PERSONAL INFORMATION

Name	ANTONINO, BRUNO (CF: BRNNNN82C28L682P)
Address	98, VIA VARESINA, 20151, MILANO, ITALY
Telephone	+39 345 4550642
Personal E-mail	82antonino.bruno@gmail.com
Nationality	Italian
Date of birth	March 29th, 1982

EDUCATION AND TRAINING

• Dates (from – to)	2021-2030
• Name and type of organization providing education and training	Ministry of Education, Universities and Research
•Principal subjects/occupational skills covered	General pathology, immunology, clinical pathology
• Title of qualification awarded	National Scientific Qualification (Abilitazione Scientifica Nazionale-ASN), II fascia, General and Clinical Pathology (06/A2 - MED/04).

• Dates (from – to)	2008-2011
• Name and type of organization providing education and training	University of Insubria (Varese) and IRCCS MultiMedica (Milan).
•Principal subjects/occupational skills covered	Functional and phenotype characterization of tumor infiltrating inflammatory cells (macrophages, neutrophils, NKs) by flow cytometry and cell sorting, biochemistry, and molecular biology. Title of PhD thesis: *"The NK cells phenotype and function in resected Non-Small Cell Lung Cancer: differences between squamous and adenocarcinoma and relation to tumor angiogenesis".*
• Title of qualification awarded	PhD in Cellular and Molecular Biology.

• Dates (from – to)	2006-2007
• Name and type of organization providing education and training	Master's Degree in Veterinarian Biotechnologies, University of Milan.

•Principal subjects/occupational skills covered	Chemistry, Math, Physic, Biology, Molecular Biology, Molecular Genetic, Biochemistry, Cellular Biochemistry, Immunology, Microbiology, Molecular Virology, Anatomy, Physiology, Pharmacology and Toxicology, Pathology, Parasitology, Molecular Pathology, and Immunology. Title of graduation thesis: "*Frequency analysis of genes encoding for 3 leukocidins (PVL, LukM, LukD-E) in S. Aureus strains isolated from cows with subclinical mastitis".*
• Title of qualification awarded	Graduated (110 cum laude).
• Dates (from – to)	2002-2006
• Name and type of organization providing education and training	Bachelor's Degree in biotechnologies, University of Milan.
•Principal subjects/occupational skills covered	Chemistry, Math, Physic, Biology, Molecular Biology, Molecular Genetic, Biochemistry, Cellular Biochemistry, Immunology, Microbiology, Molecular Virology, Anatomy, Physiology, Pharmacology and Toxicology, Pathology, Parasitology, Molecular Pathology and Immunology. Title of graduation thesis: *"Production of ROL Lipase using Pichia pastoris expression system"*. I carried out this experimental thesis at the Chemical Engineer Department, Universidad Autonoma de Barcelona, Barcelona, under supervision of Prof. Pau Ferrer and Dr. Ramon Ramon (ERASMUS project).
• Title of qualification awarded	Graduated (104/110).
• Dates (from – to)	1996-2001
• Name and type of organization providing education and training	"E. Cairoli" Classic Secondary School, Varese.
•Principal subjects/occupational skills covered	Italian, Italian Literature, Latin, Greek, Latin and Greek Literature, English, English Literature, Science, Math, Physics, Philosophy.
• Title of qualification awarded	Upper school leaving certificate (marks 67/100).

WORKING EXPERIENCES

• Dates (from – to)	March 2022-to date
• Name and address of employer	Laboratory of Immunology and General Pathology, University of Insubria, Varese, Italy
• Type of business or sector	Tumor immunology, inflammation, angiogenesis.
• Occupation or position held	Assistant Professor of pathology and immunology (RTD-B), S.S.D. MED/04 Patologia generale, S.C. 06/A2.

• Dates (from – to)	September 2021-December 2021
• Name and address of employer	Biomedical Sciences, University of Insubria, Varese, Italy.
• Type of business or sector	General Pathology, Physiopathology, and Immunology.
• Occupation or position held	Contract Professor.

• Dates (from – to)	June 2021-to date
• Name and address of employer	Laboratory of Innate Immunity, Unit of Molecular Pathology, Biochemistry, and Immunology, IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST).
• Type of business or sector	Tumor immunology, inflammation, angiogenesis.
• Occupation or position held	Principal Investigator/Group Leader, Head of Laboratory of Innate Immunity, coordinating a research group with 1 postdoc, 2 PhD students, 1 lab. technician and 1 MSc student.

• Dates (from – to)	September 2021-December 2021
• Name and address of employer	Biomedical Sciences, University of Insubria, Varese, Italy.
• Type of business or sector	General Pathology, Pathophysiology, and Immunology.
• Occupation or position held	Contract Professor, cdl in Pathology.

