

DATI PERSONALI

Nome e Cognome: Beatrice Macchi

Luogo e data di nascita: Parma 24/10/1955

ATTUALE POSIZIONE: Ricercatore Universitario confermato a tempo indeterminato

Dipartimento: Dipartimento di Medicina dei Sistemi.

Indirizzo: Via Montpellier 1, 00136, Roma Edificio F, ala sud, piano 0, Stanza

Numero studio: F36

E-mail: macchi@med.uniroma2.it

Orario ricevimento: Venerdì, 14-15

Settore scientifico-disciplinare: BIO/14



ATTIVITA' DIDATTICA - SCIENTIFICA

Titoli accademici e di studio: Membro del Collegio dei Docenti del Dottorato di Ricerca in Microbiologia, Immunologia, Malattie Infettive, Trapianti d'organo e patologie connesse (MIMIT), Università di Roma Tor Vergata coordinatore Prof Paola Sinibaldi-Vallebona www.mimit.med.uniroma2.it.- Abilitazioni conseguite: 2013: Professore di II fascia per il Settore Concorsuale (SC) 03/D1: CHIMICA E TECNOLOGIE FARMACEUTICHE, TOSSICOLOGICHE E NUTRACEUTICO.2016: Professore di II fascia per il Settore Concorsuale (SC) 05/G1: FARMACOLOGIA, FARMACOLOGIA CLINICA e FARMACOGNOSIA.

Formazione post-laurea presso istituzioni italiane ed estere ed incarichi professionali didattici e di ricerca): - 1980 al 1982: Borsista "Fogarty" presso la "Surgical Neurology Branch" NINCDS, NIH – Bethesda, USA.- 1982 al 1983: Borsista AIRC presso il Laboratorio di "Tumor Cell Biology", NCI, NIH, Bethesda, per ricerche nel campo degli studi immunofarmacologici e virologici delle infezioni da retrovirus.- 1983 al 1984: "Visiting Associate", presso il Laboratorio di "Tumor Cell Biology", NCI, NIH, Bethesda, per ricerche nel campo degli studi immunofarmacologici e virologici delle infezioni da retrovirus.1993: " Visiting Scientist" presso il " Retrovirus Research Center, Department of Veteran Affairs, Veteran Hospital, Baltimore MD USA".-1995 ad oggi Beatrice Macchi è componente del network europeo "HERN" (HTLV-1 European Research Network), finanziato quale Azione Concertata dalla Comunità Europea nell'ambito del V Programma Quadro.

Finanziamenti e premi ricevuti per attività di ricerca: MIUR, Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN) - Responsabile di Unità di Ricerca 2005 e 2008 ricerca dal titolo "Attività biologica e antivirale di nuovi composti eterociclici", 2013-2016: "Progettazione e sintesi stereoselettiva di composti attivi verso bersagli proteici coinvolti in patologie virali e tumorali", **Ministero della salute**. Programma Nazionale di Ricerca sull'AIDS, - 1997, 1998, 2000 - 2001 Responsabile di una Unità di Ricerca, nell'ambito del I, II, III e IV Programma Nazionale di Ricerca sull'AIDS per il progetto "Morte cellulare apoptotica nella risposta alla terapia antiretrovirale e nella ricostituzione del sistema immune in pazienti HIV.--2006 Responsabile di una Unità di Ricerca, nell'ambito del VI Programma Nazionale di Ricerca sull'AIDS per il progetto:" Messa a punto di un metodo cell-free per la valutazione in vitro dell'attività di composti nucleodisici e non nucleosidici nei riguardi della trascrittasi inversa di HIV".-2009 Responsabile di una Unità di Ricerca, nell'ambito del VII Programma Nazionale di Ricerca sull'AIDS per la prosecuzione del il progetto: Development and validation of a new assay for HIV reverse transcriptase inhibition by nucleoside and non nucleoside RT inhibitors."Progetti di Ateneo. - 1996-2007, annualmente -

Responsabile di una Unità di Ricerca, Progetti di Ricerca di Ateneo (ex 60%) Università di Roma "Tor Vergata": Attività biologica e antivirale di analoghi nucleosidici.

Attività di ricerca: 15 pubblicazioni selezionate

1. 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.* 9:925. **2.** Marino-Merlo F, Frezza C, Papaiani 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. I.F 3.5 **3 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. **4** 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. I.F 3.63.. **5** Willems et al Reducing the global burden of HTLV-1 infection: An agenda for research and action *Antiviral Res.* 2017 Jan; 137:41-48. I.F 4.9. **6** 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. I.F. 4.357. **7** Marino-Merlo F, Papaiani E, Medici MA, **Macchi B**, Grelli S, Mosca C, Borner C. and Antonio Mastino, HSV-1-induced activation of NF- κ B protects U937 monocytic cells against both 2 virus replication and apoptosis. *Cell Death Dis.* 2016 Sep 1;7(9):e2354. I.F. 5.378. **8** 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 **9 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. **10** 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. **11** 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 Jun 26;3:e358: 1-9 I.F 5.965 **12** Matteucci C, Minutolo A, Balestrieri E, Marino-Merlo F, P Bramanti P, Garaci E, **Macchi B**, Mastino A.. Inhibition of NF- κ B activation sensitizes U937 cells to 3-azido-3-deoxythymidine induced apoptosis. *Cell death in Dis* 1:1-8, 2010, I.F 5.965. **13** 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. **14** Chiacchio U, Borrello L, Crispino L, Rescifina A, Merino P, **Macchi B**, Balestrieri E, Mastino A, Piperno A, Romeo G Stereoselective Synthesis and Biological Evaluations of Novel 3'-Deoxy-4'-aribonucleosides as Inhibitors of Hepatitis C Virus RNA Replication. *J Med Chem.* 2009; 52:4054-4057. I.F 6.259. **15** Balestrieri E., Matteucci C., Ascolani A., Piperno A, Romeo R., Romeo G., Chiacchio U., Mastino A., **Macchi B**. Effect of phosphonated carbocyclic 2'-oxa-3'-aza-nucleoside in human T-cell leukemia virus type 1 infection in vitro. *Antimicrob Agents Chemother.* 2008 52: 54-64 I.F 4.451.



