Beatrice Macchi born in Parma 10/24/55

Department of Chemical Science and Technology
University of Rome Tor Vergata
Associate Professor
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Education:

1979. PhD in Biological Science, University of Rome " La Sapienza". Title of the thesis: Effect of intracellular Calcium on aerobic production of lactate in cells from ascitic Ehrlich tumor.

1980- 1982: Fogarty Fellowship for investigations regarding the immunology of human brain tumours at "Surgical Neurology Branch" NINCDS, NIH, Bethesda, USA. 1982-1983: AIRC Fellowship at laboratory of "Tumor Cell Biology", NCI, NIH, Bethesda, MD, to study immunopharmacological and antiviral modulation of retrovirus transmission in vitro. 1983-1984: "Visiting Associate", at laboratory di "Tumor Cell Biology", NCI, NIH, Bethesda, MD 1993: March-September " Visiting Scientist" at " Retrovirus Research center" Department of Veteran Affairs, Veteran Hospital, Baltimore MD USA.

Positions

1984- University position as assistant professor in Pharmacology at the department of Experimental Medicine and Biochemical Science and then at the Dept of Neuroscience, present Department of Systems Medicine, University of Rome " Tor Vergata". Prof Macchi has been assigned as assistant professor of the sector BIO/14. In 2018 Prof Macchi has changed area to 03/D1 in particular switching to the sector CHIM/08 named Pharmaceutical chemistry. Principal investigator of the laboratory of molecular antiviral research at the Dept of Chemical Science and Technology, University of Rome Tor Vergata. Beatrice Macchi has obtained scientific qualification for associate professor: 2013: SSD 03/D1: Chemistry, Pharmaceutical, Toxicological,Nutraceutic Tecnologies; 2016: SSD 05/G1: Pharmacology,Clinical pharmacology, Pharmacognosy.

Coordinator of research groups and participation to international research action.

1986-1988: Coordinator of a research unit "Immunomodulants and infectious diseases at cerebral and systemic level in the immune-depressed host within CNR National project: " Control of infectious diseases".
1997-2001. Coordinator of a research unit: "Apoptotic cell death in the response to antiretroviral therapy and in the reconstitution of immune system in HIV patients. within the I,II,III,IV National research program on AIDS.
1996-2008 Responsible of a research unit within the research projects supported by

University of Rome "Tor Vergata".
2005 Responsible of a research unit with title " Stereoselective synthesis and biological evaluation of compounds focused on antiviral activity". Research Program of Relevant National interest (PRIN) granted by MURST Scientific National Coordinator: Prof. Giovanni Romeo.
2009: Responsible of a research unit with title "Biological and antiviral activity of new heterocyclic compounds", Scientific Research Program of Relevant National interest (PRIN) granted by MURST Scientific National Coordinator: Prof Alberto Brandi
2006, 2009 Coordinator of a research unit: "within the V and VI National research program on AIDS on Development and validation of a new assay for HIV reverse transcriptase inhibition by nucleoside and non nucleoside RT inhibitors.
2012-2015: Responsible of a research unit with title "Design and stereoselective synthesis of compounds active towards protein targets involved in viral and tumor pathologies. Scientific Research Program of Relevant National interest (PRIN) granted by MURST Scientific National Coordinator: Prof Alberto Brandi.
2018 responsible of FARLV, University of Tor Vergata, Rome Italy: Development a new functional assay for evaluating the replicative potential of viral reservoirs in HIV infected patients with undetectable or low level viremia
1995- Beatrice Macchi belongs to a HERN (HTLV-I European research network) supported as concerted action by the European Community within the Vth European framework program.