• Dates (from – to)	January 2020-May 2021
• Name and address of employer	Unit of Molecular Pathology, Biochemistry, and Immunology, IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST).
• Type of business or sector	Tumor immunology, inflammation, angiogenesis.
• Occupation or position held	Principal Investigator/Group Leader (permanent staff).

• Dates (from – to)	June 2017- December 2019
• Name and address of employer	Laboratory of Vascular Biology and Angiogenesis, IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST).
• Type of business or sector	Tumor immunology, inflammation, angiogenesis.
• Occupation or position held	Senior researcher (permanent staff).

• Dates (from – to)	Mach 2016- May 2017
• Name and address of employer	Laboratory of Vascular Biology and Angiogenesis, IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST), funded by Fondazione Umberto Veronesi (FUV).
• Type of business or sector	Molecular and Cellular Biology applied to Oncology.
• Occupation or position held	Post-doc.
• Main activities and responsibilities	Cancer related inflammation, tumor immunology, tumor angiogenesis. Cancer chemoprevention and angioprevention.

• Dates (from – to)	November 2014- Current
• Name and address of employer	University of Milan, Milan, Italy.
• Type of business or sector	Pharmacology (Master's in Pharmacology and Oncology).
• Occupation or position held	Contract professor.
• Main activities and responsibilities	Training of master students in the field of tumour microenvironment and tumour angiogenesis as targets for therapy and prevention.

• Dates (from – to)	July 2015- March 2016
• Name and address of employer	Laboratory of Experimental Surgery, department of Biotechnologies and Life Sciences, Varese and IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST).
• Type of business or sector	Molecular and Cellular Biology applied to Oncology.
• Occupation or position held	Post-doc.
• Main activities and responsibilities	Evaluation of tumor exosome contribution in shaping natural killer cell response. Isolation of exosomes from tumor cell lines and clinical samples (serum, plasma). Polarization of immune cells with exosomes for phenotype and functional characterization.

• Dates (from – to)	January 2015- June 2015
• Name and address of employer	IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST).
• Type of business or sector	Cancer related inflammation, tumor immunology, tumor angiogenesis.
• Occupation or position held	Senior researcher.
• Main activities and responsibilities	Functional and phenotypic characterization of tumor infiltrating lymphocytes and crosstalk with tumor microenvironment. Anti-angiogenic activity of metformin/phenformin and phytochemicals *in vitro* and *in vivo*. Evaluation of cardiovascular toxicity of antineoplastic drugs *in vitro* and *in vivo.* Evaluation of the systemic distribution of nanoparticles and toxic effects *in vivo*.

• Dates (from – to)	December 2011- December 2014
• Name and address of employer	IRCCS MultiMedica, Milano, Scientific and Technologic Pole (PST)-
• Type of business or sector	Cancer related inflammation, tumor immunology, tumor angiogenesis.
• Occupation or position held	3 years FIRC Fellowship (Postdoctoral).
• Main activities and responsibilities	Isolation and characterization of Cancer Stem Cells (CSCs) from MCF7, MDA-MB-213, HT-29, HCT-116, DAOY, ONS-76 cell lines and from clinical samples (breast and colon-rectal cancer). Evaluation of phytochemical ability to pre-sensitize CSCs to anti neoplastic drugs. Functional and phenotype characterization of tumor infiltrating lymphocytes and crosstalk with tumour microenvironment. Anti-angiogenic activity of metformin/phenformin and phytochemicals *in vitro* and *in vivo*.
• Dates (from – to)	October 2008- December 2011
• Name and address of employer	IRCCS MultiMedica Milano, Scientific and Technologic Pole.
• Type of business or sector	Cancer related inflammation, tumor immunology, tumor angiogenesis.
• Occupation or position held	PhD student
• Main activities and responsibilities	1) Phenotypic and functional characterization of tumor infiltrating NKs in solid cancers (NSCLC, colorectal, renal, breast) and relation with tumor angiogenesis. 2) *In vitro* and *in vivo* evaluation of anti-angiogenic activity by phytochemicals. 3) *In vitro* and *in vivo* toxicity exerted by nanoparticles and nanomaterials: roles in inflammation and angiogenesis. 5) Gene profile analysis on aged endothelial cells to identify novel targets for anti-angiogenic therapy.
• Dates (from – to)	March 2008- October 2008
• Name and address of employer	Università degli Studi di Milano Bicocca, department of Biotechnologies and Biosciences.
• Type of business or sector	Molecular and Cellular Biology.
• Occupation or position held	Pre-doctoral fellow.
• Main activities and responsibilities	Evaluation of mRNAs processing machinery, focusing on alternative splicing and related alterations in SLA.
• Dates (from – to)	September 2007- December 2007
• Name and address of employer	IRCCS Istituto di Ricerche Farmacologiche Mario Negri, Department of Neuroscience, Laboratory of Psychopharmacology.
• Type of business or sector	Psychopharmacology.
• Occupation or position held	Junior Fellow.
• Main activities and responsibilities	“Drug craving” e “relapse” studies for abuse substances (cocaine, nicotine, and ethanol) in murine models.
• Dates (from – to)	September 2006- September 2007
• Name and address of employer	Università degli Studi di Milano, Department of Animal Pathology.
• Type of business or sector	Pathology-Microbiology, Infectious Diseases.

