

Curriculum Vitae

Personal information **Armando Magrelli**

Work experience

Italian Medicines Agency

- Start date: 092024
- End date: present
- Position: Head of Independent Research Office
- Activities: Independent research funds
- Country: Italy

European Medicine Agency

- Start date: 102018
- End date: 052024
- Position: Vice_Chair of Committee Orphan Medicinal Products
- Activities:
- Country: Netherlands

University of Rome Tor Vergata

- Start date: 022018
- End date: Present
- Position: adjunct Professor
- Activities: adjunct Professor for European Pharmaceutical Legislation at the Faculty of Pharmacy of the University of Rome Tor Vergata
- Country: Italy

European Medicines Agency

- Start date: 032013
- End date: 112022
- Position: Member of Scientific Advice Working Party
- Activities:

The Scientific Advice Working Party (SAWP) is a standing working party with the sole remit of providing [scientific advice and protocol assistance](#). It was established by the [Committee for Medicinal Products for Human Use](#) (CHMP).

For human medicines, scientific advice and protocol assistance are given by the Committee for Medicinal Products for Human Use (CHMP) on the recommendation of the Scientific Advice Working Party (SAWP).

The SAWP coordinates the provision of [scientific advice and protocol assistance](#). It brings an integrated view forward to the CHMP and the COMP on:

- quality relating to the development of medicinal products;
- non_clinical and clinical safety and efficacy relating to the development of medicinal products;
- the significant benefit of orphan medicinal products.
- Country: United Kingdom

European Medicines Agency

- Start date: 052012
- End date: 052024
- Position: Member of Committee Orphan Medicinal Products
- Activities:

Examine application for the designation of a medicinal product as an orphan medicinal product which is submitted to it in accordance with the Regulation. The following represent the priority tasks of the Committee: Designation Protocol Assistance Marketing Authorisation (Review of Criteria for Maintenance of Orphan Status i.e. prevalence, seriousness, significant benefit when applicable).

- Country: United Kingdom

Istituto Superiore di Sanità

- Start date: 072008
- End date: 092024
- Position: Researcher
- Activities:

Studying the role of microRNA in rare diseases; Rare diseases Epidemiology; Hepatoblastoma; Multiple Exostosis; Hailey_Hailey; Rare Diseases and Oxidative stress; Bioinformatics;

- Country: Italy

Rome Oncogenomic Center _Istituti Fisioterapici Ospitalieri Centro Ricerca Sperimentale Istituto Regina Elena Rome

- Start date: 012006

- End date: 062008
- Position: Senior consultant in bioinformatics
- Activities: Linking transcriptome to proteome: functional oncogenomics for diagnosis and treatment of human cancers. Develop new bioinformatic approaches in microRNAs predictions and data analysis; we developed a software freely available to the scientific community (<http://www.macinolab.org/Genemir.htm>), able to merge different sources on microRNAs. We also applied this tool in our experimental approaches on CLL and other pathologies (hepatoblastomas etc..).
- Country: Italy

University of Rome La Sapienza

- Start date: 012005
- End date: 012006
- Position: Senior Consultant in BioInformatics and Data Analysis
- Activities: New Bioinformatic approach to study microRNAs, and their targets; System Biology of high throughput data from microRNA;
- Country: Italy

Con Soluzioni Con Srl

- Start date: 042004
- End date: 122007
- Position: Computer systems analyst
- Activities: Main activities were on _System Administration on Windows, Macintosh and Unix environment. _Internet environment. _HTML Web Browser scripts. _LAN and WiFi networks planning and management. _Web design and web publishing. _Web Administration. _Sql Server management. _Microsoft Transact Sql 2003. _Visual Basic. _Microsoft Visual Studio Net. _Software Packages for Web publishing and editing (Macromedia, PHP, Java). _Perl, BioPerl, Perl DBI.
- Country: Italy

National Council of Research

- Start date: 041999
- End date: 042004
- Position: Researcher
- Activities: The creation of an animal model, able to show the existence of the "RNA Interference" phenomena in higher organisms: in other words the presence of a post_transcriptional mechanism that can abolish gene expression of every mRNA, leaving intact the genome it derives from .Such project has been carried on in collaboration with Prof. Klaus Rajewsky, Head of EMBL Mouse Program, obtaining two transgenic mouse lines to be used as an experimental model. _The study of "High Throughput Screening" techniques and setup of a specific lab for "genome wide analysis". To this purpose I attended an International post lauream course held by EMBL at Heidelberg (Germany), focused on microarrays and high throughput screening techniques. _The in vivo and in vitro characterization of a gene involved in the Juvenile Parkinson, with the relative production of a specific animal model for the study of this pathology
- Country: Italy

