

**PhD in
Molecular Medicine and Medical Biotechnology**
**The research fellowships available for PhD students of the 40th cycle will be n. 11,
of which:
n. 3 related to the following three projects:**

Mario Capasso

Identification and functional characterization of genetic mutations that promote the development of pediatric tumors (D.M. 630/2024 - Dottorati Innovativi che rispondono ai fabbisogni delle imprese)

- Avitabile M, Bonfiglio F, Aievola V, Cantalupo S, Maiorino T, Lasorsa VA, Domenicotti C, Marengo B, Zbyněk H, Vojtěch A, Iolascon A, Capasso M. Single-cell transcriptomics of neuroblastoma identifies chemoresistance-associated genes and pathways. *Comput Struct Biotechnol J*. 2022 Aug 18;20:4437-4445.
- Lasorsa VA, Montella A, Cantalupo S, Tirelli M, de Torres C, Aveic S, Tonini GP, Iolascon A, Capasso M. Somatic Mutations Enriched in Cis-Regulatory Elements Affect Genes Involved in Embryonic Development and Immune System Response in Neuroblastoma. *Cancer Res*. 2022 Apr 1;82(7):1193-1207.
- Capasso M, Lasorsa VA, Cimmino F, Avitabile M, Cantalupo S, Montella A, De Angelis B, Morini M, de Torres C, Castellano A, Locatelli F, Iolascon A. Transcription Factors Involved in Tumorigenesis Are Over-Represented in Mutated Active DNA-Binding Sites in Neuroblastoma. *Cancer Res*. 2020 Feb 1;80(3):382-393.

Marina De Rosa

Identification of the molecular basis and new diagnostic, prognostic and predictive markers in gastrointestinal and pelvic tumors (D.M. 630/2024 - Dottorati Innovativi che rispondono ai fabbisogni delle imprese)

- Nolano A, Rossi GB, D'Angelo V, Liccardo R, Rosa M, Izzo P, Duraturo F. Germline Variants in MLH1 and ATM Genes in a Young Patient with MSI-H in a Precancerous Colonic Lesion. *Int J Mol Sci*. 2023 Mar 22;24(6):5970.
- Liccardo R, Sessa R, Trombetti S, De Rosa M, Izzo P, Grosso M, Duraturo F. MiR-137 Targets the 3' Untranslated Region of MSH2: Potential Implications in Lynch Syndrome-Related Colorectal Cancer. *Cancers (Basel)*. 2021 Sep 17;13(18):4662.
- Cerasuolo A, Cammarota F, Duraturo F, Staiano A, Martinelli M, Miele E, Izzo P, De Rosa M. Implications of Splicing Alterations in the Onset and Phenotypic Variability of a Family with Subclinical Manifestation of Peutz-Jeghers Syndrome: Bioinformatic and Molecular Evidence. *Int J Mol Sci*. 2020 Nov 2;21(21):8201.

Barbara Lombardo

Identification of novel variants involved in neurological disorders and possible therapeutic options (D.M. 630/2024 - Dottorati Innovativi che rispondono ai fabbisogni delle imprese)

- Ranieri A, La Monica I, Di Iorio MR, Lombardo B, Pastore L. Genetic Alterations in a Large Population of Italian Patients Affected by Neurodevelopmental Disorders. *Genes (Basel)*. 2024 Mar 28;15(4):427.
- Lombardo B, Pagani M, De Rosa A, Nunziato M, Migliarini S, Garofalo M, Terrile M, D'Argenio V, Galbusera A, Nuzzo T, Ranieri A, Vitale A, Leggiero E, Di Maio A, Barsotti N, Borello U, Napolitano F, Mandarinò A, Carotenuto M, Heresco-Levy U, Pasqualetti M, Malatesta P, Gozzi A, Errico F, Salvatore F, Pastore L, Usiello A. D-aspartate oxidase gene duplication induces social recognition memory deficit in mice and intellectual disabilities in humans. *Transl Psychiatry*. 2022 Aug 1;12(1):305.
- Ranieri A, Veneruso I, La Monica I, Pascale MG, Pastore L, D'Argenio V, Lombardo B. Combined aCGH and Exome Sequencing Analysis Improves Autism Spectrum Disorders Diagnosis: A Case Report. *Medicina (Kaunas)*. 2022 Apr 7;58(4):522.