• Occupation or position held	Internship.
• Main activities and responsibilities	Molecular profiling for the distribution of genes encoding for leucocidins (pvl, LukM, LukD-E) in 1 *S. Aureus* strains (milk, skin), derived from cows with clinical and sub-clinical mastitis.
• Dates (from – to)	February 2006- September 2006
• Name and address of employer	Department of Chemical Engineer, Universidad Autonoma de Barcelona, Laboratory of Chemical Engineer.
• Type of business or sector	Biochemistry, Molecular Biology, Chemical Engineer.
• Occupation or position held	Internship.
• Main activities and responsibilities	Production of recombinant proteins in *E. coli* and *P. pastoris*

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE — **ITALIAN**

OTHER LANGUAGES

	ENGLISH
• Reading skills	Excellent
• Writing skills	Excellent
• Verbal skills	Fluent
	SPANISH
• Reading skills	Excellent
• Writing skills	Excellent
• Verbal skills	Fluent

TECHNICAL SKILLS AND COMPETENCIES

Informatic/Biostatistic skills:
Windows and Mac OS; Windows Office suite (Word, Excel, Power Point), Internet Explorer and Outlook Express, Graph Pad Prism, Adobe Photoshop, ImageJ, Gimp, EndNote, FACS Diva, Flow-Logic, MeV. Data analysis, statistical analysis, sample size determination for pre-clinical and clinical studies.

Bioinformatic skills:
Use of common databases (NCBI, EBI).

Laboratory techniques:
DNA-RNA extraction and purification, PCR, RT-PCR, qPCR.
Molecular Cloning, bacterial transformation, production of recombinant proteins in *E. coli* and *P. pastoris*.
Primary cell cultures and maintenance: tumour cells isolation (breast, lung, colon), macrophages, neutrophils, Natural Killer cells.
Cell line culture and maintenance.

Cancer stem cells isolation and maintenance from cell lines and clinical samples.
Immune-magnetic cell sorting with commercial kits (columns and tube beads).
Multicolor flow cytometry (FC, up to 20 colors), FC for immune cell subset identification and cytokine profiling (intracellular staining), FC for AnnexinV and 7-AAD expression (Apoptosis), cell cycle (PI, Dapi) and ROS production (DH_2DCF-DA, mitosox, cellRox).
Multicolor panel design for flow cytometry and complex flow data analysis.
Isolation and characterization of tumour-derived exosomes and extracellular vesicles from cell lines and their characterization by flow cytometry.
In vitro angiogenesis assay: endothelial cell morphogenesis on matrigel, wound-healing assay, chemotaxis and chemoivasion on Boyden Chambers and trans wells, scratch-assay, sprouting assay.
Animal models handling and care: mice, rats, zebrafish, xenopus.
In vivo angiogenesis assay: matrigel sponge assay.
In vivo expertise: organ isolation, tumour xenograft on different mouse strains, cell, and drugs injection (*s.c., i.v, i.p., p.t.*,)

Related skills:
Writing of Clinical Protocols for Ethics Committee; Management of informed consent. Freelance medical writer.
Management of a flow cytometry facility (BD FACS Canto II, BD FASC Fortessa x20, BD FACS ARIA II-cell sorter).
Management of a zebrafish facility: animal breeding, preparation of technical documentations, organization of site visits.
Interaction with clinicians and nurses to define inclusion/exclusion criteria of patients, their classification according to clinical parameters
Grant writing for research funding (AIRC, Cariplo, Ricerca Finalizzata, AICR, H2020). Preparation of budgets, middle and final reports for funded projects. Co-reviewer for ERC grants (panel LS4) and AACR fellowships.
Totally independent in manuscript, review, case report, commentary, and grant proposal writing.
Book chapters and proceeding writing, aimed at both scientific and not-scientific audience.
Laboratory management (instrumentations, personnel coordination, and training).
Tutorship and mentorship for undergraduate students, PhD students, post-docs.
Dissemination of results to lay public (blogs, social networks, newspapers, radio, TV).

Experience as mentor:

2022-current: PhD co-supervisor for Dr. Martina Cucchiara, PhD course in Experimental and Translational Medicine at the University of Insubria, Varese, Italy. Dr. Cucchiara is currently a PhD student in my Lab, working on a project aimed at investigating the contribution of Natural Killer cells in pancreatic and renal cancer progression and angiogenesis.