Idi Farmaceutici Spa

- Start date: 061996
- End date: 031999
- Position: Senior Researcher
- Activities: I have been put in charge of the setup and startup of the Molecular Biology Lab. Then, since the experimental model used in the Lab was made of primary cultures of human keratinocytes able to produce functional skin, one of the main issues, and the focus of my work, was the identification of molecular markers for epidermal stem cells, with the aim to make more effective the in vitro cell culture, for a subsequent transplant on patients with different pathologies such as bad burnt. Furthermore, as human keratinocytes represent a perfect target for ex_vivo gene therapy, I was involved in a project on the gene transduction in cells derived from patient suffering for epidermolysis bollosa.
- Country: Italy

University of Rome La sapienza

- Start date: 101992
- End date: 101993
- Position: Professional Consultant
- Activities: Involved in the National Research Program on Advanced Biotechnologies. Regarding signal trasduction of blue light in fungi.
- Country: Italy

Education and training

1. Subject: Società Italiana di Genetica Umana
 - Start date: 072008
 - End date: 112008
 - Qualification: Participant
 - Organisation:
 - Country: Italy
2. Subject: Studio Ferrario
 - Start date: 122005
 - End date: 072008
 - Qualification: training in biotechnological Patents
 - Organisation:
 - Country: Italy
3. Subject: Rome Oncogenomic Center
 - Start date: 112006
 - End date: 112006
 - Qualification: Bioinformatic Instructor
 - Organisation:
 - Country: Italy
4. Subject: CINECA
 - Start date: 102005
 - End date: 102005

- Qualification: Programming in Perl
- Organisation:
- Country: Italy
- 5. Subject: New York University
 - Start date: 072005
 - End date: 082005
 - Qualification: Visiting Scientist
 - Organisation:
 - Country: United States
- 6. Subject: European Molecular Biology Laboratory
 - Start date: 042001
 - End date: 052001
 - Qualification: Visiting Scientist
 - Organisation:
 - Country: Germany
- 7. Subject: European Molecular Biology Laboratory
 - Start date: 112000
 - End date: 122000
 - Qualification: Certificate of attendance Hightthroughput Analysis
 - Organisation:
 - Country: Germany
- 8. Subject: University of Cambridge
 - Start date: 062000
 - End date: 062000
 - Qualification: First Certificate in English
 - Organisation:
 - Country:
- 9. Subject: International Centre for Genetic Engineering and Biotechnology
 - Start date: 041999
 - End date: 041999
 - Qualification: Certificate of attendance
 - Organisation:
 - Country: Italy
- 10. Subject: Max_Planck_Institute for Plant Breeding Research
 - Start date: 101993
 - End date: 061997
 - Qualification: PhD in Molecular Biology
 - Organisation: Involved in a research project on generation of plants with dwarf phenotype following the infection with Agrobacterium rhizogenes. I achieved knowledge about plants genetic and molecular biology applied to transgenesis and chimerism. In the same period I took the chance to specialize, working at the local Data Elaboration Office, on the management and maintenance of UNIX based networks
 - Country: Germany
- 11. Subject: University of Rome La Sapienza
 - Start date: 121989
 - End date: 101992
 - Qualification: Graduated M.Sc. in Biology
 - Organisation:
 - Country: Italy