Patents

1996 establishment of a continuous cell line CD4+/HTLV-1. Publication info: ITMI 950263
2006. Nucleoside analogues with antiviral activity Publication info: EP1727814
2016 use of 2-oxo-2h-pirrol-1(5h)-carboxamide derivative as anti-HIV agents and process for their production. Application n. 102016000022765 (UA2016A001346)

Scientific Collaborations

Prof Graham Taylor St Mary College Hospital London
Prof Ali Bazarbachi American University of Beirut
Dr Renaud Mahieux CNR Lyon France
Prof Antonio Mastino University of Messina Italy
Prof Vincenzo Ciminale University of Padoa Italy

Principal research fields: New approaches based on the study of in vitro activity of antiretroviral and immunomodulant drugs towards infectious diseases sustained by HTLV-1 and HIV infection.
Screening and evaluation of biological activity of new molecules endowed with antiviral activity, through study of inhibitory activity toward virus replication and infection with HTLV-1 and /or HIV viruses. in a cell to cell transmission. In particular evaluation of the activity of new molecules on HIV infection through cell free infection of cell line stably transfected with a plasmid encoding the green fluorescence protein (GFP) driven by the HIV-1 long term repeat.Evaluation of the activity of new molecules on HTLV-1 and HIV reverse transcriptase through a cell-free assay based on qRT-PCR.
Effect of combined therapy on the susceptibility to apoptosis in HIV patients, and on the modification of gene expression associated to cell death and proliferation. Role of therapy in the immune reconstitution in patients under therapy.
Study of the biological effect of new molecules on glucose metabolism in cancer cells.
Study of modulation of cell death in neurodegenerative diseases.

Teaching courses

Beatrice Macchi has been involved in Pharmacology teaching courses.
1993-1994 " Toxicology and toxicology analyses" at degree courses for laboratory technicians, Faculty of Medicine, University of Rome " Tor Vergata",
1999/00 " General Pharmacology" in the course of Pharmacology at Campus Bio-Medico, Rome
1999-2005"Pharmacology" at degree courses in Physiotherapy, IRCCS Rome.
1999-2005 " Pharmacology" at degree courses in Nursery, IRCCS Rome.
2005-2018 "Pharmacology" at degree course in Biotechnology. Faculty of Medicine, University of Rome Tor Vergata.
2006/07 Pharmacology at first level degree courses for, Logopedists, IRCCS S. Lucia
2008-2014 Antimicrobial chemotherapy (1 credit= 10 hours) at degree courses in Dentistry. Faculty of Medicine, University of Rome Tor Vergata.
2012 Pharmaceutical biology (2 credits= 16 hours), School of Pharmacy , University of Rome Tor Vergata
2015-2019 Pharmaceutical biology (7 credits=56 hours) School of Pharmacy , University of Rome Tor Vergata
2020- Pharmaceutical chemistry 1 (8 credits) and
2021-2022 Pharmaceutical chemistry 2 (12 Credits), School of Pharmacy , University of Rome Tor Vergata.
2022- Pharmaceutical chemistry 2 (8 Credits), School of Pharmacy , University of Rome Tor Vergata.
2019- Toxicology course at Degree course in Chemistry
Masters courses:
From 2008-2014 Teaching course of Pharmacology and Toxicology at First level Master: The learning, language illness in evolutive age : evaluation and responsibility. Centro Interdipartimentale sulla Formazione Aggiornamento e Promozione Professioni Sanitarie (C.I.F.A.P.P.S.) Università degli Studi di Roma "Tor Vergata".
From 2010- Teaching course of Pharmacology and Toxicology in First level Master “ cosmesis and nutrition.”. Faculty of Medicine and Surgery University of Rome Tor Vergata.

National and international scientific societies
Beatrice Macchi is a member of National Society of Pharmacology, National Society of Virology, and of International Society of Biotechnology. She is member of a Global Virus Network (GVN), and of HTLV-1 European Research Network (HERN)

Bibliometric indicators

Publications ISI: 103 indexed journals; Book Chapter 8 : 6 International 2 Italians, of which she is first or last author in 47. Patent 2 (1 National, 1 International); 20 proceedings from congress published on international journals, and 63 communications at international and national congresses published on "abstract" books: SCOPUS: h-index: 29; total citations 2351 I.F 540.

