Alessandra Camarca

Personal Information
Birthplace: Prato (Italy)
Birthdate: April 8 1974
Marital Status: married, 2 children

Dr. Camarca started her research activity at the Institute of Genetics and Biophysics (IGB-ABT) of the CNR, Naples working on the molecular biology and the glycosilation profile of a breast carcinoma protein marker. Since 2004 she moved at the Institute of Food Sciences where she worked on mucosal immunology and in particular on the mechanisms leading to gluten-induced enteropathy (Coeliac Disease, CD), into the group directed by Dr. Carmen Gianfrani and in collaboration with the European Laboratory for Food Induced Diseases and the Department of Medical Sciences and Translational Medicine of Federico II University of Naples.
During the last years she has focused on the searching of possible immunodominat epitopes in celiac disease patients useful for a peptide-based immunotherapy of CD, on the study of regulatory mechanisms leading to a down-regulation of the anti-gluten T cell response and on the role of cytotoxic T lymphocytes in the gluten induced enteropathy. In addition, her expertises in primary T lymphocytes cultures allowed her to validate the efficacy of biochemical strategies for wheat gluten detoxification and to verify the immune-toxicity of ancient grains and of alternative cereals for celiac disease patients.
Recently, she joined the group of Dr. D'Auria, where she will apply advanced fluorescence and label-free techniques to study molecular immunology.

Current position: Researcher (temporary position) at Institute of Food Sciences, National Council of Research, since october 2014.

Education
2000: Degree in Biology at the at "Federico II University of Naples", Italy.
2004: Biochmestry and Moleclar Biology Ph.D at "Federico II University of Naples", Italy.

Training
1999-2000: Institute of Genetics and Biophysics, CNR, Naples. Research activity for thesis.
2000- 2001: Institute of Genetics and Biophysics, CNR, Naples. Post-lauream training.
2001-2004: Institute of Genetics and Biophysics, CNR, Naples. Research for PhD dissertation.
2004: Institute of Food Sciences-CNR, Avellino. Contract on: *Surface antigens typing, by citofluorimetry, of the HPB-ALL cell line differentiated with phorbol esters.*
2004-2006: Institute of Food Sciences-CNR, Avellino. Fellowship from European Laboratory for Food Induced Diseases spent on: *Role of regulatory T cells in celiac disease patient's intestinal mucosa.*
2006: Institute of Food Sciences-CNR-Avellino. Contract on: *Analysis of the effect of gluten enzymatic modification on celiacs derived intestinal T cell lines.*
2007: Institute of Food Sciences-CNR, Avellino. Fellowship from San Raffaele Telethon Institute (TIGET, Milano) spent on: *Generation of intestinal T cell clones from intestinal mucosa of celiac patients and their molecular characterization by microarray analysis.*

2008: Institute of Food Sciences-CNR, Avellino. Fellowship from European Laboratory for Food Induced Diseases spent on: A*nalysis of the intestinal immune responses to food antigens in type 1 diabetes patients.*
2009-2010: Institute of Food Sciences-CNR, Avellino. Contract from European Laboratory for Food Induced Diseases spent on: *Immunological assays in a cohort of patients at high risk of developing celiac disease.*
2009: Centre for Immune Regulation (CIR), University of Oslo and Rikshospitalet. Short training period.
2011-2012 : Institute of Food Sciences-CNR. Contract from European Laboratory for Food Induced Diseases spent on *Analysis of the immune response in a cohort of patients at high risk to develop Celiac Disease.*
2012: Institute of Food Sciences-CNR. Contract on *Analysis of the immunomodulant effects of polyphenolic and carotenoids extract from foods with potential functional activities.*
2012-2013: Institute of Food Sciences-CNR. Research Fellowship from Università degli Studi di Napoli Federico II spent on *Imunogenicity of cereal proteins*.

Membership in Scientific Societies:
Italian Society of immunology, Clinical Immunology and allergology (SIICA)

Language: English.