Università degli Studi di Roma "Tor Vergata"

ACADEMIC AND SCIENTIFIC CURRICULUM OF PROF. BEATRICE MACCHI

PERSONAL DATA

Name and Surname: Beatrice Macchi

Place and date of birth: Parma 24/10/1955

CURRENT POSITION: Assistant Professor

Department: Systems Medicine

Address: University of Rome Tor Vergata, Via Montpellier1, Building F, floor 0, corridor south, room F36

Phone number: 0672596392

E-mail: macchi@med.uniroma2.it

Consulting hours: Friday 14-15 p.m.

Italian Ministry of Education Academic-Scientific sector: Pharmacology BIO/14



SCIENTIFIC AND DIDACTIC ACTIVITY

Education and academic positions: Member of the Academic Board of PhD School: Microbiology, Immunology, Infectious Diseases, Organs transplantation and Associated Pathologies (MIMIT), University of Rome Tor Vergata Coordinator Prof Paola Sinibaldi-www.mimit.med.uniroma2.it.- Acquired Teaching qualifications: 2013: Associate Professor Professore 03/D1: Medicinal Chemistry. 2016: Associate Professor 05/G1: Pharmacology.

Professional and didactic activities in Italian and Foreign Institutions: 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, 1983-1984: "Visiting Associate", at the laboratory of "Tumor Cell Biology", NCI, NIH, Bethesda, MD. 1993: March-September "Visiting Scientist" at the "Retrovirus Research center" Department of Veteran Affairs, Veteran Hospital, Baltimore MD USA. 1995- Beatrice Macchi is a member of HERN (HTLV-I European research network) supported as concerted action by the European Community within the Vth European framework program.

Awards and funding: National research program on AIDS. 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 program. AIDS 2006, 2009. Coordinator of a research unit "Development and validation of a new assay for HIV reverse transcriptase inhibition by nucleoside and non nucleoside RT inhibitors within the V and VI program. Scientific Research Program of Relevant National interest (PRIN) granted by MIUR. 2005. Responsible of a research unit: "Stereoselective synthesis and biological evaluation of compounds focused on antiviral activity. 2009: Responsible of a research unit: "Biological and antiviral activity of new heterocyclic compounds. 2012: Responsible of a research unit with title "Design and stereoselective synthesis of compounds active towards protein targets involved in viral and tumoral pathologies. 1996-2008 Responsible of a research unit within the projects supported by University of Rome "Tor Vergata".

Research activity: 15 selected publications

1. 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.* 9:925. **2.** Marino-Merlo F, Frezza C, Papaiani 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. I.F 3.5 **3 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. **4** 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. I.F 3.63. **5** Willems et al Reducing the global burden of HTLV-1 infection: An agenda for research and action *Antiviral Res.* 2017 Jan; 137:41-48. . I.F 4.9. **6** 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. I.F. 4.357. **7** Marino –Merlo F, Papaiani E, Medici MA, **Macchi B**, Grelli S, Mosca C, Borner C. and Antonio Mastino1, 7HSV-1-induced activation of NF- κ B protects U937 monocytic cells against both 2 virus replication and apoptosis. *Cell Death Dis.* 2016 Sep 1;7(9):e2354. I.F. 5.378. **8** 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 **9** **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. *OCNS & Neurological Disorders - Drug Targets*, 2015; 14 (10): 313-324. I.F 2.7. **10** 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. **11** 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 **12** Matteucci C, Minutolo A, Balestrieri E, Marino-Merlo F, P Bramanti P, Garaci E, **Macchi B**, Mastino A.. Inhibition of NF- κ B activation sensitizes U937 cells to 30-azido-30-deoxythymidine induced apoptosis. *Cell death in Dis* 1:1-8, 2010, I.F 5.965. **13** 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. **14** Chiacchio U, Borrello L, Crispino L, Rescifina A, Merino P, **Macchi B**, Balestrieri E, Mastino A, Piperno A, Romeo G Stereoselective Synthesis and Biological Evaluations of Novel 3'-Deoxy-4'-aribonucleosides as Inhibitors of Hepatitis C Virus RNA Replication. *J Med Chem.* 2009; 52:4054-4057. I.F 6.259. **15** Balestrieri E., Matteucci C., Ascolani A., Piperno A, Romeo R., Romeo G., Chiacchio U., Mastino A., **Macchi B**. Effect of phosphonated carbocyclic 2'-oxa-3'-aza-nucleoside in human T-cell leukemia virus type 1 infection in vitro. *Antimicrob Agents Chemother.* 2008 52: 54-64 I.F 4.451.