Scientific publications 2000-2024

Full papers

1. de Mendoza, C., Taylor, G., Gessain, A., Thoma-Kress, A., Bangham, C., Vesterbacka, J., Accolla, R., Bazarbachi, A., van Weyenbergh, J., Cook, L., Casseb, J., Ramos, J., Rosadas, C., Macchi, B., Cassar, O. and Soriano, V. (2024) Virology, pathogenesis, epidemiology and clinical management of HTLV-1 infection. Proceedings of the 30th HTLV European research network (HERN 2023). NeuroImmune Pharmacology and Therapeutics, Vol. 3 (Issue 1), pp. 61--69. https://doi.org/10.1515/nipt-2023-0025
2. Stefanizzi V, Minutolo A, Valletta E, Carlini M, Cordero FM, Ranzenigo A, Prete SP, Cicero DO, Pitti E, Petrella G, Matteucci C, Marino-Merlo F, Mastino A, Macchi B. Biological Evaluation of Triorganotin Derivatives as Potential Anticancer Agents. Molecules. 2023 May 2;28(9):3856. doi: 10.3390/molecules28093856 **I.F. 4.927**
3. Leusciatti M, Macchi B, Marino-Merlo F, Mastino A, Morra G, Quadrelli P.Inhibition of the RNA-Dependent RNA-Polymerase from SARS-CoV-2 by 6-Chloropurine Isoxazoline-Carbocyclic Monophosphate Nucleotides. ACS Omega. 2023 Sep 20;8(39):36311-36320. doi: 10.1021/acsomega.3c04918. eCollection 2023 Oct **I.F 4.1**
4. Marino-Merlo F, Grelli S, Mastino A, Lai M, Ferrari P, Nicolini A, Pistello M, Macchi B Human T-Cell Leukemia Virus Type 1 Oncogenesis between Active Expression and Latency: A Possible Source for the Development of Therapeutic Targets.Int J Mol Sci. 2023 Sep 30;24(19):14807. doi: 10.3390/ijms241914807 **I.F 5.06**
5. De Angelis M, Primitivo L, Sappino C, Centrella B, Lucarini C, Lanciotti L, Petti A, Odore D, D'Annibale A, Macchi B, Stefanizzi V, Cirigliano A, Rinaldi T, Righi G, Ricelli A.Stereocontrolled synthesis of new iminosugar lipophilic derivatives and evaluation of biological activities. Carbohydr Res. 2023 Dec;534:108984. doi: 10.1016/j.carres.2023.108984. Epub 2023 Nov 15 **I.F 3.1**
6. Marino-Merlo F, Klett A, Papaianni E, Drago SFA, Macchi B, Rincón MG, Andreola F, Serafino A, Grelli S, Mastino A, Borner C Caspase-8 is required for HSV-1-induced apoptosis and promotes effective viral particle release via autophagy inhibition. Cell Death & Differentiation 2023, 30 (4), 885-896 doi: 0.1038/s41418-022-01084-y **I.F 15.828**
7. Marino-Merlo F, Klett A, Papaianni E, Drago SFA, Macchi B, Rincón MG, Andreola F, Serafino A, Grelli S, Mastino A, Borner C Caspase-8 is required for HSV-1-induced apoptosis and promotes effective viral particle release via autophagy inhibition. .Cell Death Differ. 2022 Nov 24. doi: 0.1038/s41418-022-01084-y **I.F 15.828**
8. Marino-Merlo F, Stefanizzi V, Ragno A, Piredda L, Grelli S, Macchi B, Mastino A Quantitative Evaluation of Very Low Levels of HIV-1 Reverse Transcriptase by a Novel Highly Sensitive RT-qPCR Assay. Life (Basel). 2022 Jul 27;12(8):1130. doi: 10.3390/life12081130 **I.F 3.251**
9. Marraffa A, Presenti P, Macchi B, Marino-Merlo F, Mella M, Quadrelli P. N,O-Nucleoside Analogues: Metabolic and Apoptotic Activity ChemistryOpen. 2020 Mar 24;9(5):519-528. doi: 10.1002/open.202000034. eCollection 2020 May**. I.F.2.20**
10. Marino-Merlo F, Balestrieri E, Matteucci C, Mastino A, Grelli S, Macchi B. An Updated Overview Antiretroviral Therapy in HTLV-1 Infection **Pathogen**s. 2020 May 1;9(5):342. doi: 10.3390/pathogens905034: **I.F 3.4**
11. Matteucci C, Marino-Merlo F, Minutolo A, Balestrieri E, Valletta E, Macchi B, Mastino A, Grelli S. Inhibition of IκBα phosphorylation potentiates regulated cell death induced by azidothymidine in HTLV-1 infected cells. Cell Death Discov. 2020 Feb 18;6:9. doi: 10.1038/s41420-020-0243 **IF 4.11**
12. Marino-Merlo F, Papaianni E, Frezza C, Pedatella S, De Nisco M, Macchi B, Grelli S, Mastino A. NF-κB-Dependent Production of ROS and Restriction of HSV-1 Infection in U937 Monocytic Cells. **Viruses**. 2019 May 10;11(5). pii: E428. doi: 10.3390/v11050428 **I.F 3.76**