and the other 8 to be chosen among the following projects:

Massimiliano Caiazzo

Transdifferentiation of somatic cells into dopamine neurons via modulation of non-coding RNAs

- Pulcrano S, De Gregorio R, De Sanctis C, Volpicelli F, Piscitelli RM, Speranza L, Perrone-Capano C, di Porzio U, Caiazzo M, Martini A, Giacomet C, Medina D, Awatramani R, Viggiano D, Federici M, Mercuri NB, Guatteo E, Bellenchi GC. miR-218 Promotes Dopaminergic Differentiation and Controls Neuron Excitability and Neurotransmitter Release through the Regulation of a Synaptic-Related Genes Network. *J Neurosci*. 2023 Nov 29;43(48):8104-8125.
- Douka S, Brandenburg LE, Casadidio C, Walther J, Garcia BBM, Spanholtz J, Raimo M, Hennink WE, Mastrobattista E, Caiazzo M. Lipid nanoparticle-mediated messenger RNA delivery for ex vivo engineering of natural killer cells. *J Control Release*. 2023 Sep;361:455-469.
- Caiazzo M, Dell'Anno MT, Dvoretzkova E, Lazarevic D, Taverna S, Leo D, Sotnikova TD, Menegon A, Roncaglia P, Colciago G, Russo G, Carninci P, Pezzoli G, Gainetdinov RR, Gustinich S, Dityatev A, Broccoli V. Direct generation of functional dopaminergic neurons from mouse and human fibroblasts. *Nature*. 2011 Jul 3;476(7359):224-7.

Irene Cantone

Understanding chromatin-mediated epigenetic mechanisms of sex bias in Multiple Sclerosis by X chromosome inactivation

- Credendino SC, Neumayer C, Cantone I. Genetics and Epigenetics of Sex Bias: Insights from Human Cancer and Autoimmunity. *Trends Genet*. 2020 Sep;36(9):650-663.
- Cantone I, Dharmalingam G, Chan YW, Kohler AC, Lenhard B, Merckenschlager M, Fisher AG. Allele-specific analysis of cell fusion-mediated pluripotent reprogramming reveals distinct and predictive susceptibilities of human X-linked genes to reactivation. *Genome Biol*. 2017 Jan 25;18(1):2.
- Cantone I, Bagci H, Dormann D, Dharmalingam G, Nesterova T, Brockdorff N, Rougeulle C, Vallot C, Heard E, Chaligne R, Merckenschlager M, Fisher AG. Ordered chromatin changes and human X chromosome reactivation by cell fusion-mediated pluripotent reprogramming. *Nat Commun*. 2016 Aug 10;7:12354.

Immacolata Castellano

Marine-inspired sulfur-containing amino acids as novel and eco-safe protective molecules against cellular damage

- Brancaccio M, Milito A, Viegas CA, Palumbo A, Simes DC, Castellano I. First evidence of dermoprotective activity of marine sulfur-containing histidine compounds. *Free Radic Biol Med*. 2022 Nov 1;192:224-234.
- Luccarini A, Zuccarotto A, Galeazzi R, Morresi C, Masullo M, Castellano I, Damiani E. Insights on the UV-Screening Potential of Marine-Inspired Thiol Compounds. *Mar Drugs*. 2023 Dec 19;22(1):2.
- Brancaccio M, Russo M, Masullo M, Palumbo A, Russo GL, Castellano I. Sulfur-containing histidine compounds inhibit γ -glutamyl transpeptidase activity in human cancer cells. *J Biol Chem*. 2019 Oct 4;294(40):14603-14614.

