

**APPLICANT - BIOGRAPHICAL SKETCH**

<b>NAME</b> Elena Adinolfi		<b>POSITION TITLE</b> Associate Professor of Clinical Pathology, PhD	
<b>EDUCATION/TRAINING</b>			
<b>INSTITUTION AND LOCATION</b>	<b>DEGREE</b>	<b>YEAR(s)</b>	<b>FIELD OF STUDY</b>
University "Federico II", Naples, Italy	MS degree, honors	1992-1997	Biological Sciences
University of Ferrara; Italy	PhD, honors	1997-2000	Biotechnology
University of Sheffield, UK	EMBO Fellow	2001	Molecular Physiology
University of Sheffield, UK	Post-doctoral research associate	2002-2003	Molecular Physiology
University of Ferrara; Italy	Specialization in Clinical Pathology, honors	2003-2008	Clinical Pathology
University of Ferrara, Italy	Senior Post-doctoral fellow	2003-2011	General Pathology
University of Ferrara, Italy	Assistant professor of Clinical Pathology	2011-2019	Clinical Pathology

**Positions and Honors.**

**Positions**

**2019-present :** Associate Professor of Clinical Pathology, Dept. of Medical Sciences, Section of Experimental Medicine, University of Ferrara (Italy)

**2011-2019:** Assistant Professor of Clinical Pathology, Dept. Morphology, Surgery and Experimental Medicine, University of Ferrara (Italy)

**2015–present:** Board Member and Student Advisor of the PhD Course in Molecular Medicine and Pharmacology University of Ferrara (Italy)

**2003- 2011:** Teaching assistant in General Pathology, University of Ferrara (Italy)

**2003-2011:** Postdoctoral researcher at the Department of Experimental and Diagnostic Medicine Section of General Pathology, University of Ferrara, (Italy): Area of specialty General Pathology and Immunology

**2002-2003:** Postdoctoral research associate at the Institute of Molecular Physiology, University of Sheffield, (United Kingdom).

**2001:** European Molecular Biology Organization (EMBO) fellow, at the Institute of Molecular Physiology University of Sheffield, (United Kingdom).

**1997-2001:** PhD student in Biotechnologies, Dept. Experimental and Diagnostic Medicine, Section of Medical Genetics, University of Ferrara, (Italy).

**1995-1997:** Trainee in Enzymology, Institute of Protein Biochemistry, National Council of Research, Naples (Italy).

## Awards and Qualifications

2001: EMBO Fellowship

2021: Testimonial for the **Italian Association for Cancer Research (AIRC)** funding campaign

2019 National Scientific **Qualification as Full Professor in Translational Medicine**. Released from the Italian Ministry of Education and Research on a competitive basis.

## Research Impact and publications

Papers published in international peer-reviewed journals 69

H index at 20-10-2021, 35 according to Google Scholar, 32 according to Scopus

The complete list of my publications can be found at the ORCID database: [orcid.org/0000-0001-8129-9929](https://orcid.org/0000-0001-8129-9929).