13. Romeo R, Iannazzo D, Veltri L, Gabriele B, Macchi B, Frezza C, Marino-Merlo F, Giofrè SV Pyrimidine 2,4-Diones in the Design of New HIV RT Inhibitors. **Molecules**.2019 May 2;24(9). pii: E1718. doi: 10.3390/molecules24091718. **I.F 3.098**

14. Marino-Merlo F., Macchi B.,,Armenia D., Bellocchi MC., Ceccherini-Silberstein F., Mastino A., Grell S.Focus on recent developed assay for detection of resistance/sensitivity to reverse transcriptase inhibitors. **Applied Microbiology and Biotechnology**. 2018 Dec;102(23):9925-9936 doi.org/10.1007/s00253-018-9390-x 2018 **I.F. 3.5**

15. Memeo, Misal Giuseppe; Valletta, Elena; Macchi, Beatrice; et al.Ene Reaction of Nitrosocarbonyl Mesitylene with the Cinnamyl Alcohol: Metabolic Activity and Apoptosis of the Synthetized 6-Chloropurine N,O-Nucleoside Analogues. **ACS OMEGA** 2018 Volume: 3 Issue: 7 Pages: 7621-7629 **I.F 2.58**

16. Marino-Merlo F, Mastino A, Grelli S, Hermine O, Bazarbachi A and Macchi B (2018) Future Perspectives on Drug Targeting in Adult T Cell Leukemia-Lymphoma. **Front. Microbiol**. Volume 9, Issue MAY, 9 May 2018, Article number 925. doi: 10.3389/fmicb.2018.00925. **I.F 4.076**

17. Righi G, Pelagalli R, Isoni V, Tirotta I, Marini M, Palagri M, Dallocchio R, Dessì A, Macchi B, Frezza C, Forte G, Dalla Cort A, Portalone G, Bovicelli P. Synthesis of potential HIV integrase inhibitors inspired by natural polyphenol structures.**Nat Prod Res**. 2018 Aug;32(16):1893-1901. doi: 10.1080/14786419.2017.1354191. Epub 2017 Jul 27. **I.F 1.8**

18. Marino-Merlo F, Frezza C, Papaianni E, Valletta E, Mastino A, Macchi B. Development and evaluation of a simple and effective RT-qPCR inhibitory assay for detection of the efficacy of compounds towards HIV reverse transcriptase. **Appl Microbiol Biotechnol**. 2017 Nov;101(22):8249-8258. doi: 10.1007/s00253-017-8544-6 **I.F 3.5**

19. Antonioletti R, Righi G, Ricelli A, Rossetti I., Viglianti A, Frezza C, Marino-Merlo, F, Macchi B. Synthesis and biological evaluation of styrylheterocycles analogs of resveratrol as apoptosis-inducing agents. **Current Organic Chemistry**. 21 (10) pp 939-948 2017 **I.F.2.01**

20. Carosso, S., Memeo, M.G., Bovio, B.,Valletta E, Macchi, B., Quadrelli, P. N,O-Nucleosides from Ene Reaction of (Nitrosocarbonyl)mesitylene with Crotyl Alcohol: Selectivity, Scope, and Limitations. **Synthesis** (Germany) 49(9), pp. 1972-198 2017 **I.F 2.39**