Advanced Courses:
2002: Ruggiero Cappellini Advanced course of Immunology "*The immunity in human pathology*"
2009: Ruggiero Cappellini Advanced course of Immunology *The Role of B cells in the Physiology and Pathology of the Immune System"*

Scientific production

Gianfrani C, **Camarca A**, Mazzarella G, Di Stasio L, Giardullo N, Ferranti P, Picariello G, Rotondi Aufiero V, Picascia S, Troncone R, Pogna N, Auricchio S, Mamone G. Extensive in vitro gastrointestinal digestion markedly reduces the immune-toxicity of Triticum monococcum wheat: Implication for celiac disease. *Mol Nutr Food Res. 2015 May 28. doi: 10.1002/mnfr.201500126.*

Ciccocioppo R, **Camarca A**, Cangemi GC, Radano G, Vitale S, Betti E, Ferrari D, Visai L, Strada E, Badulli C, Locatelli F, Klersy C, Gianfrani C, Corazza GR. Tolerogenic effect of mesenchymal stromal cells on gliadin-specific T lymphocytes in celiac disease. *Cytotherapy. 2014 May 13. doi: 10.1016/j.jcyt.2014.03.002.*

Lamacchia C, **Camarca A**, Picascia S, Di Luccia A, Gianfrani C. Cereal-based gluten-free food: how to reconcile nutritional and technological properties of wheat proteins with safety for celiac disease patients. *Nutrients. 2014 Jan 29;6(2):575-90. doi: 10.3390/nu6020575.*

Strisciuglio C, Miele E, Wildenberg ME, Giugliano FP, Andreozzi M, Vitale A, Capasso F, **Camarca A**, Barone MV, Staiano A, Troncone R, Gianfrani C. T300A variant of autophagy ATG16L1 gene is associated with decreased antigen sampling and processing by dendritic cells in pediatric Crohn's disease. *Inflamm Bowel Dis. 2013 Oct;19(11):2339-48.*

Mamone G*, **Camarca A***, Fierro O, Sidney J, Mazzarella G, Addeo F, Auricchio S, Troncone R, Sette A, Gianfrani C. Immunogenic peptides can be detected in whole gluten by transamidating highly susceptible glutamine residues: implication for searching of gluten-free cereals*. J Agric Food Chem. 2012 Dec 18. [Epub ahead of print]* ***GM and AC contributed equally to this work.***

Gianfrani C, Maglio MA, Nitride C, Rotondi Aufiero V, **Camarca A**, Vocca I, Iaquinto G, Giardullo N, Pogna N., Troncone R., Auricchio S., Mozzarella G. Immunogenicity of monococcum wheat in celiac patients. *Am J Clin Nutr. 2012, 96:1339-45.*

Picariello G, Mamone G, Nitride C, Addeo F, **Camarca A**, Vocca I, Gianfrani C, Ferranti P. Shotgun proteome analysis of beer and the immunogenic potential of beer polypeptides. *J Proteomics. 2012 Oct 22;75(18):5872-82.*

Camarca A, Radano G, Di Mase R, Terrone G, Maurano F, Auricchio S, Troncone R, Greco L, and Gianfrani C. Reproducibility of the in vivo short wheat challenge, a sensitive tool to monitor immune responsiveness to gluten. *Clin Exp Immunol. 2012 Aug;169(2):129-36.*

Camarca A, Del Mastro A and Gianfrani C. Repertoire of gluten peptides active in celiac disease patients: perspectives for translational therapeutic applications. *Endocr Metab Immune Disord Drug Targets. 2012 Jun;12(2):207-19. Review.*

Vocca I, Berni Canani R, **Camarca A,** Ruotolo S, Tardi M, Radano G, Del Mastro A, Troncone R, and Gianfrani C. Beta-lactoglobulin specific memory response in the peripheral blood of children with active and outgrown cow's milk allergy. *Pediatrics Research 2011, 70:549-54.*

Maglio M, Mazzarella G, Barone MV, Gianfrani C, Pogna N, Gazza L, Stefanile R, **Camarca A**, Colicchio B, Nanayakkara M, Miele E, Iaquinto G, Giardullo N, Maurano F, Santoro P, Troncone R, Auricchio S. Immunogenicity of two oat varieties, avena genziana and avena Potenza, in relation to their safety for celiac patients. *Scand J Gastroenterology* 2011, 46, 1194-205.