Additional information

Publications

- A.Magrelli, K.Langenkemper, K. Dehio, J.Schell and A. Spena. "Splicing of rol A transcript of Agrobacterium rhizogenes in Arabidopsis;" (1994) Science, 266, 1986_1988.
- P. Ballario, P. Vittorioso, A. Magrelli, C. Talora, A. Cabibbo and G. Macino. "White collar_1, a central regulator of blue light responses in Neurospora, is a zinc finger protein." (1996) EMBO_Journal. 15(7),1650_1657.
- D. Marazziti, E. Golini, A. Magrelli, R. Matteoni and G.P. Tocchini_Valentini. "Genomic Analysis ofGPR37 and Related Orphan G_Protein Coupled Receptor Genes Highly Expressed in the Mammalian Brain". (2001) Current Genomics, 2 (3), 253_260 .
- Daniela Marazziti, Elisabetta Golini, Silvia Mandillo, Armando Magrelli, Walter Witke, Raffaele Matteoni, and Glauco P. Tocchini_Valentini Altered dopamine signaling and MPTP resistance in mice lacking the Parkinson's disease_associated GPR37/parkin_associated endothelin_like receptor PNAS 2004 101: 10189_10194.
- Fulci V, Chiaretti S, Goldoni M, Azzalin G, Carucci N, Tavoraro S, Castellano L, Magrelli A, Citarella F, Messina M, Maggio R, Peragine N, Santangelo S, Mauro FR, Landgraf P, Tuschl T, Weir DB, Chien M,Russo JJ, Ju J, SheridanR, SanderC, Zavolan M, Guarini A, Foa R, Macino G. Quantitative technologies establish a novel microRNA profile of chronic lymphocytic leukemia. Blood. 2007 Feb 27;
- Armando Magrelli, Gianluca Azzalin, Marco Salvatore, Mara Viganotti, Fabrizio Tosto, Teresa Colombo, Rita Devito, Alessandra Di Masi, Antonio Antocchia, Stefano Lorenzetti, Francesca Maranghi, Alberto Mantovani, Caterina Tanzarella, Giuseppe Macino, Domenica Taruscio . Altered microRNA Expression Patterns in Hepatoblastoma Patients. Transl Oncol 2009 Aug 18;2(3):157_63.
- Elisabetta Caprini, Cristina Cristofolletti, Diego Arcelli, Paolo Fadda, Mauro Helmer Citterich,Francesca Sampogna, Armando Magrelli, Federica Censi, Paola Torrer, Marina Frontani, Enrico Scala, Maria Cristina Picchio, Paola Temperani, Alessandro Monopoli, Giuseppe Alfonso Lombardo, Domenica Taruscio, Maria Grazia Narducci, Giandomenico Russo (2009) Identification of key regions and genes important in the pathogenesis of seziary syndrome by combining genomic and expression microarrays. Cancer Res. 2009 Nov 1;69(21):8438_46.
- Cialfi, Oliviero, Ceccarelli, Marchese, Barbieri, Biolcati, Uccelletti, Palleschi, Barboni, De Bernardo, Grammatico, Magrelli, Salvatore, Taruscio, Frati, Gulino, Screpanti, Talora Complex multipathways alterations and oxidative stress are associated with Hailey_Hailey disease. Br J Dermatol. 2010 Mar;162(3):518_26.
- Maria Grazia Di Certo, Nicoletta Corbi, Georgios Strimpakos, Annalisa Onori, Siro Luvisetto, Cinzia Severini, Angelo Guglielmotti, Enrico Maria Batassa, Cinzia Pisani, Aristide Floridi, Barbara Benassi, Maurizio Fanciulli, Armando Magrelli, Elisabetta Mattei, Claudio Passananti. The artificial gene Jazz, a transcriptional regulator of Utrophin, corrects the dystrophic pathology in mdx mice. Hum Mol Genet. 2010 Mar 1;19(5):752_60.
- Maranghi F, Lorenzetti S, Tassinari R, Moracci G, Tassinari V, Marcoccia D, Di Virgilio A, Eusepi A,Romeo A, Magrelli A, Salvatore M, Tosto F, Viganotti M, Antocchia A, Di Masi A, Azzalin G, TanzarellaC, Macino G, Taruscio D, Mantovani A. In utero exposure to di_(2_ethylhexyl) phthalate affects liver morphology and metabolism in post_natal CD_1 mice. Reprod Toxicol. 2010 Jul;29(4):427_32.
- Zuntini M, Salvatore M, Pedrini E, Parra A, Sgariglia F, Magrelli A, Taruscio D, Sangiorgi L. MicroRNA profiling of multiple osteochondromas: identification of disease_specific and normal cartilage signatures. Clin Genet. 2010 Jun

23. A. Di Masi, M. Viganotti, A. Antoccia, A. Magrelli, M. Salvatore, et al.

Characterization of HuH6, Hep3B, HepG2 and HLE liver cancer cell lines by beta_catenin pathway, microRNA expression and protein expression profile. *Cell Mol Biol*, 2010 10:1299_317 Salvatore M, Magrelli A, Taruscio D. The Role of microRNAs in the Biology of Rare Diseases. *Int J Mol Sci*. 2011;12(10):6733_42.

Manca S, Magrelli A, Cialfi S, Lefort K, Ambra R, Alimandi M, Biolcati G, Uccelletti D, Palleschi C, Screpanti I, Candi E, Melino G, Salvatore M, Taruscio D, Talora C. Oxidative stress activation of miR_125b is part of the molecular switch for Hailey_Hailey disease manifestation. *Exp Dermatol*. 2011 Nov;20(11):932_7.