21. Macchi B, Balestrieri E, Frezza C, Grelli S, Valletta E, Marçais A, Marino-Merlo F, Turpin J, Bangham CR, Hermine O, Mastino A, Bazarbachi A. Quantification of HTLV-1 reverse transcriptase activity in ATL patients treated with zidovudine and interferon-α. **Blood Adv**. 2017 May 5;1(12):748-752. doi: 10.1182/bloodadvances.2016001370. **I.F 4.58**

22. Matteucci C, Grelli S, Balestrieri E, Minutolo A, Argaw-Denboba A, Macchi B, Sinibaldi-Vallebona P, Perno CF, Mastino A, Garaci E. Thymosin alpha 1 and HIV-1: recent advances and future perspectives. **Future Microbiol**. 2017 Feb;12:141-155. doi: 10.2217/fmb-2016-012 **I.F 3.63**.

23. Righi G, Pelagalli R, Isoni V, Tirotta I, Dallochio R, Dessi A, Macchi B, Frezza C, Rossetti I, Bovicelli P.Synthesis, molecular modeling and biological evaluation of two new chicoric acid analogs. **Nat Prod Res**. 2017 Feb;31(4):397-403. doi: 10.1080/14786419.2016.1169413. **I.F 1.8.**

24. Willems L, Hasegawa H, Accolla R, Bangham C, Bazarbachi A, Bertazzoni U, Carneiro-Proietti AB, Cheng H, Chieco-Bianchi L, Ciminale V, Coelho-Dos-Reis J, Esparza J, Gallo RC, Gessain A, Gotuzzo E, Hall W, Harford J, Hermine O, Jacobson S, Macchi B, Macpherson C, Mahieux R, Matsuoka M, Murphy E, Peloponese JM, Simon V, Tagaya Y, Taylor GP, Watanabe T, Yamano Y. Reducing the global burden of HTLV-1 infection: An agenda for research and action **Antiviral Res.** 2017 Jan;137:41-48. doi: 10.1016/j.antiviral.2016.10.015. Epub 2016 Nov 11**. I.F 4.9**

25. Gallo, R.C. , Willems, L., Hasegawa, H., Accolla, R., Bangham, C., Bazarbachi, A., Bertazzoni, U.i De Freitas Carneiro-Proietti, A.B.j Cheng, H., Chieco-Bianchi, L., Ciminale, V., Gessain, A., Gotuzzo, E., Hall, W., Harford, J., Hermine, O., Jacobson, S., Macchi, B., Macpherson, C., Mahieux, R., Matsuoka, M., McSweegan, E., Murphy, E.L., Péloponèse, J.-M., Reis, J., Simon, V., Tagaya, Y., Taylor, G.P., Watanabe, T., Yamano, Y.. Screening transplant donors for HTLV-1. **Blood** 128, (26) Pages 3029-3031. 2016, **I.F 7.23** .

26. M. D'Acunto, S. Tommasone, C. Talotta,G. Brancatelli, S. Geremi E. Valletta, F. Marino Merlo, B. Macchi, B . Gaeta, C Neri P Spinella A.. Installing tungsten Fischer carbene complexes into a calixarene framework **RSC Adv**., 2016, 6 (78) 75002-75005 DOI: 10.1039/c6ra17326h **I.F 3.128**

27. Fuggetta MP, Cottarelli A , Bordignon V Macchi B, Caterina Frezza C, Cordiali Fei P Ciafrè S, Ensoli F, Marino-Merlo F, Mastino A ,Ravagnan G. Proinflammatory Cytokines Downregulation in HTLV-1-infected T cells by Resveratrol **J Exp Clin Cancer Res**. 2016 Jul 22;35(1):118. doi: 10.1186/s13046-016-0398-8. **I.F. 4.357**

28. Marino –Merlo F, Papaianni E, Medici MA, Macchi B, Grelli S, Mosca C, Borner C. and Antonio Mastino1,7HSV-1-induced activation of NF-κB protects U937 monocytic cells against both 2 virus replication and apoptosis. **Cell Death Dis**. 2016 Sep 1;7(9):e2354. doi: 10.1038/cddis.2016.250. I.F. **5.378**.