Camarca A, Mazzarella G, Gianfrani C. Celiac Disease: what is new on disease pathogenesis and management. *It J of Allergy Clin Immunol. 2009; 19:12-21.*

Camarca A, Anderson RP, Mamone G, Fierro O, Facchiano A, Costantini S, Zanzi D, Sidney J, Auricchio S, Sette A, Troncone R and Gianfrani C. Intestinal T-cell responses to gluten peptides are largely heterogeneous: implication for a peptide-based therapy in celiac disease. *J. Immunol. 2009 182: 4158-4166.*

Debily M.A., El Marhomy S., Boulanger V., Eveno E, Mariage-Samson R, **Camarca A**, Auffray C, Piatier-Tonneau D, Imbeaud S. A functional and regulatory network associated with PIP expression in human breast cancer. *PloS ONE 2009 4: e4696.*

Mazzarella G, Stefanile R, **Camarca A**, Giliberti P, Casentini E, Marano C, Iaquinto G, Giardullo N, Auricchio S, Sette A, Troncone R, Gianfrani C. Gliadin activates HLA class I-restricted CD8+ T-cells in coeliac intestinal mucosa and induces the enterocyte apoptosis. *Gastroenetrology 2008;134:1017–1027.*

Gianfrani C, Siciliano RA, Facchiano AM, **Camarca A**, Mazzeo MF, Costantini S, Salvati V, Maurano F, Mazzarella G, Iaquinto G and Rossi M. Transamidation inhibits the intestinal immune response to gliadin *in vitro. Gastroenterology 2007; 133:780-789.*

Rizzello CG, De Angelis M, Di Cagno R, **Camarca A,** Silano M, Losito I, De Vincenti M, De Bari MD, Palmisano F, Maurano F, Gianfrani C, and Gobbetti M. Highly efficient gluten degradation by lactobacilli and fungal proteases during food processing: new perspectives for celiac disease. *Applied and Environmental Microbiology 2007; 73:4499-507.*

Gianfrani C,. Levings MK, Sartirana C, Mazzarella G, Barba G, Zanzi D, **Camarca A,** Iquinto G, Giardullo N, Auricchio S, Troncone R, Roncarolo MG. Gliadin-specific Type-1 regulatory T cells from intestinal mucosa of treated coeliac patients inhibit pathogenic T cells. *J. Immunol. 2006 176: 4178-86.*

Debily MA, **Camarca A**, Ciullo M, Mayer C, El Marhomy S, Ba I, Jalil A, Anzisi A, Guardiola J, and Piatier-Tonneau D. Expression and molecular characterization of alternative transcripts of the *ARHGEF5* oncogene specific for human breast cancer. *Hum Mol Genet. 2004;13:323-34*

Caputo E***, Camarca A*,** Moharram R, Tornatore P, Thatcher B, Guardiola J and Martin BM. Structural analysis of GCDFP-15/gp17 in disease versus Physiological Conditions Using a Proteomic Approach. *Biochemistry. 2003;42:6169-78.* ***EC and AC contributed equally to this work.***

Autiero M, **Camarca A**, Ciullo M, Deliby MA, El Marhomy S, Pasquinelli R, D'Aiuto G, Anzisi AM, Piatier-Tonneau D, and Guardiola J. Intragenic amplification and formation of extrachromosomal small circular DNA molecules from PIP gene on chromosome 7 in primary breast carcinomas. *Int J Cancer. 2002 ;99:370-377.*

Book chapters:

Gianfrani C**,** Camarca A, Salvati V, Mazzarella G, Roncarolo MG and Troncone R. Regulatory T-cells in the celiac intestinal mucosa: a new perspective for treatment? In "*New Frontiers in Celiac Disease" Ed Fasano, Branski, Troncone, 2008; Vol 12: 181-187*.