



Research subjects:

The research activity is pointed to microbiological and immunological subjects. Ongoing projects are addressed to study the interaction of microorganisms and their antigens with the immune cells, the virulence factors and their inhibitors (biofilm inhibitors, new vaccines). Other projects are based on the activity of vegetal extracts to inhibit the adhesion of microorganisms to epithelial cells and the biofilm formation.

Scientific Collaborations

Department of Pharmaceutical Sciences:

Prof Valeria Ambrogi: antimicrobial activity of dental composites and containing-nanoparticles polymeric film.

Prof.ssa Morena Nocchetti: antimicrobial activity of nanoparticles and photocatalyst compounds.

Prof. Pagiotti: antimicrobial and anti-inflammatory properties of vegetal extracts.

As a part of the project of the multidisciplinary group "SeS redox and catalysis" operating at the Department of Pharmaceutical Sciences in collaboration with several international groups, evaluation of novel antimicrobial and antivirulence Se-compounds.

External Collaborators:

ABOCA SpA: evaluation of antivirulence activity (anti-biofilm and anti-adherence) of bioactive phytochemicals.

Papers last 5 years

		Anno	Impact Factor
1	M. Nocchetti, A. Donnadio, V. Ambrogi, P. Andreani, M. Bastianini, M. D. Pietrella , L. Latterini. Ag/AgCl nanoparticle decorated layered double hydroxides: synthesis, characterization and antimicrobial properties. J. Mat. Chem B , 2003;1(18):2383-2393.	2013	ND
2	Pietrella D , Pandey N, Gabrielli E, Pericolini E, Perito S, Kasper L, Bistoni F, Cassone A, Hube B, Vecchiarelli A. Secreted aspartic proteases of <i>Candida albicans</i> activate the NLRP3 inflammasome. Eur J Immunol. 2013 Mar;43(3):679-92. doi: 10.1002/eji.201242691. Epub 2013 Jan 31	2013	4,97 (2012)
3	Piccioni M, Monari C, Kenno S, Pericolini E, Gabrielli E, Pietrella D , Perito S, Bistoni F, Kozel TR, Vecchiarelli A. A purified capsular polysaccharide markedly inhibits inflammatory response during endotoxic shock. Infect Immun. 2013 Jan;81(1):90-8. doi: 10.1128/IAI.00553-12. Epub 2012 Oct 22	2013	4,074 (2012)
4	Mosci P, Pietrella D , Ricci G, Pandey N, Monari C, Pericolini E, Gabrielli E, Perito S, Bistoni F, Vecchiarelli A. Mouse strain-dependent differences in estrogen sensitivity during vaginal candidiasis. Mycopathologia. 2013 Feb;175(1-2):1-11. doi: 10.1007/s11046-012-9589-9. Epub 2012 Oct 7.	2013	1,489 (2012)
5	Vecchiarelli A, Pericolini E, Gabrielli E, Pietrella D . New approaches in the development of a vaccine for mucosal candidiasis: progress and challenges. Front Microbiol. 2012;3:294. doi: 10.3389/fmicb.2012.00294. Epub 2012 Aug 13.	2012	ND
6	Pietrella D , Enjalbert B, Zeidler U, Znaidi S, Rachini A, Vecchiarelli A, d'Enfert C. A luciferase reporter for gene expression studies and dynamic imaging of superficial <i>Candida albicans</i> infections. Methods Mol Biol. 2012;845:537-46	2012	ND
7	Pietrella D , Rachini A, Pines M, Pandey N, Mosci P, Bistoni F, d'Enfert C, Vecchiarelli A. Th17 cells and IL-17 in protective immunity to vaginal candidiasis. PLoS One. 2011;6(7):e22770. Epub 2011 Jul 27	2011	4,092 (2011)
8	Pietrella D , Angiolella L, Vavala E, Rachini A, Mondello F, Ragno R, Bistoni F, Vecchiarelli A. Beneficial effect of <i>Mentha suaveolens</i> essential oil in the treatment of vaginal candidiasis assessed by real-time monitoring of infection. BMC Complement Altern Med. 2011 Feb 28;11:18	2011	2,241 (2011)
9	Pietrella D , Rachini A, Torosantucci A, Chiani P, Brown AJ, Bistoni F, Costantino P, Mosci P, d'Enfert C, Rappuoli R, Cassone A, Vecchiarelli A. A beta-glucan-conjugate vaccine and anti-beta-glucan antibodies are effective against murine vaginal candidiasis as assessed by a novel in vivo imaging technique. Vaccine. 2010; 28(7):1717-25	2010	3,572 (2010)
10	Pietrella D , Rachini A, Pandey N, Schild L, Netea M, Bistoni F, Hube B, Vecchiarelli A. The Inflammatory response induced by aspartic proteases of <i>Candida albicans</i> is independent of proteolytic activity. Infect Immun. 2010;78(11):4754-62.	2010	4,098 (2010)
11	Skrzypek F, Cenci E, Pietrella D , Rachini A, Bistoni F, Vecchiarelli A. Dectin-1 is required for human dendritic cells to initiate immune response to <i>Candida albicans</i> through Syk activation. Microbes Infect. 2009; 11:661-70.	2009	2,757 (2009)
12	Enjalbert B, Rachini A, Vedyappan G, Pietrella D , Spaccapelo R, Vecchiarelli A, Brown AJ, d'Enfert C. A multifunctional, synthetic <i>Gaussia princeps</i> luciferase reporter for live imaging of <i>Candida albicans</i> infections. Infect Immun. 2009; 77(11):4847-58.	2009	4,205 (2009)

