

## **Antonella Minutolo, PhD**

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From 2022 Assistant Professor (RTDb) at the Department of Experimental Medicine, Microbiology and Clinical Microbiology laboratories, University of Rome Tor Vergata. **Education and Experience:** Biological Science degree at the University of Rome La Sapienza, PhD in Medical Microbiology and Immunology and Post Degree Specialization in Microbiology and Virology at the University of Rome Tor Vergata. **Research topics:** Immune response in infections, inflammatory diseases and cancers; Expression and regulation of Human endogenous Retroviruses; apoptosis and cell cycle, Microvesicles role in inflammation and tumorigenesis.

She contributes in European Project and with industrial partners to for **early intervention in COVID19 patient management** based on 1) Flow-cytometry and molecular integrated Multiplex Analysis and 2) the characterization of the expression of **endogenous Retroviruses (HERVs)** in COVID-19 patients.

Since 2002 she working on different research projects regarding: a) **Early intervention in the management of COVID-19** patient using multiparametric analysis based on Flow Cytometry and molecular profiles b) **innovative bio-therapeutics** in infectious diseases and cancer; c) **Immunological monitoring** and modification during ART therapy in HIV infected individual; d) intestinal microflora, steatosis and chronic liver injury in NAFLD and HCV patients: e) **plant Microvesicles and miRNA in cross kingdom interaction** analysed in HIV individuals, in tumour cell lines, and in *in vivo* NAFLD mice model.

In H2020-StarBIOS2 project (2015-2020), she organized and realized **educational activities for students and general public on public health issues**. She contributed in societal engagement activities and technology transfer in collaboration with the UNESCO chair of biotechnology and bioethics. She has contributed to the organization and implementation of various **technology transfer activities in Africa** as during the Ebola emergency in Sierra Leone (2015-2016) and the creation of a Galenic Laboratory in Cameroon (2017-2018). **50 scientific papers** published in National and International Journals document her experience.

### **Investigator in research project**

-2022: HORIZON-HLTH-2021-DISEASE-04. "HERVCOV- SARS-CoV-2-induced activation of pathogenic endogenous retrovirus envelope HERV-W: towards personalized treatment of COVID-19 patients"

-2021-RSA funding "AMELIORATE-Innovative markers of early diagnosis and monitoring of respiratory diseases" PI Claudia Matteucci

-2020 GeNeuro Innovation "Flow-cytometry and molecular integrated Multiplex Analysis for early intervention in COVID19 patient's management" Grant to Claudia Matteucci to support research activity for the understanding of HERVs role in COVID-19 disease.

-2015-2020 Project HORIZON2020-ISSI-2015-1 STARBIOS2 G.A. n. 709517.

-2013-2019: Becton Dickinson and INMI Spallanzani. MULTIFIRE: of the project: Evaluation of the processes of functional immune reconstitution and immunosenescence in HIV-infected naïve patients undergoing antiretroviral therapy. Principal investigator for Tor Vergata Unit

-2011-2014 Research Unit Member of the FIRB 2011 Project "Intestinal microflora, steatosis and chronic liver damage". Protocol RBAP10MY35

-2011-2014 Research Unit Member of the FIRB 2011 Project "Cellular and molecular events in the pathogenesis of HBV and HCV infections". Protocol RBAP10TPXK