Fabio Cattaneo

Unraveling the role of Formyl Peptide Receptors in cancer therapy resistance and cell metabolism reprogramming.

- Pecchillo Cimmino, T., Panico, I., Scarano, S., Stornaiuolo, M., Esposito, G., Ammendola, R., & Cattaneo, F. (2024). Formyl Peptide Receptor 2-Dependent cPLA2 and 5-LOX Activation Requires a Functional NADPH Oxidase. *Antioxidants (Basel, Switzerland)*, 13(2), 220. <https://doi.org/10.3390/antiox13020220>
- Cimmino TP, Pagano E, Stornaiuolo M, Esposito G, Ammendola R, Cattaneo F. Formyl-peptide receptor 2 signalling triggers aerobic metabolism of glucose through Nox2-dependent modulation of pyruvate dehydrogenase activity. *Open Biol*. 2023;13(10):230336. doi:10.1098/rsob.230336
- Pecchillo Cimmino T, Pagano E, Stornaiuolo M, Esposito G, Ammendola R, Cattaneo F. Formyl-Peptide Receptor 2 Signaling Redirects Glucose and Glutamine into Anabolic Pathways in Metabolic Reprogramming of Lung Cancer Cells. *Antioxidants (Basel)*. 2022;11(9):1692. Published 2022 Aug 29. doi:10.3390/antiox11091692

Lorenzo Chiariotti

Epigenomics and DNA methylation dynamics in brain physiology and pathology. Epigenetics of embryonic stem cells and brain cells differentiation.

- Cuomo M, Coretti L, Costabile D, Della Monica R, De Riso G, Buonaiuto M, Trio F, Bravaccio C, Visconti R, Berni Canani R, Chiariotti L, Lembo F. Host fecal DNA specific methylation signatures mark gut dysbiosis and inflammation in children affected by autism spectrum disorder. *Sci Rep.* 2023 Oct 24;13(1):18197.
- Della Monica R, Buonaiuto M, Cuomo M, Pagano C, Trio F, Costabile D, de Riso G, Cicala FS, Raia M, Franca RA, Del Basso De Caro M, Sorrentino D, Navarra G, Coppola L, Tripodi L, Pastore L, Hench J, Frank S, Schonauer C, Catapano G, Bifulco M, Chiariotti L, Visconti R. Targeted inhibition of the methyltransferase SETD8 synergizes with the Wee1 inhibitor adavosertib in restraining glioblastoma growth. *Cell Death Dis.* 2023 Sep 27;14(9):638.
- Jurmeister P, et al. DNA methylation-based classification of sinonasal tumors. *Nat Commun.* 2022 Nov 28;13(1):7148.

Claudia De Lorenzo

Generation and characterization of novel human antibodies for therapy of cancer and cardiovascular diseases

- Sasso E, D'Avino C, Passariello M, D'Alise AM, Siciliano D, Esposito ML, Froehlich G, Cortese R, Scarselli E, Zambrano N, Nicosia A, De Lorenzo C. Massive parallel screening of phage libraries for the generation of repertoires of human immunomodulatory monoclonal antibodies. *MAbs.* 2018 Oct;10(7):1060-1072.
- Passariello M, Yoshioka A, Takahashi K, Hashimoto SI, Inoue T, Nakamura K, De Lorenzo C. Novel tri-specific tribodies induce strong T cell activation and anti-tumor effects in vitro and in vivo. *J Exp Clin Cancer Res.* 2022 Sep 7;41(1):269.
- Passariello M, Yoshioka A, Takahashi K, Hashimoto SI, Rapuano Lembo R, Manna L, Nakamura K, De Lorenzo C. Novel Bi-Specific Immuno-Modulatory Tribodies Potentiate T Cell Activation and Increase Anti-Tumor Efficacy. *Int J Mol Sci.* 2022 Mar 23;23(7):3466.