2019-current: PhD supervisor for Dr. Matteo Gallazzi, PhD in Biotechnologies and Life Sciences, XXXV cycle, University of Insubria, Varese, Italy. Dr. Gallazzi is currently a PhD student in my Lab, working on a project aimed at investigating the contribution of Natural Killer cells in prostate cancer progression and angiogenesis.

2019-2020: MSc thesis tutor for Martina Cucchiara, CdL in Medical Biotechnologies, University of Milan Bicocca, Milan, Italy. Martina is currently a pre-doctoral fellow in my Lab, working on a project investigating the contribution of NK cells in pancreatic cancer progression and fibrosis.

2018-2019: MSc supervisor for Dr. Matteo Gallazzi, CdL in Biomedical Sciences, University of Insubria, Varese, Italy. Dr. Gallazzi was involved in a project aimed at investigating the contribution of Natural Killer cells in prostate cancer progression and angiogenesis.

2013-2016: PhD supervisor for Dr. Barbara Bassani, PhD in Biotechnologies, Biosciences and Surgery, XXIX cycle, University of Insubria, Varese, Italy. Dr. Bassani was involved in a project investigating the contribution of NK cells in colorectal cancer progression and angiogenesis. Dr. Bassani is currently a post-doctoral fellow at National Cancer Institue (Group of Prof. Mario Paolo Colombo), Milan, Italy.

2010-2011: BSc thesis supervisor for Dr. Martina de Bernardi. Martina was involved in a project investigating the contribution of NK cells in colorectal cancer progression and angiogenesis.

2009-2010: Dr. Michela Guerini Rocco, BSc thesis (project on NK cell in colorectal cancer). Michela was involved in a project investigating the contribution of NK cells in lung cancer progression and angiogenesis.

ADDITIONAL INFORMATION

Grants

Past/active:

1.*"Tumor-infiltrating/tumor associated natural killer cells in prostate cancer progression and angiogenesis".* Funding agency: Italian Association for cancer Research (AIRC), MFAG-22818. Project duration: 2020-2024. Budget: 498.000 euros. Role in the project: PI.

2.“*Pancreatic ductal adenocarcinoma microenvironment: interplay between fibrosis and NK cells”*. Funding agency: Fondazione Cariplo. Project duration: 2020-2022. Budget: 80.000 euros. Role in the project: Partner.

3.*“Phenotype and functional characterization of peripheral blood NK cells in patients with symptomatic atherosclerosis”.* Funding agency: Institutional funds. Project duration: October-2019-october 2020. Budget: 12.000 euros. Role in the project: Co-PI.

4. *“Verso un rene in provetta”*. Funding agency: Bicocca Crowd funding. Budget: 6.735 euros. Role in the project: Partner.

5.*“Cardio-protective activities of a polyphenol-rich extracts from olive-mill wastewaters”.* Funding agency: Donation. Project duration: 2018-2019. Budget: 30.000 euros. Role in the project: Co-PI.

6.*"Effects of ultra-purified polyphenol-rich olive mill wastewater extracts on tumour cells (prostate and lung cancer): molecular pathways involved".* Funding agency: Donation. Project duration: 2018-2019. Budget: 30.000 euros. Role in the project: Co-PI.

Memberships

EACR, AACR, SIC, SIICA regular member
From 2018: Member of the board of directors, Italian Society of Cancerology (SIC)

Reviewer for:

Bio-protocols, Cancers, Carcinogenesis, Cells, Clinical and Experimental Metastasis, Experimental Dermatology, Frontiers in Cell and Developmental Biology, Frontiers in Oncology, Frontiers in Immunology, International Journal of Cancer, International Journal of Molecular Science, Journal of the National Cancer Institute, Journal of Immunology Research, Vaccines, PlosOne

Publications

H-index: 24 (Scopus),
https://www.scopus.com/affil/profile.uri?id=60104444&origin=AuthorResultsList

1.Salvini M, Damonte C, Mortara L, Maggi F, **Bruno A**, Pellegrini G, Mora B, Brociner M, Ingrassia A, Mattarucchi R, Bianchi B, Sirocchi D, Agnoli S, Rumi E, Merli M, Fossati A, Bassi S, Bombelli R, Gallazzi M, Borsani O, Baj A, Franchi M, Grossi PA, Passamonti F. Immunogenicity and clinical efficacy of anti-SARS-CoV-2 vaccination in patients with hematological malignancies: Results of a prospective cohort study of 365 patients. Am J Hematol. 2022 Jun 15. doi: 10.1002/ajh.26629.

2.Artusa V, Ciaramelli C, D'Aloia A, Facchini FA, Gotri N, **Bruno A**, Costa B, Palmioli A, Airoldi C, Peri F. Green and Roasted Coffee Extracts Inhibit Interferon-β Release in LPS-Stimulated Human Macrophages. Front Pharmacol. 2022 May 5;13:806010. doi: 10.3389/fphar.2022.806010

3. Benedetto N, Calabrone L, Gutmańska K, Macrì N, Cerrito MG, Ricotta R, Pelosi G, **Bruno A**@, Noonan DM, Albini A. An Olive Oil Mill Wastewater Extract Improves Chemotherapeutic Activity Against Breast Cancer Cells While Protecting From Cardiotoxicity. Front Cardiovasc Med. 2022 Apr 14;9:867867. doi: 10.3389/fcvm.2022.867867.