## Scientific Publication (Last 5 years)

1. Marialaura Fanelli, Vita Petrone, Christian Maracchioni, Rossella Chirico, Chiara Cipriani, Luigi Coppola, Vincenzo Malagnino, Elisabetta Teti, Chiara Sorace, Marta Zordan, Pietro Vitale, Marco Iannetta, Emanuela Balestrieri, Guido Rasi, Sandro Grelli, Fabrice Malergue, Loredana Sarmati, **Antonella Minutolo**, Claudia Matteucci, Persistence of circulating CD169+monocytes and HLA-DR downregulation underline the immune response impairment in PASC individuals: the potential contribution of different COVID-19 pandemic waves, *Current Research in Microbial Sciences*, Volume 6, 2024, 100215, ISSN 2666-5174, <https://doi.org/10.1016/j.crmicr.2023.100215>.
2. Gaetana Costanza, Pierpaolo Paba, Marco Ciotti, Domenico Ombres, Fabbio Marcuccilli, Valeria Camicia, Eleonora Andreassi, Stefano Di Carlo, Lucia Piredda, Vita Petrone, Marialaura Fanelli, Emanuela Balestrieri, Sergio Bernardini, Claudia Matteucci, **Antonella Minutolo** and Sandro Grelli. Update of respiratory viruses Infection rate in the pandemic SARS-CoV-2 period in symptomatic patients (December 2021-April 2023). *Reports on Global Health Research* 2023 **I.F. 3.200**
3. Balestrieri E, Corinaldesi E, Fabi M, Cipriani C, Giudice M, Conti A, **Minutolo A**, Petrone V, Fanelli M, Miele MT, Andreozzi L, Guida F, Filice E, Meli M, Grelli S, Rasi G, Toschi N, Torcetta F, Matteucci C, Lanari M, Sinibaldi-Vallebona P. Preliminary Evidence of the Differential Expression of Human Endogenous Retroviruses in Kawasaki Disease and SARS-CoV-2-Associated Multisystem Inflammatory Syndrome in Children. *Int J Mol Sci*. 2023 Oct 11;24(20):15086. doi: 10.3390/ijms242015086. PMID: 37894766; PMCID: PMC10606856. **I.F. 6.200**
4. **Minutolo, A.**; Gismondi, A.; Chirico, R.; Di Marco, G.; Petrone, V.; Fanelli, M.; D'Agostino, A.; Canini, A.; Grelli, S.; Albanese, L.; et al. Antioxidant Phytocomplexes Extracted from Pomegranate (*Punica granatum* L.) Using Hydrodynamic Cavitation Show Potential Anticancer Activity In Vitro. *Antioxidants* 2023, 12, 1560. <https://doi.org/10.3390/antiox12081560>. **I.F. 7.675**
5. Petrone, V, Fanelli, M.L, Giudice M., Toschi, N., Conti, A., Maracchioni, C., Ianetta, M., Resta, C., Cipriani, C., Miele, M.T., Amati, F., Andreoni, M., Sarmati, L., Rogliani, P., Novelli, G., Garaci, E., Rasi, G., Sinibaldi Vallebona, P., **Minutolo, A.**, Matteucci, C., Balestrieri, E., Grelli, S. Expression Profile of HERVs And Inflammatory Mediators Detected In Nasal Mucosa As Predictive Biomarker of COVID-19 Severity. *Frontiers in Microbiology* May 2023 **I.F. 6.064**
6. V. Stefanizzi, **A. Minutolo**, E. Valletta, M. Carlini, F.M. Cordero, A. Ranzenigo, S. Pasquale Prete, D. O. Cicero, E. Pitti, G. Petrella, C. Matteucci, F. Marino-Merlo, A. Mastino and B. Macchi. Biological Evaluation of Triorganotin Derivatives as Potential Anticancer Agents. *Molecules* 2023 **I.F. 4.927**
7. M. Potestà, A. Gismondi, C. D'Ambrosio, V. Roglia, L. Camoni, M. Marra, A. Canini, S. Arena, A. Scaloni, C. Montesano, **A. Minutolo**. Exposure to *Moringa oleifera* microRNAs induces proteomic changes linked to tumorigenesis and epithelial-mesenchymal transition in HeLa cells. *Advances in Cancer Biology – Metastasis*. March 2023 **I.F. 4.056**
8. **A. Minutolo**, V. Petrone, M. Fanelli, C. Maracchioni, M. Giudice, E. Teti, L. Coppola, C. Sorace, M. Iannetta, M.T. Miele, S. Bernardini, A. Mastino, P. Sinibaldi Vallebona, E. Balestrieri, M. Andreoni, L. Sarmati, S. Grelli, E. Garaci, C. Matteucci. Thymosin Alpha 1 Restores the Immune Homeostasis in lymphocytes during Post-Acute Sequelae of SARS-CoV-2 infection. *Int Immunopharmacology* March 2023 **I.F. 5.714**
9. Cipriani, C., Giudice, M., Petrone, V., Fanelli, M., **Minutolo, A.**, Martino, T.M., Maracchioni, C., Siracusano, M., Benvenuto, A., Coniglio, A., Curatolo, P., Mazzone, L., Grelli, S., Garaci, E., Sinibaldi-Vallebona, P., Matteucci, C., Balestrieri, E. Modulation of Human Endogenous Retroviruses and cytokines expression in peripheral blood mononuclear cells from autistic children and their parents. *Retrovirology*. 2022 **I.F. 4.056**
10. V. Roglia, M. Potestà, A. Minchella, SP Bruno, R. Bernardini, D. Lettieri-Barbato, F. Iacovelli, A. Gismondi, K. Aquilano, A. Canini, R. Muleo, V. Colizzi, M. Mattei, **A. Minutolo** and C. Montesano. Exogenous miRNAs from *Moringa oleifera* Lam. dysregulated lipid metabolism. *Frontiers in Molecular Biosciences* 2022. **I.F. 4.615**