29. Bovicelli, P. , Bottaro, F., Sappino, C., Tomei, M., Nardi, V., Proietti Silvestri, I., Macchi, B., Frezza, C., Righi, G. Simple and efficient synthesis of benzofuran derivatives from tyrosol. **Synthetic Communications** 2016; 46: 242-248. **I.F 0.92**
30. Macchi B, Mastino A. Programmed cell death and natural killer cells in multiple sclerosis: new potential therapeutic targets? **Neural Regeneration Research** 2016: 11: 733-734 I.F **1,769**
31. Frezza C, Grelli S, Federico M, Marino-Merlo F, Mastino A, Macchi B. 82 Testing anti-HIV activity of antiretroviral agents in vitro using flow cytometry analysis of CEM-GFP cells infected with transfection-derived HIV-1 NL4-3. **J Med Virol**. 2016. 88:979-986 I.F**. 2.347**
32. Tommasone S, Talotta C, Gaeta C, Margarucci L, Monti MC, Casapullo A, Macchi B, Prete S, Ladeira De Araujo A, Neri P. Biomolecular Fishing for Calixarene Partners by a Chemoproteomic Approach **Angew Chem Int** Ed Engl. 2015 Dec 14;54(51):15405- 15409 **I.F 11**
33. Macchi B., Di Paola R., Marino-Merlo F., Felice MR.. Cuzzocrea S., Mastino A Inflammatory and Cell Death Pathways in Brain and Peripheral Blood in Parkinson's Disease. **CNS & Neurological Disorders - Drug Targets**, 2015; 14 (10): 313-324. **I.F 2.7**
34. Matteucci C, Minutolo A, Pollicita M, Balestrieri E, Grelli S, D'Ettorre G, Vullo V, Bucci I,Luchini A,Aquaro S,Sinibaldi-Valllebona P,Macchi B, Perno CF,Mastino A, & Garaci E. Thymosin alpha 1 potentiates the release by CD8+ cells of soluble factors able to inhibit HIV-1 and HTLV-1 infection in vitro. **Expert Opin Biol Ther**. 2015;15 Suppl 1:S83-100.. I.F **3.65**
35. Matteucci C, Minutolo A, Marino-Merlo F, Grelli S, Frezza C, Mastino A, Macchi B. Characterization of the enhanced apoptotic response to azidothymidine by harmacological inhibition of NF-kB. **Life Sci.** 2015; 127:90-7. doi: 10.1016/j.lfs.2015.01.038 I.F: **2,29**
36. Vurchio C, Cordero FM, Faggi C, Macchi B Frezza C, Grelli S, Brandi A. Approaches towards the synthesis of 7-halo-1,2- dihydroxyindolizidines (7-halolentiginosines) thwarting Grob fragmentation processes. **Tetrahedron** 2015; 71(35), 29: 5806-5813.I. F **2.87**
37. Macchi B,Marino-Merlo F, Nocentini U, Pisani V, Cuzzocrea S, Grelli S, Mastino A.Role of inflammation and apoptosis in multiple sclerosis: Comparative analysis between the periphery and the central nervous system. **J Neuroimmunology** 287 (2015) 80–87 **I.F 2.720**
38. Macchi B, Romeo G, Chiacchio U,Frezza C, Marino-Merlo F, Mastino A. Phosphonated Nucleoside Analogues as Antiviral Agents. **Top Med Chem 2015** 15: 53-92 DOI: 10.1007/7355_2013_28© Springer-Verlag Berlin Heidelberg 2013
39. Frezza C, Balestrieri E, Marino-Merlo F,2 Mastino A, Macchi B. A novel, cell-free PCR-based assay for evaluating the inhibitory activity of antiretroviral compounds towards HIV reverse transcriptase. **J Med Virol**. 2014;86(1):1-7. **I.F 2.3**
40. Macchi B, , Marino-Merlo F, Frezza C, Cuzzocrea S, Mastino A. Inflammation and programmed cell death in Alzheimer's disease: comparison of the central nervous system and peripheral blood. **Mol Neurobiol**. 2014 Oct;50(2):463-72. **I.F. 6.190**