### Selected Peer-reviewed publications in chronological order:

- 1) Pegoraro A, De Marchi E, Ferracin M, Orioli E, Zanoni M, Bassi C, Tesesi A, Capece M, Dika E, Negrini M, Di Virgilio F, **Adinolfi E**. P2X7 promotes metastatic spreading and triggers release of miRNA-containing exosomes and microvesicles from melanoma cells. *Cell Death and Disease*. 2021 In press
- 2) Pegoraro A, Orioli E, De Marchi E, Salvestrini V, Milani A, Di Virgilio F, Curti A, **Adinolfi E**. Differential sensitivity of acute myeloid leukemia cells to daunorubicin depends on P2X7A versus P2X7B receptor expression. *Cell Death and Disease*. 2020 11(10):876.
- 3) Pegoraro A, Bortolotti D, Marci R, Caselli E, Falzoni S, De Marchi E, Di Virgilio F, Rizzo R, **Adinolfi E**. The P2X7 Receptor 489C>T Gain of Function Polymorphism Favors HHV-6A Infection and Associates With Female Idiopathic Infertility. *Front Pharmacol*. 2020 21;11:96
- 4) Adinolfi E, De Marchi E, Orioli E, Pegoraro A, Di Virgilio F. Role of the P2X7 receptor in tumor-associated inflammation. *Curr Opin Pharmacol*. 2019 ;47:59-64.
- 5) De Marchi E, Orioli E, Pegoraro A, Sangaletti S, Portararo P, Curti A, Colombo MP, Di Virgilio F, **Adinolfi E**. The P2X7 receptor modulates immune cells infiltration, ectonucleotidases expression and extracellular ATP levels in the tumor microenvironment. *Oncogene*. 2019 May;38(19):3636-3650.
- 6) Di Virgilio F, Sarti A, Falzoni S, De Marchi E, **Adinolfi E**. Extracellular ATP and P2 purinergic signalling in the tumor microenvironment. *Nature Reviews Cancer*, 2018, 18(10):601-618.
- 7) Di Virgilio F, **Adinolfi E**. Extracellular purines, purinergic receptors and tumor growth. *Oncogene*. 2017. 36(3):293-303.
- 8) Amoroso F, Capece M, Rotondo A, Cangelosi D, Ferracin M, Franceschini A, Raffaghello L, Pistoia V, Varesio L, **Adinolfi E**. The P2X7 receptor is a key modulator of the PI3K/GSK3 $\beta$ /VEGF signaling network: evidence in experimental neuroblastoma *Oncogene*. 2015. 34(41):5240-51.
- 9) **Adinolfi E**, Capece M, Franceschini A, Falzoni S, Giuliani AL, Rotondo A, Sarti AC, Bonora M, Syberg S, Corigliano D, Pinton P, Jorgensen NR, Abelli L, Emionite L, Raffaghello L, Pistoia V, Di Virgilio F. Accelerated Tumor Progression in Mice Lacking the ATP Receptor P2X7. *Cancer Res*. 2015 15;75(4):635-44.
- 10) **Adinolfi E**, Raffaghello L, Giuliani AL, Cavazzini L, Capece M, Chiozzi P, Bianchi G, Kroemer G, Pistoia V, Di Virgilio F. Expression of P2X7 receptor increases in vivo tumor growth. *Cancer Res*. 2012;72(12):2957-69.

## Research Support.

**2020-2025:** Principal Investigator of an Italian Association for Cancer Research Grant (AIRC, 22837): "Targeting the P2X7 receptor and adenosinergic axis to cure and prevent colon cancer via inhibition of inflammation Role of extracellular ATP and its receptor P2X7 in melanoma cell to cell communication and progression". Role PI (**400k€**)

**2016-2019:** Principal Investigator of an Italian Association for Cancer Research Grant (AIRC, 16812): "Role of extracellular ATP and its receptor P2X7 in melanoma cell to cell communication and progression". Role PI (**210k€**)

**2012-2015:** My first AIRC GRANT (11630) "The purinergic P2X7 receptor as an oncogene: focus on neuroblastoma". Role: PI (**150 k€**)

**2013-2016:** Young Researchers Grant "Alessandro Liberati" of the Region Emilia Romagna "Development of new therapies for acute leukemias: biological aspects and clinical implications of immunogenic cancer cell death". Role: Unit Coordinator (**250 k€**).

**2018-2019** Institutional funds from the Italian Ministry of Education and Research to cover basic research needs (FAABR), assigned on a competitive basis (**3 K€**).

**2016-2019:** Institutional funds from the University of Ferrara (FAR). These funds cover basic researcher needs (**4,5K€**, ~ **1,5 K€ per year**).