4. La Sala L, Gandini S, **Bruno A**, Allevi R, Gallazzi M, Senesi P, Palano MT, Meregalli P, Longhi E, Sommese C, Luzi L, Trabucchi E. SARS-CoV-2 Immunization Orchestrates the Amplification of IFNγ-Producing T Cell and NK Cell Persistence. Front Immunol. 2022 Feb 14;13:798813. doi: 10.3389/fimmu.2022.798813. PMID: 35237261; PMCID: PMC8882867.

5. Maria Teresa Palano, Martina Cucchiara, Matteo Gallazzi, Lorenzo Mortara, Gian Franco Gensini, Gaia Spinetti*, Giuseppe Ambrosio*, **Antonino Bruno*, @**. When a friend becomes your enemy: Natural Killer cells in atherosclerosis and atherosclerosis-associated risk factors. Front Immunol. 2022 Jan 13;12:798155. doi: 10.3389/fimmu.2021.798155.

6. Maria Teresa Palano, Matteo Gallazzi, Martina Cucchiara, Andrea De Lerma Barbaro, Daniela Gallo, Barbara Bassani, **Antonino Bruno***, Lorenzo Mortara***.** Neutrophils and natural killer cell interaction in cancers: dangerous liasons instructing immunosuppression and angiogenesis. Vaccines (Basel). 2021 Dec 16;9(12):1488. doi: 10.3390/vaccines9121488.

7. Maurizia Mello-Grand*, **Antonino Bruno***, Lidia Sacchetto, Simone Cristoni, Ilaria Gregnanin, Paolo Gontero, Caterina Peraldo-Neia, Douglas Mc Clain Noonan, Adriana Albini and Giovanna Chiorino. Two novel ceramide-like molecules and miR-5100 levels as biomarkers improve prediction of prostate cancer in grey-zone PSA. Front Oncol. 2021 Nov 19;11:769158. doi: 10.3389/fonc.2021.769158. eCollection 2021.

8. Andrea De Lerma Barbaro, Maria Teresa Palano, Martina Cucchiara, Matteo Gallazzi, Lorenzo Mortara, **Antonino Bruno@.** Metabolic rewiring in the tumor microenvironment to support immunotherapy: a focus on neutrophils, polymorphonuclear MDSCS and NK cells. Vaccines, *in press*.

9. Albini A, Calabrone L, Carlini V, Benedetto N, Lombardo M, **Bruno A,** Noonan DM. Preliminary Evidence for IL-10-Induced ACE2 mRNA Expression in Lung-Derived and Endothelial Cells: Implications for SARS-Cov-2 ARDS Pathogenesis. Front Immunol. 2021 Sep 27;12:718136. doi: 10.3389/fimmu.2021.718136.

10. Albini A, Gallazzi M, Palano MT, Carlini V, Ricotta R, **Bruno A**, Stetler-Stevenson WG, Noonan DM. TIMP1 and TIMP2 Downregulate TGFβ Induced Decidual-like Phenotype in Natural Killer Cells. Cancers (Basel). 2021 Oct 1;13(19):4955. doi: 10.3390/cancers13194955. PMID: 34638439 Free PMC article.

11. Salvini M, Maggi F, Damonte C, Mortara L, **Bruno A**, Mora B, Brociner M, Mattarucchi R, Ingrassia A, Sirocchi D, Bianchi B, Agnoli S, Gallazzi M, Merli M, Ferrario A, Bombelli R, Barraco D, Baj A, Bertù L, Grossi PA, Passamonti F. Immunogenicity of anti-SARS-CoV-2 Comirnaty vaccine in patients with lymphomas and myeloma who underwent autologous stem cell transplantation. Bone Marrow Transplant. 2021 Oct 11:1-3. doi: 10.1038/s41409-021-01487-4.

12. Adriana Albini, Marco Mario Giacomo Festa, Nadja Ring, Denisa Baci, Michael Rehman, Giovanna Finzi, Fausto Sessa, Serena Zacchigna, **Antonino Bruno***, Douglas M Noonan*, A polyphenol-rich extract of Olive Mill Wastewater Enhances cancer chemotherapy effects, while mitigating cardiac toxicity. Front. Pharmacol., 03 August 2021 | https://doi.org/10.3389/fphar.2021.694762

13. Bianchi F, Dama E, Di Nicolantonio F, Baldassarre G,

Guerriero I, Torchiaro E, **Bruno A**, Blandino G, Allavena P, Chiarugi P, Sozzi G, D'Incalci M, Normanno N. COVID-19 epidemic strongly affected cancer research in Italy: a survey of the Italian Cancer Society (SIC). ESMO Open. 2021 Jun;6(3):100165. doi: 10.1016/j.esmoop.2021.100165.