41. Cordero FM, Vurchio C,a Macchi B, Minutolo A, Brandi A. Synthesis of biotin and fluorescein labeled (–)-lentiginosine. **ARKIVOC** 2014 (3) 215-227. **I.F 1.031**
42. Romeo R, Carnovale C, Giofrè SV, Monciino G, Chiacchio MA, Sanfilippo C, Macchi B. Enantiomerically pure phosphonated carbocyclic 2'-oxa-3'-azanucleosides: synthesis and biological evaluation. **Molecules.** 2014;19(9):14406-16. **I.F 2.988**.
43. Romeo R, Giofrè SV, Macchi B, Balestrieri E, Mastino A, Merino P, Carnovale C, Romeo G, Chiacchio U. Truncated Reverse Isoxazolidinyl Nucleosides: A New Class of Allosteric HIV-1 Reverse Transcriptase Inhibitors. **ChemMedChem**. 2012 Apr;7(4):565-9. **I.F 3.225**.
44. Romeo R, Carnovale C, Giofrè SV, Romeo G, Macchi B, Frezza C, Marino-Merlo F, Pistarà V, Chiacchio U. Truncated phosphonated C-1'-branched N,O-nucleosides: A new class of antiviral agents. **Bioorg Med Chem**. 2012;20(11):3652-7. **I.F 2.93**
45. Cordero FM, Bonanno P, Khairnar BB, Cardona F, Brandi A, Macchi B, Minutolo A, Grelli S, Mastino A. (_)-(1R,2R,7S,8aR)-1,2,7-Trihydroxyindolizidine ((_)-7S-OHLentiginosine): Synthesis and Proapoptotic Activity. **Chempluschem** 2012 77 224-233. **I.F 2.79**
46. Minutolo A, Grelli S, Marino-Merlo F, Cordero FM, Brandi A, Macchi B, Mastino A. D(–)lentiginosine-induced apoptosis involves the intrinsic pathway and is p53-independent. **Cell Death Dis.** 2012 Ju 26;3:e358: 1-9 **I.F 5.965**
47. Ascolani A, Balestrieri E, Minutolo A, Mosti S, Spalletta G, Bramanti P, Mastino A, Caltagirone C, Macchi B.Dysregulated NF-κB Pathway in Peripheral Mononuclear Cells of Alzheimer's Disease Patients.. **Curr Alzheimer Res**. 9 (1) 2012. **I.F 2.952**
48. Balestrieri E, Pizzimenti F, Ferlazzo A, Giofrè S, Iannazzo D, Piperno A, Romeo R, Chiacchio MA, Mastino A, Macchi B. Antiviral activity of seed extract from Citrus bergamia towards human retroviruses. **Bioorg Med Chem**. 2011, 19(6) 2084-2089. **I.F 2.93**
49. Macchi B, Balestrieri E, Ascolani A, Hilburn S, Martin F, Mastino A, Taylor GP. Susceptibility of Primary HTLV-1 Isolates from Patients with HTLV-1-Associated Myelopathy to Reverse Transcriptase Inhibitors. **Viruses.** 3(5):469-83. 2011 **I.F 3.465**

50. Macchi B, Minutolo A, Grelli S., Cardona F., Corsero FM., Mastino A., Brandi A. Novel pro apoptotic activity of non-natural enantiomer of Lentiginosine. **Glycobiology.** 20: 500-506 2010 I.F. **3.112**
51. Matteucci C, Minutolo A, Balestrieri E, Marino-Merlo F, P Bramanti P, Garaci E, Macchi B Mastino A.. Inhibition of NF-kB activation sensitizes U937 cells to 30-azido-30-deoxythymidine induced apoptosis. **Cell death in Dis** 1:1-8 2010 **I.F 5.965**.
52. Matteucci C, Minutolo A, Balestrieri E, Ascolani A, Grelli S, Macchi B, Mastino A. Effector caspase activation, in the absence of a conspicuous apoptosis induction, in mononuclear cells treated with azidothymidine.**Pharmacol Res**. 2009; 59:125-133 **I.F 4.48**
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