11. Fanelli, M.; Petrone, V.; Buonifacio, M.; Delibato, E.; Balestrieri, E.; Grelli, S.; **Minutolo, A.**; Matteucci, C. Multidistrict Host–Pathogen Interaction during COVID-19 and the Development Post-Infection Chronic Inflammation. *Pathogens* **2022**, *11*, 1198. **I.F. 3.492**
12. Costanza G, Paba P, Ciotti M, Ombres D, Di Carlo S, Marcuccilli F, Bertoli A, Di Traglia L, Mozzani M, Piredda L, Petrone V, Fanelli M, Paganelli C, Cortese B, Balestrieri E, Bernardini S, Andreoni M, Matteucci C, **Minutolo A\***, Grelli S\*. Infection Rate of Respiratory Viruses in the Pandemic SARS-CoV-2 Period Considering Symptomatic Patients: Two Years of Ongoing Observations. *Biomolecules*. 2022 Jul 15;12(7):987. doi: 10.3390/biom12070987. PMID: 35883543; PMCID: PMC9313449. **I.F. 4.569**
13. Proserpio C, Galardi S, Desimio MG, Michienzi A, Doria M, **Minutolo A**, Matteucci C, Ciafrè SA. MEOX2 Regulates the Growth and Survival of Glioblastoma Stem Cells by Modulating Genes of the Glycolytic Pathway and Response to Hypoxia. *Cancers* (Basel). 2022 May 6;14(9):2304. doi: 10.3390/cancers14092304. **I.F. 6.639**
14. Guetiya Wadoum RE, Sevalie S, **Minutolo A**, Clarke A, Russo G, Colizzi V, Mattei M, Montesano C The 2018-2020 Ebola Outbreak in the Democratic Republic of Congo: A Better Response Have Been Achieved Through Inter-State Coordination in Africa. *Risk Management and Healthcare Policy*, Dec 2021. **I.F. 2.8**
15. **Minutolo A**, Petrone V, Fanelli M, Iannetta M, Giudice M, Ait Belkacem I, Zordan M, Vitale P, Rasi G, Sinibaldi Vallebona P, Sarmati L, Andreoni M, Malergue F, Balestrieri E, Grelli S, Matteucci C. High CD169 monocyte/lymphocyte ratio reflects the immunophenotyping disruption and predicts oxygen need in COVID-19 patients. *Pathogens* 2021. **I.F. 3.492**
16. Balestrieri E\*, **Minutolo A\***, Petrone V, Fanelli M, Iannetta M, Malagnino V, Zordan M, Vitale P, Charvet, Horvat B, Bernardini S, Garaci E, Di Francesco P, Sinibaldi Vallebona P, Sarmati L, Grelli S, Andreoni M, Perron H, Matteucci C. Evidence of the pathogenic HERV-W envelope expression in T lymphocytes in association with the respiratory outcome of COVID-19 patients. *Ebiomedicine* 2021 April. DOI 10.1016/j.ebiom.2021.103341.\*uguale contributo. **Q1, I.F. 5.736**
