present)

- ISGE Gynecological endocrinology
4-7 March 2020 Florence Italy

Abstract Title: Beneficial effects of acyl-L-carnitines during oocyte IVM after mild oxidative stress.

Author(s)/Speaker: Rea F (Speaker), Placidi M, Rossi G, Artini P, Di Emidio G, D'Alessandro A, Virmani A, Tatone C

- ISGE Gynecological endocrinology
4-7 March 2020 Florence Italy

Abstract Title: Glycative stress and sirtuin deregulation in the ovaries of DHEA-induced PCOS mice

Author(s)/Speaker: Placidi M (Speaker), Di Emidio G, Rea F, Rossi G, Falone S, Cristiano L, D'Alessandro A, Amicarelli F, Palmerini M, Nottola S, Tatone C

- XIX Congresso Nazionale dell'Associazione Italiana di Biologia e Genetica Generale e Molecolare (A.I.B.G.).
Milano 4-5 Ottobre 2019.

Di Emidio G, Placidi M, Rea F, Rossi G, D'Alessandro AM, Tatone C. Beneficial effects of acyl-L-carnitines on oocyte competence and ovarian dysfunction in a mouse model of polycystic ovarian syndrome (PCOS).

- 18th World Congress of the Academy of Human Reproduction
mar 2 apr 2019 – ven 5 apr 2019

Ovaries from adult mice counteract radiotherapy-induced gonadotoxicity through activation of SIRT1 adaptive response.

Giulia Rossi¹, Martina Placidi¹, Francesco Rea¹, Rosalia Battaglia², Giovanni Luca Gravina³, Paolo Giovanni Artini⁴, Cinzia Di Pietro², Anna Maria D'Alessandro¹, Giovanna Di Emidio¹, Carla Tatone¹



- Award for the best poster presentation of Reproductive Biotechnology session at the PhD annual meeting in Cellular and Molecular biotechnologies. Teramo 2019.