14. Matteo Gallazzi, Denisa Baci, Lorenzo Mortara, Annalisa Bosi, Giuseppe Buono, Angelo Naselli, Andrea Guarneri, Federico Dehò, Paolo Capogrosso, Adriana Albini, Douglas Mc Clain Noonan, **Antonino Bruno**. Prostate cancer peripheral blood NK cells show enhanced CD9, CD49a, CXCR4, CXCL8, MMP-9 production, and secrete monocyte-recruiting and polarizing factors. Front Immunol. 2021 Jan 25;11:586126. doi: 10.3389/fimmu.2020.586126.

15. Sansone C, **Bruno A**, Piscitelli C, Baci D, Fontana A, Brunet C, Noonan DM, Albini A. Natural Compounds of Marine Origin as Inducers of Immunogenic Cell Death (ICD): Potential Role for Cancer Interception and Therapy. Cells. 2021 Jan 25;10(2):231. doi: 10.3390/cells10020231.

16. Sansone C, Galasso C, Lo Martire M, Fernández TV, Musco L, Dell'Anno A, **Bruno A**, Noonan DM, Albini A, Brunet C. In Vitro Evaluation of Antioxidant Potential of the Invasive Seagrass Halophila stipulacea. Mar Drugs. 2021 Jan 16;19(1):37. doi: 10.3390/md19010037.

17. Festa M, Sansone C, Brunet C, Crocetta F, Di Paola L, Lombardo M, **Bruno A**, Noonan DM, Albini A. Cardiovascular Active Peptides of Marine Origin with ACE Inhibitory Activities: Potential Role as Anti-Hypertensive Drugs and in Prevention of SARS-CoV-2 Infection. Int J Mol Sci. 2020 Nov 7;21(21):8364. doi: 10.3390/ijms21218364.

18. Baci D, Bosi A, Parisi L, Buono G, Mortara L, Ambrosio G, **Bruno A**. Innate Immunity Effector Cells as Inflammatory Drivers of Cardiac Fibrosis. Int J Mol Sci. 2020 Sep 28;21(19):E7165. doi: 10.3390/ijms21197165

19. Denisa Baci, Maila Chirivì, Valentina Pace, Fabio Maiullari, Marika Milan, Andrea Rampin, Paolo Somma, Dario Presutti, Silvia Garavelli, **Antonino Bruno**, Stefano Cannata, Chiara Lanzuolo, Cesare Gargioli, Roberto Rizzi, Claudia Bearzi. Extracellular vesicles from skeletal muscle cells efficiently promote myogenesis in induced pluripotent stem cells. Cells. 2020 Jun 23;9(6):E1527. doi: 10.3390/cells9061527.

20. Daniela Gallo, Eliana Piantanida, Matteo Gallazzi, Luigi Bartalena, Maria Laura Tanda, **Antonino Bruno** and Lorenzo Mortara. Immunological Drivers in Graves' Disease: NK Cells as a Master Switcher. Front Endocrinol (Lausanne). 2020 Jul 17;11:406. doi: 10.3389/fendo.2020.00406.

21. Baci D, Bosi A, Gallazzi M, Rizzi M, Noonan DM, Poggi A*, **Bruno A***, Mortara L*. The Ovarian Cancer Tumor Immune Microenvironment (TIME) as Target for Therapy: A Focus on Innate Immunity Cells as Therapeutic Effectors. Int J Mol Sci. 2020 Apr 28;21(9). pii: E3125. doi: 10.3390/ijms21093125.

22. Denisa Baci*, **Antonino Bruno***, Caterina Cascini, Matteo Gallazzi; Lorenzo Mortara, Fausto Sessa, Giuseppe Pelosi, Adriana Albini, Douglas M. Noonan. CXCR4/CXCL12, CCl2,TNF-α and MMP-9, growth, invasion and pro-angiogenic properties are downregulated in prostate cancer cells by Acetyl- L-carnitine, a potential prevention and interception agent. J Exp Clin Cancer Res. 2019 Nov 12;38(1):464. doi: 10.1186/s13046-019-1461-z.

23. Galasso C, Gentile A, Orefice I, Ianora A, **Bruno A**, Noonan DM, Sansone C, Albini A, Brunet C. Microalgal Derivatives as Potential Nutraceutical and Food Supplements for Human Health: A Focus on Cancer Prevention and Interception. Nutrients. 2019 May 29;11(6). pii: E1226. doi:10.3390/nu11061226.