17. Mafopa NG, Guetiya Wadoum RE, Giovanetti M, **Minutolo A**, Dambaya B, Kwe Yinda C, Russo G, Teto G, Ambada G, Turay P, Torimiro J, Ndjolo A, Kuate JR, Colizzi V, Montesano C. Immunoglobulin G Specific Antibody Level against Ebola Viral Glycoprotein and Nucleoprotein in Ebola Virus Disease Survivors and Their Relatives. *Journal of Biosciences and Medicines*, 2021 Apr. DOI: 10.4236/jbm.2021.94015 **no IF**
18. Buccheri C, Festucci F, Potestà M, Roglia V, Bernardini R, **Minutolo A**, Montesano C, Adriani W. Micro-Vesicles of Moringa oleifera Seeds in Heterozygous Rats for DAT Gene: Effects of Oral Intake on Behavioral Profile and Hematological Parameters. *Int J Environ Res Public Health* 2021 March. DOI 10.3390/ijerph18052322, **Q2, IF: 2.84**
19. Matteucci C\*, **Minutolo A\***, Balestrieri E, Petrone V, Fanelli M1, Malagnino V, Iannetta M, Giovinazzo A, Miele MT, di Francesco P, Mastino A, Sinibaldi Vallebona P, Bernardini S, Rogliani, P, Sarmati L, Andreoni M, Grelli and Garaci. Thymosin alpha 1 mitigates cytokine storm in blood cells from COVID-19 patients. *Open Forum Infectious Disease*. 2021 January. \*uguale contributo, DOI 10.1093/ofid/ofaa588 **Q1, IF: 3.656**
20. **Minutolo A\***, Potestà M\*, Roglia V, Cirilli M, Iacovelli F, Cerva C, Fokam F, Desideri A, Andreoni M, Grelli S, Colizzi V, Muleo R, Montesano C. Plant small-RNAs from Moringa oleifera regulate immune responses and HIV infection. *Frontiers in Pharmacology*. 11 febbraio 2021. 10.3389/fphar.2020.620038 \*uguale contributo, **Q1, IF: 4.418**
21. Macchi B, Frezza C, Marino-Merlo F, **Minutolo A**, Stefanizzi V, Balestrieri E, Cerva C, Sarmati L, Andreoni M, Grelli S, Mastino A. Appraisal of a Simple and Effective RT-qPCR Assay for Evaluating the Reverse Transcriptase Activity in Blood Samples from HIV-1 Patients. *Pathogens* 2020 Dec. DOI 10.3390/pathogens9121047 **Q1, I.F: 3.020**
22. Amati F, Vancheri C, Latini A, Colona VL, Grelli S, D'Apice MR, Balestrieri E, Passarelli C, **Minutolo A**, Loddo S, Di Lorenzo A, Rogliani P, Andreoni M, Novelli G. Expression profiles of the SARS-CoV-2 host invasion genes in nasopharyngeal and oropharyngeal swabs of COVID-19 patients. *Heliyon*. 2020 Oct. DOI 10.1016/j.heliyon.2020.e05143 **Q1, I.F: 1.650**
23. Mafopa NG, Giovanetti M, Guetiya Wadoum RE, **Minutolo A**, Kwe Yinda C, Russo G, Dambaya B, Teto G, Ambada G, Turay P, Torimiro J, Ndjolo N, Colizzi V, Montesano C. Viral Hepatitis B and C