Domenica Taruscio , Marco Salvatore , Armando Magrelli , Rosella Tomanin Predictive medicine and biomarkers: the case of rare diseases *Personalized Medicine*, March 2012, Vol. 9, No. 2, Pages 143_146.

D Taruscio, L Agresta, A Amato, G Bernardo, L Bernardo, F Braguti, et al. The Italian National Centre for Rare Diseases: where research and public health translate into action. *Blood transfusion* 12 (Suppl 3), s591_605.

Valeria De Arcangelis, Georgios Strimpakos, Francesca Gabanella, Nicoletta Corbi, Siro Luvisetto, Armando Magrelli et al. "Pathways Implicated in Tadalafil Amelioration of Duchenne Muscular Dystrophy" *Journal of cellular physiology*, 2015 DOI: 10.1002/jcp.25075

Marco Salvatore, Armando Magrelli, Valentini Flamini, Andrea Brunati, Eleonora Basso, Renato Romagnoli, Ezio David and Domenica Taruscio. "Hepatoblastoma and microRNA_483 Two Forms and One Outcome". *J Genet Syndr Gene Ther* 2016, 7: 278

Fregonese L, Greene L, Hofer M, Magrelli A, Naumann_Winter F, Larsson K, Sheean M, Stoyanova_Beninska V, Tsigkos S, Westermark K, Sepodes B. Demonstrating significant benefit of orphan medicines: analysis of 15 years of experience in Europe. *Drug Discov Today*. 2017 Oct 9. pii: S1359_6446(17)30159_9. doi: 10.1016/j.drudis.2017.09.010.

Sheean ME, Stoyanova_Beninska V, Capovilla G, Duarte D, Hofer MP, Hoffmann M, Magrelli A, Mariz S, Tsigkos S, Shaili E, Polsinelli B, Ricciardi M, Bonelli M, Balabanov P, Larsson K, Sepodes B. Nonclinical data supporting orphan medicinal product designations: lessons from rare neurological conditions. *Drug Discov Today*. 2017 Oct 4. pii: S1359_6446(17)30289_1. doi: 10.1016/j.drudis.2017.09.015.

Defining orphan conditions in the context of the European orphan regulation: challenges and evolution DJ O'Connor, ME Sheean, MP Hofer, S Tsigkos, S Mariz, L Fregonese, ... *Nature Reviews Drug Discovery* 18 (7), 479_480

European regulators' views on a wearable_derived performance measurement of ambulation for Duchenne muscular dystrophy regulatory trials M Haberkamp, J Moseley, D Athanasios, F de Andres_Trelles, A Elferink, et al. *Neuromuscular Disorders* 29 (7), 514_516

Nonclinical data supporting orphan medicinal product designations in the area of rare infectious diseases ME Sheean, E Malikova, D Duarte, G Capovilla, L Fregonese, M Hofer, et al *Drug discovery today*
<https://doi.org/10.1016/j.drudis.2019.10.015>

Using a stated preference discrete choice experiment to assess societal value from the perspective of patients with rare diseases in Italy J López_Bastida, JM Ramos_Goñi, I Aranda_Reneo, D Taruscio, et al. *Orphanet journal of rare diseases* 14 (1), 154 https://doi.org/10.1186/s13023_019_1126_1

Providing high_quality care remotely to patients with rare bone diseases during COVID_19 pandemic_ Providing high_quality care remotely to patients with rare bone diseases during COVID_19 pandemic. Brizola E, Adami G, Baroncelli GI, Bedeschi MF, Berardi P, Boero S, Brandi ML, et al. *Orphanet J Rare Dis* 15 (228), https://doi.org/10.1186/s13023_020_0151

Haemophilia, state of the art and new therapeutic opportunities, a regulatory perspective. Tomeo F, Mariz S, Brunetta AL, Stoyanova_Beninska V, Penttilä K, Magrelli A. *Br J Clin Pharmacol*. 2021 Mar 27. doi: 10.1111/bcp.14838.

Regulatory Standards in Orphan Medicinal Product Designation in the EU. Tsigkos S, Mariz S, Sheean ME, Larsson K, Magrelli A, Stoyanova_Beninska V. *Front Med (Lausanne)*. 2021 Jun 25;8:698534. doi: 10.3389/fmed.2021.698534.