**2015-2016:** University of Ferrara Grant for the startup of new international collaborations: "ATPOnc: Project of International collaboration for the Study of ATP and its receptors in oncology" In collaboration with the Universities of Cambridge, Sheffield, and Tours. Role PI (**5,5 k€**)

**2006-2007:** Principal investigator, University of Ferrara Young scientist's grant, untitled: Characterization of the expression and function of P2 receptors in human mesenchymal stem cells. (**6 k€**)

## Editorial Activities

**Associate Editor** Frontiers in Molecular and Cellular Oncology a Section of Frontiers in Cell and Developmental Biology and Frontiers in Oncology

**Associate Editor** Frontiers in Pharmacology Experimental Pharmacology and Drug Discovery

**Member of the Editorial boards of** Frontiers in Immunology, Frontiers in Endocrinology, Frontiers in Molecular Neuroscience, Frontiers in Pharmacology of Ion Channels and Channelopathies, Medicinal Chemistry, Cancer Cell International

**2021-2022** Editor of a Research Topic entitled "Therapy Resistance in Tumor Microenvironment: Metabolic Reprogramming and Purinergic Signaling" for Frontiers in Oncology.

**2019-2020** Editor of a Research Topic entitled "Emerging mechanism in purinergic signaling: from cell biology to therapeutic perspectives" for Frontiers in Pharmacology

**2019-2020** Editor of a Research Topic entitled "Ion Channel Signalling in Cancer: From Molecular Mechanisms to Therapeutics" for Frontiers in Pharmacology and Frontiers in Oncology.

**2013-2015:** Guest editor for a special issue on P2X receptors for Current Medicinal Chemistry.

**2012:** Guest editor for a special Issue on Purinergic signaling in Bone for Journal of Osteoporosis

**2009:** Managing Editor for a special issue of Frontiers in Bioscience on Purinergic Signalling in Bone and Inflammation.

**Ad hoc referee for:** Italian Agency for the Evaluation of Universities and Research (ANVUR, VQR 2004-2010, 2011-2014); Danish Center for Independent Research; Italian Ministry of Education and Research, FIRB program for Young researchers; French Prestige PhD program, co-financed by the EU Marie Curie Actions, Estonian Research Council; Wollongong University, Australia, Universities of Camerino, Chieti and Salerno.

## **Meetings Organization and Scientific Societies**

Co-Organizer of the virtual meeting of the Italian Purine Club 4-5 February 2021

Host of the Annual meeting of the Italian Purine Club 27 January 2020, Ferrara Italy

Member of the organizing Committee and Chair of a symposium entitled "Purinergic receptors and cancer" for the "First European Purine Meeting", 4-6 September 2019, Santiago de Compostela, Spain

Chairman of a session entitled "Purinergic Signalling in cancer" at the International conference "Purines 2018 International - Basic and translational science on purinergic signaling and its components for a healthy and better world", 19-22 June 2018 Foz Do Iguacu, Brasil

Co-Organizer of the Seventh Italian-German Purine Club meeting, 20-22nd July 2017, Rome, Italy

Co-Organizer of the first UK-Italian Purine Club meeting, 13-14th September 2016 Bristol, UK

Member of the poster evaluation committee at the "Fifth Brazilian Purine Club meeting and II international Congress of Purinergic Signalling in South America", 30-5/2-6 2015 Maresias, Sao Paulo, Brasil.

Host of a Symposium entitled " Purinergic Signalling from Cell Biology to Oncology", 23-2-2015, University of Ferrara, Italy.

Chairman of a session entitled "Purinergic regulation of Tumor Growth and Metastasis" at the International conference "Purines 2014 in Bonn: Nucleotides, Nucleosides and Nucleobases, International conference on Signalling, drugs and Targets", 23-27-7-2014, Bonn, Germany.

**2016- present** Secretary and board member of the Italian Purine Club (<http://italianpurineclub.altervista.org/index.html>)

**2015-present** Member of the Italian Society of Pathology and Translational Medicine (SIPMeT).