Abstracts last 5 years

1	G. Luca, S. Giovagnoli, F. Mancuso, <u>M. Calvitti</u> , <u>I. Arato</u> , G. Falabella, <u>M. Piroddi</u> , D. Pietrella , <u>C. Lilli</u> , <u>C. Bellucci</u> , L. Neri, <u>T. Baroni</u> , <u>F. Galli</u> , M. Moretti, S.Capitani, S. Patergnani, M. Bodo, <u>M. Ricci</u> , <u>R.Calafiore</u> . Sertoli cells as potential pharmaceutical carriers: uptake and stability. 67° Congresso della Società Italiana di Anatomia e Istologia . Brescia, Italia, 20-22 settembre 2013.
2	Nocchetti M, Bastianini M, Ambrogi V, Andreani P, Donnadio A, Pietrella D , Latterini L. Efficient approach for preparing silver nanoparticles on layered double hydroxides: synthesis, characterization and properties. V International Workshop on Oxide Based Materials . Torino, Italia, 23-27 September 2012
3	Bastianini M, Nocchetti M, Ambrogi V, Andreani P, Donnadio A, Pietrella D , Latterini L. Sodium hyaluronate and layered double hydroxydes supported silver nanoparticles film: preparation and characterization. E-MRS 2012 Fall Meeting . Warsaw, Poland, 17-21 September 2012
4	N. Pandey, D. Pietrella , L. Schild, E. Pericolini, E. Gabrielli, B. Hube, A. Vecchiarelli. The inflammasome plays a central role in inducing innate immune response to <i>Candida albicans</i> secreted aspartic proteases. 11th ASM Conference on Candida and Candidiasis . San Francisco, California March 29 – April 2, 2012 •
5	S. Giovagnoli, G. Luca, F. Mancuso, I. Arato, G. Falabella, M. Calvitti, M. Piroddi, D. Pietrella , A. Schoubben, P. Blasi, F. Galli, M. Moretti, E. Becchetti, M. Ricci, R. Calafiore. Sertoli cells as potential drug carriers to treat lung infections: a preliminary study. PharmaTech 2012, International Conference and Exhibition on Pharmaceutical, Nutraceutical and Cosmeceutical Technology Kuala Lumpur, Malesia, 2012 November 21-22
6	N. Pandey, Pietrella D. , Shild L., Hube B., Vecchiarelli A. Innate immune response to <i>Candida albicans</i> secreted aspartic proteases. Malnutrition, gut-microbial interactions and mucosal immunity to vaccines . New Delhi, November 7-11-2011
7	Pandey N, Pietrella D , Schild L, Bistoni F, Hube B, Vecchiarelli A. <i>Candida albicans</i> secreted aspartic proteases cause inflammatory response irrespective of their proteolytic activity. FINSysB Conference . Acquafredda di Maratea 10-14 October 2011

Teaching (Academic Year 2013-2014)

- Lecturer in “Immunology and Virology” on the Degree Course for Biological Sciences.
- Supplementary Lecturer in “Microbiology” on the Degree Course for Pharmacy.
- Member of the Teaching Board for the Doctoral Degrees in "Biology Systems in immunity and Infectious Pathologies”.

Perugia, 27 Febbraio 2014