- Detection among Ebola Survivors and Health Care Workers in Makeni, Sierra Leone. *Journal of Biosciences and Medicines* 2020 Aug. 10.4236/jbm.2020.810003. no IF
24. Strobbe D, Pecorari R, Conte O, **Minutolo A**, Hendriks CMM, Wiezorek S, Faccenda D, Abeti R, Montesano C, Bolm C, Campanella M. NHS: a novel pharmacological inhibitor of the mitochondrial F<sub>1</sub>F<sub>o</sub>-ATPase which represses viability of cancerous cells. *British Journal of Pharmacology*, 2021 January. 10.1111/bph.15279, **Q1, I.F. 7.700**
  25. Potestà M, Roglia V, Fanelli M, Pietrobono E, Gismondi A, Vumbaca S, Nguedia R, Colizzi V, Grelli S, **Minutolo A\*** and Montesano C\*. Effect of Microvesicles from *Moringa oleifera* containing miRNA on proliferation and apoptosis in tumour cell lines. *Cell Death Discovery*. 2020 Dec. \*uguale contributo, DOI 10.1038/s41420-020-0271-6, **Q2, I.F: 3.962**
  26. Matteucci C, Marino-Merlo F, **Minutolo A**, Balestrieri E, Valletta E, Macchi B, Mastino A, and Grelli S. Inhibition of  $\text{I}\kappa\text{B}\alpha$  phosphorylation potentiates regulated cell death induced by azidothymidine in HTLV-1 infected cells. *Cell Death Discovery*. 2020 Dec. DOI 10.1038/s41420-020-0243-x. **Q2, I.F: 3.962**
  27. Bordoni V, Brando B, Piselli P, Forini O, Perna FE, Atripaldi U, Carputo S, Garziano F, Trento E, D'agosto G, Latini A, Colafigli M, Cristaudo A, Sacchi A, Andreoni M, De Carli G, Orchi N; Grelli S; Gatti A; Cerva C; **Minutolo A**, Potestà M, Di martino ML, Ortu F, Selva P, Del Pupo L, Guarnori I, Lorenzini L, Capuano G, Antinori A, Agrati C. Naïve/Effector CD4 T cell ratio as a useful predictive marker of immune reconstitution in late presenter HIV patients: a multicenter study. *Plos one*. 2019 Dec. 10.1371/journal.pone.0225415, **Q1, IF: 2,776**
  28. Nadege G Mafopa, Raoul EG Wadoum, Marta Giovanetti, Gianluca Russo, **Minutolo A**, Patrick Turay, Jules R Kuate, Carla Montesano and Vittorio Colizzi. Challenges implementing high containment laboratory during an Ebola virus disease epidemic outbreak in resource-limited setting: Our experience in Sierra Leone. *Nursing and Family Health Care*. 2019 March, DOI: 10.15761/NFHC.1000109
  29. Aquilano K., Gismondi A., Iacovelli F., Faraonio R., Di Marco G., Poerio N., Potestà M., **Minutolo A.**, Minopoli G., Marccone A., Fraziano M., Tortolici F., Bernardini R., Mattei M., Falconi M., Montesano C., Rufini S., Canini A., Lettieri-Barbato D. Plant miRNAs delivered through exosome-like nut vesicles target tumor necrosis factor alpha signaling and ameliorate dysmetabolic profile in obese mice. *Communications Biology*. 2019 Dec. DOI 10.1038/s42003-019-0563-7 **Q1, I.F: 4.184**
  30. Potestà M\*, **Minutolo A\***, Gismondi A, Canuti L, Kenzo M, Macchi M, Roglia V, Canini A, Colizzi V and Montesano C. Cytotoxic and apoptotic effects of different extracts of *Moringa oleifera* Lam on lymphoid and monocytoïd cells. *Experimental and Therapeutic Medicine*. 2019 May. \*uguale contributo, <https://doi.org/10.3892/etm.2019.7544>, **Q2, I.F: 1.785**
  31. Sciarretta F., Fulci C., Palumbo C., Aquilano K., Pastore A., 5 Iorio E., 3Lettieri-Barbato D., Cicconi R., **Minutolo A**, Parravano M., Gilardi M., Varano M., Caccuri AM. Glutathione transferase P silencing promotes neuronal differentiation of retinal R28 cells. *Journal of cellular physiology*. 2019 Sept. 10.1002/jcp.28246. **Q1, I.F: 3.900**
  32. Colizzi V, Mezzana D, Ovseiko PV, ...**Minutolo A** et al. "Structural Transformation to Attain Responsible BIOSciences (STARBIOS2): Protocol for a Horizon 2020 funded European multi-centre project to promote Responsible Research and Innovation". *JMIR* 2019 March. DOI 10.2196/11745. **Q4, I.F: 4.800**
  33. Guetiya Wadoum RE, Samin A, Goumkwa Mafopa N, Giovanetti M, Russo G, Turay P, Turay J, Kargbo M, Kanu MT, Kargbo B, Akpablie J, Cain CJ, Pasin P, Batwala V, Sobze MS, Potestà M, **Minutolo A**, Montesano C, Colizzi V. Mobile Health Clinic for Medical Management of Clinical Sequelae Experienced by Survivors of the 2013–2016 Ebola Virus Disease Outbreak in Sierra Leone, West Africa. *European Journal of Clinical Microbiology and Infectious Diseases*. 2017 Nov. DOI 10.1007/s10096-017-3045-1. **Q1, I.F: 2.73**

Rome, 25.03.2024

In fede  
Antonella Minutolo