Paola Costanzo

Regulation of multiple signaling pathways by ZNF224 converges on control of cell and DNA plasticity during tumorigenesis.

- Catapano, R., Sepe, L., Toscano, E., Paoletta, G., Chiurazzi, F., Barbato, S. P., Bruzzese, D., Arianna, R., Grosso, M., Romano, S., Romano, M. F., Costanzo, P., & Cesaro, E. (2022). Biological relevance of ZNF224 expression in chronic lymphocytic leukemia and its implication IN NF- κ B pathway regulation. *Frontiers in molecular biosciences*, 9, 1010984.
- Cesaro, E., Pastore, A., Polverino, A., Manna, L., Divisato, G., Quintavalle, C., Sanzo, M. D., Faniello, M. C., Grosso, M., & Costanzo, P. (2021). ZNF224 is a mediator of TGF- β pro-oncogenic function in melanoma. *Human molecular genetics*, 30(22), 2100–2109.
- Cesaro, E., Pastore, A., Polverino, A., Manna, L., Divisato, G., Quintavalle, C., Sanzo, M. D., Faniello, M. C., Grosso, M., & Costanzo, P. (2021). ZNF224 is a mediator of TGF- β pro-oncogenic function in melanoma. *Human molecular genetics*, 30(22), 2100–2109.

Gabriella De Vita

Modeling rare inherited neurological disorders for identification of pathogenetic mechanisms and development of novel diagnostic tools.

- Credendino SC, Bellone ML, Lewin N, Amendola E, Sanges R, Basu S, Sepe R, Decaussin-Petrucci M, Tinto N, Fusco A, De Felice M, De Vita G. A ceRNA Circuitry Involving the Long Noncoding RNA Khl14-AS, Pax8, and Bcl2 Drives Thyroid Carcinogenesis. *Cancer Res.* 2019 Nov 15;79(22):5746-5757.
- Cavaliere E, Gortan AJ, Passon N, Fabbro D, Marin D, Carecchio M, Baldan F, Credendino SC, Gallo R, Cogo P, Damante G, De Vita G. NKX2.1 run-on mutation associated to familial brain-lung-thyroid syndrome. *Clin Genet.* 2021 Jul;100(1):114-116. doi: 10.1111/cge.13961.
- Mollo N, Esposito M, Aurilia M, Scognamiglio R, Accarino R, Bonfiglio F, Cicatiello R, Charalambous M, Procaccini C, Micillo T, Genesio R, Cali G, Secondo A, Paladino S, Matarese G, De Vita G, Conti A, Nitsch L, Izzo A. Human Trisomic iPSCs from Down Syndrome Fibroblasts Manifest Mitochondrial Alterations Early during Neuronal Differentiation. *Biology (Basel).* 2021 Jun 30;10(7):609.

Francesca Duraturo

Identification of new diagnostic and prognostic markers of pediatric tumors by comprehensive genomic and imaging approaches

- Liccardo R, Lambiase M, Nolano A, De Rosa M, Izzo P, Duraturo F. Significance of rare variants in genes involved in the pathogenesis of Lynch syndrome. *Int J Mol Med*. 2022 Jun;49(6):81.
- Nolano A, Medugno A, Trombetti S, Liccardo R, De Rosa M, Izzo P, Duraturo F. Hereditary Colorectal Cancer: State of the Art in Lynch Syndrome. *Cancers (Basel)*. 2022 Dec 23;15(1):75.
- Liccardo R, Della Ragione C, Mitilini N, De Rosa M, Izzo P, Duraturo F. Novel variants of unknown significance in the *PMS2* gene identified in patients with hereditary colon cancer. *Cancer Manag Res*. 2019 Jul 18;11:6719-6725

Gabriella Esposito

Retinal and skin disorders as primary targets of innovative therapies in rare genetic diseases characterized by nonsense mutations