Defining Satisfactory Methods of Treatment in Rare Diseases When Evaluating Significant Benefit_The EU Regulator's Perspective. Sheean ME, Naumann_Winter F, Capovilla G, Kalland ME, Malikova E, Mariz S, Matusevicius D, Nistico R, Schwarzer_Daum B, Tsigkos S, Tzogani K, Larsson K, Magrelli A, Stoyanova_Beninska V. *Front Med (Lausanne)*. 2021 Aug 27;8:744625. doi: 10.3389/fmed.2021.744625.

Orphan Medicinal Products for the Treatment of Pancreatic Cancer: Lessons Learned From Two Decades of Orphan Designation. Mulder J, van Rossum T, Mariz S, Magrelli A, de Boer A, Pasmooij AMG, Stoyanova_Beninska V. *Front Oncol*. 2021 Dec 20;11:809035. doi: 10.3389/fonc.2021.809035.

Real_World Data and Budget Impact Analysis (BIA): Evaluation of a Targeted Next_Generation Sequencing Diagnostic Approach in Two Orthopedic Rare Diseases. Pedrini E, Negro A, Di Brino E, Pecoraro V, Sculco C, Abelli E, Gnoli M, Magrelli A, Sangiorgi L, Cicchetti A. *Front Pharmacol*. 2022 Jun 6;13:785705. doi: 10.3389/fphar.2022.785705.

Naumann_Winter F, Wolter F, Hermes U, Malikova E, Lilienthal N, Meier T, Kalland ME, Magrelli A. Licensing of Orphan Medicinal Products_Use of Real_World Data and Other External Data on Efficacy Aspects in Marketing Authorization Applications Concluded at the European Medicines Agency Between 2019 and 2021. *Front Pharmacol*. 2022 Aug 11;13:920336. doi: 10.3389/fphar.2022.920336. PMID: 36034814; PMCID: PMC9413272.

Giorgioni L, Ambrosone A, Cometa MF, Salvati AL, Magrelli A. CAR-T State of the Art and Future Challenges, A Regulatory Perspective. *International Journal of Molecular Sciences*. 2023; 24(14):11803. <https://doi.org/10.3390/ijms241411803>.

Palomo GM, Pose-Boirazian T, Naumann-Winter F, Costa E, Duarte DM, Kalland ME, Malikova E, Matusevicius D, Vitezic D, Larsson K, Magrelli A, Stoyanova-Beninska V, Mariz S. The European landscape for gene therapies in orphan diseases: 6-year experience with the EMA Committee for Orphan Medicinal Products. *Mol Ther*. 2023 Dec 6;31(12):3414-3423. doi: 10.1016/j.ymthe.2023.09.020. Epub 2023 Oct 4. PMID: 37794679; PMCID: PMC10727954.

Kalland ME, Pose-Boirazian T, Palomo GM, Naumann-Winter F, Costa E, Matusevicius D, Duarte DM, Malikova E, Vitezic D, Larsson K, Magrelli A, Stoyanova-Beninska V, Mariz S. Advancing rare disease treatment: EMA's decade-long insights into engineered adoptive cell therapy for rare cancers and orphan designation. *Gene Ther*. 2024 Jul;31(7-8):366-377. doi: 10.1038/s41434-024-00446-0. Epub 2024 Mar 14. PMID: 38480914; PMCID: PMC11257961.

Moseley J, Leest T, Larsson K, Magrelli A, Stoyanova-Beninska V. Inherited retinal dystrophies and orphan designations in the European Union. *Eur J Ophthalmol*. 2024 Mar 18;11206721241236214. doi: 10.1177/11206721241236214. Epub ahead of print. PMID: 38500388.

Giorgioni L, Ambrosone A, Cometa MF, Salvati AL, Nisticò R, Magrelli A. Revolutionizing CAR T-Cell Therapies: Innovations in Genetic Engineering and Manufacturing to Enhance Efficacy and Accessibility. *Int J Mol Sci*. 2024 Sep

Projects

Memberships

- _ Member of the Significant Benefit working group of the COMP at EMA (2015)
- _ Member of the Pre_clinical working group of the COMP at EMA (2015)
- _ Member of the working group COMP and PDCO of the EMA (2013)
- _ Member of the working group for the EU presidency for the organization of the Joint informal meeting PDCO and COMP Organised by Italian Medicine Agency and Ospedale Pediatrico Bambino Gesù di Roma (Italy) 2012
- _ Member of the Working Group for the preparation and management of the Italian Presidency of the European Union 2014. For issues relating to medicinal products for human use.
- _ Member of The Science Advisory Board since 2010 (<http://www.scienceboard.net/profile/86107>)

Other Relevant Information