24. **Antonino Bruno**, Lorenzo Mortara, Denisa Baci, Douglas Noonan, Adriana Albini. Myeloid Derived Suppressor Cells Interactions With Natural Killer Cells and Pro-angiogenic Activities: Roles in Tumor Progression. Front. Immunol., 18 April 2019. https://doi.org/10.3389/fimmu.2019.00771.

25. Bassani B, Baci D, Gallazzi M, Poggi A, **Bruno A***, Mortara L*. Natural Killer Cells as Key Players of Tumor Progression and Angiogenesis: Old and Novel Tools to Divert Their Pro-Tumor Activities into Potent Anti-Tumor Effects. Cancers (Basel). 2019 Apr 1;11(4). pii: E461. doi: 10.3390/cancers11040461.

26. Denisa Baci, Matteo Gallazzi, Caterina Cascini, Matilde Tramacere, Daniela De Stefano, **Antonino Bruno@**, Douglas M. Noonan, Adriana Albini, Downregulation of Pro-Inflammatory and Pro-Angiogenic Pathways in Prostate Cancer Cells by a Polyphenol-Rich Extract from Olive Mill Wastewater. Int J Mol Sci. 2019 Jan 14;20(2), doi: 10.3390/ijms20020307.

27. Matteo Fanuli, Mirko Battaglia, Marco Tremolati, **Antonino Bruno@**, Luca Parisi, Giampietro Farronato, Dental sealants: use of hydrophilic materials in clinical practice and professional training, BMC Oral Health, Dent J (Basel). 2018 Oct 1;6(4). pii: E52. doi: 10.3390/dj6040052.

28. Lorenzo Mortara, Enrica Balza, **Antonino Bruno**, Alessandro Poggi, Paola Orecchia, Barbara Carnemolla, Anti-cancer therapies employing il-2 cytokine tumor targeting: contribution of innate, adaptive and immunosuppressive cells in the anti-tumor efficacy, Front Immunol. 2018 Dec 18;9:2905. doi: 10.3389/fimmu.2018.02905.

29. **Bruno A***, Bassani B*, D'Urso DG, Pitaku I, Cassinotti E, Pelosi G, Boni L, Dominioni L, Noonan DM, Mortara L, Albini A. Angiogenin and the MMP9-TIMP2 axis are up-regulated in proangiogenic, decidual NK-like cells from patients with colorectal cancer. FASEB J. 2018 May 15:fj201701103R. doi:10.1096/fj.201701103R.

30. Annalisa Bosi, Silvia Zanellato, Barbara Bassani, Andriana Albini, Alessandra Musco, Maria Cattoni, Matteo Desio, Elisa Nardecchia, Davide Giuseppe D'Urso, Andrea Imperatori, Lorenzo Dominioni, Douglas Noonan, Lorenzo Mortara, and **Antonino Bruno**. Natural Killer cells from malignant pleural effusion are

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Book chapters

1. Lorenzo Mortara, Denisa Baci, Grace Coco, Alessandro Poggi and **Antonino Bruno**. The dual role of natural killer cells during tumor progression and angiogenesis: Implications for tumor microenvironment-targeted immunotherapies. Book: Successes and Challenges of NK Immunotherapy Chapter Number: 15. Elsevier, 10.1016/B978-0-12-824375-6.00014-X.

2.Bassani B., **Bruno A**., Macrì N., Corradino P., Noonan D.M., Albini A. (2017) The Pharmacologist's Point of View: Mechanisms of Cardiotoxicity. In: Lestuzzi C., Oliva S., Ferraù F. (eds) Manual of Cardio-oncology. Springer, Cham, https://doi.org/10.1007/978-3-319-40236-9_7

3.**Bruno A,** Pagani A, Magnani E, Rossi T, Noonan DM, Cantelmo AR, Albini A. Inflammatory angiogenesis and the tumor microenvironment as targets for cancer therapy and prevention. Cancer Treat Res. 2014;159:401-26. doi: 10.1007/978-3-642-38007-5_23. PubMed PMID: 24114493.

4.Douglas M. Noonan, Agostina Ventura, **Antonino Bruno**, Arianna Pagani and Adriana Albini, The Angiogenic Switch: Role of Immune Cells, Immunologic Signatures of Rejection, 2011. https://doi.org/10.1007/978-1-4419-7219-4_5.

Academic seminars

1.Angiogenesi e angiogenesi infiammatoria come terapia e prevenzione in oncologia. II modulo Master in Farmacia e Farmacologia Oncologica, II modulo Perfezionamento Farmacia in OncologiaTerapie innovative in oncologia, March 24^{th,} 2021, University of Milana, Milan, Italy

2.Angiogenesi e angiogenesi infiammatoria come bersaglio di terapia e prevenzione in oncologia. Corso di Master in Farmacia e Farmacologia in Oncologia, March 25^{h,} 2021, University of Milana, Milan, Italy

3.Tumor Associated Natural Killer cells (TANKs) in prostate cancer inflammation and angiogenesis. Ph.D. Meeting "Advances in cellular and molecular biology of Prostate cancer", October 21st, 2019, University of Insubria, Varese, Italy.

4.Angiogenesi e angiogenesi infiammatoria come bersaglio di terapia e prevenzione in oncologia. Corso di Master in Farmacia e Farmacologia in Oncologia, March 25^{h,} 2019, University of Milana, Milan, Italy.

5.Tumor infiltrating (TINKs) and tumor associated (TANKs) Natural Killer cells: new players in tumor angiogenesis

orchestration, Seminars within the PhD program in Biotechnology, Biosciences and Surgical Technologies, University of Insubria, meeting "CELLULE PERIFERICHE NEI MECCANISMI DI RISPOSTA IMMUNITARIA E DI PATOGENESI (INFIAMMATORIA E NEOFORMATIVA), POSSIBILE UTILIZZO IN AMBITO DIAGNOSTICO/TERAPEUTICO", November 8th, 2016, University of Insubria, Varese, Italy.

6."Pro-tumor polarization of Natural Killer cells: mechanisms and mediators", 2nd INSUBRIA AUTUMN SCHOOL ON NEUROIMMUNE PHARMACOLOGY Repurposing established drugs for novel indications Varese - Italy, November 16th-20th, 2015

7."Angiogenesis as a target for cancer therapy", master in Oncological Pharmacology, March 28th2014, University of Milan, Milan, Italy.

Oral Communications and lectures

1."Natural Killer cells from patients with colorectal cancer are switched towards a decidual-like pro-angiogenic phenotype", MACC_10 How to make an optimal blend: Immunotherapy in combination, Cuneo (Italy), November 14th-15th 2017.

2."Innate immunity driving tumour angiogenesis: the role of Natural Killer cells in non-small cell lung cancer", 15th International Congress of Immunology, Milan (Italy), august 22nd-27th, 2013

3."The pro-angiogenic phenotype of Natural Killer cells: a new paradigm of inflammatory infiltrate in tumours", Workshop SIICA "Angiogenesi: basi molecolari ed implicazioni terapeutiche IV", CERTOSA DI PONTIGNANO (Siena), Italy, May 13th-15th, 2013

4."Innate immunity driving tumour angiogenesis: the role of Natural Killer cells in non-small cell lung cancer", AACR Annual Meeting 2013, Washington DC, April 6th-10th, 2013

5."The pro-angiogenic phenotype of Natural Killer cells infiltrating squamous cell carcinoma lung cancer", EACR-22 - from Basic Research to Personalized Cancer Treatment, Barcelona (Spain) 7th-10th, July 2012.

Patents

1.Patent n° 1420805, ITALY, depositato in data 31 ottobre 2013 al n. 102013902203953 concesso in data 29 gennaio 2016 – Brevetto d`invenzione per: USO ANTINFIAMMATORIO DI FITOCOMPLESSI LIQUIDI DA OLIVE

2. Patent n°1420804, ITALY, depositato in data 31 ottobre 2013 al n. 102013902203952 concesso in data 29 gennaio 2016- Brevetto d`invenzione per: USO ANTIANGIOGENICO DI FITOCOMPLESSI LIQUIDI DA OLIVE

Awards

1.AACR Scholar-in-Training Award, AACR Annual meeting 2020, June 22nd-24th, virtual meeting.

2.Fondazione Umberto Veronesi Post-Doctoral Grant, March 2017-February 2018.

3.Fondazione Umberto Veronesi Post-Doctoral fellowship, March 2016-February 2017.

4.NIBIT travel grant, Cancer: Inflammation and Immunity, Santa Caterina in Finalborgo (Finale Ligure, Italy), September 16th-18th, 2015

5.SIICA travel grant award, Workshop SIICA: Angiogenesi: basi molecolari ed implicazioni terapeutiche V, CERTOSA DI PONTIGNANO (Siena), May 25th-27th, 2015

6.AACR Scholar-in-Training Award, AACR Annual meeting 2015, April 18th-22nd, Philadelphia.

7.SIICA Travel grant: 3rd Conference of Translational Medicine on the Pathogenesis and Therapy of Immune-Mediated Diseases, Rozzano (Milan), September 29th- October 1st, 2014.

8.SIC Travel grant: Dangerous Liaisons: translating cancer biology into better patient management - 56° Congresso Nazionale Società Italiana di Cancerologia, September 11st-13th, 2014.

9.Proffered Paper Award presentation, EACR-22 - from Basic Research to Personalised Cancer Treatment, Barcelona (Spain) July 7th-10th, 2012.

10.FIRC (Fondazione Italiana per la Ricerca sul Cancro) fellowship, January 2012- December 2014.

11.Fellowship for the PhD program in Cellular and Molecular Biology: 2008-2011

I authorize the use of my personal informations, according to the L. 196\03.

Milan, 27/06/2022