- D'Esposito F, Randazzo V, Vega MI, Esposito G, et al. RP1 Dominant p.Ser740* Pathogenic Variant in 20 Knowingly Unrelated Families Affected by Rod-Cone Dystrophy: Potential Founder Effect in Western Sicily. *Medicina (Kaunas)*. 2024 Feb 1;60(2):254.
- Karali M, Testa F, Di Iorio V, Torella A, Zeuli R, Scarpato M, Romano F, Onore ME, Pizzo M, Melillo P, Brunetti-Pierri R, Passerini I, Pelo E, Cremers FPM, Esposito G, Nigro V, Simonelli F, Banfi S. Genetic epidemiology of inherited retinal diseases in a large patient cohort followed at a single center in Italy. *Sci Rep*. 2022 Dec 2;12(1):20815.
- Fioretti T, Auricchio L, Piccirillo A, Vitiello G, Ambrosio A, Cattaneo F, Ammendola R, Esposito G. Multi-Gen Next-Generation Sequencing for Molecular Diagnosis of Autosomal Recessive Congenital Ichthyosis: A Genotype-Phenotype Study of Four Italian Patients. *Diagnostics (Basel)*. 2020 Nov 24;10(12):995.

Giuliana Fortunato

Identification of genetic and circulating biomarkers associated with therapy response in patients with Familial hypercholesterolemia or at high cardiovascular risk

- D'Erasmo L, Bini S, Casula M, Gazzotti M, Bertolini S, Calandra S, Tarugi P, Averna M, Iannuzzo G, Fortunato G, Catapano AL, Arca M; LIPIGEN HoFH group. Contemporary lipid-lowering management and risk of cardiovascular events in homozygous familial hypercholesterolaemia: insights from the Italian LIPIGEN Registry. *Eur J Prev Cardiol*. 2024 Feb 20;zwae036. doi: 10.1093/eurjpc/zwae036.
- European Atherosclerosis Society Familial Hypercholesterolaemia Studies Collaboration. Familial hypercholesterolaemia in children and adolescents from 48 countries: a cross-sectional study. *Lancet*. 2024 Jan 6;403(10421):55-66. doi: 10.1016/S0140-6736(23)01842-1.
- Di Taranto MD, Giacobbe C, Palma D, Iannuzzo G, Gentile M, Calcaterra I, Guardamagna O, Auricchio R, Di Minno MND, Fortunato G. Genetic spectrum of familial hypercholesterolemia and correlations with clinical expression: Implications for diagnosis improvement. *Clin Genet*. 2021 Nov;100(5):529-541

Domenico Grieco

Dissecting the compartmentalized control of Cdk1 activity in the physiopathology of chromosome segregation

- Serpico AF, Pisauo C, Grieco D. On the assembly of the mitotic spindle, bistability and hysteresis. *Cell Mol Life Sci*. 2023 Mar 8;80(4):83. doi: 10.1007/s00018-023-04727-6.
- Serpico AF, Febbraro F, Pisauo C, Grieco D. Compartmentalized control of Cdk1 drives mitotic spindle assembly. *Cell Rep*. 2022 Jan 25;38(4):110305.
- Serpico AF, Grieco D. Recent advances in understanding the role of Cdk1 in the Spindle Assembly Checkpoint. *F1000Res*. 2020 Jan 28;9:F1000 Faculty Rev-57.

Michela Grosso

Integration of transcriptomics, lipidomics and metabolomics analyses to dissect the leukemogenic potency of GATA-1S, the shorter isoform of the transcriptional factor GATA-1

- Sessa R, Trombetti S, Bianco AL, Amendola G, Catapano R, Cesaro E, Petruzzello F, D'Armiento M, Maruotti GM, Menna G, Izzo P, Grosso M. miR-1202 acts as anti-oncomiR in myeloid leukaemia by down-modulating GATA-1s expression. *Open Biol*. 2024 Feb;14(2):230319.
- Trombetti S, Iaccarino N, Riccio P, Sessa R, Catapano R, Salvatore M, Luka S, de Nicola S, Izzo P, Roperto S, Maddalena P, Randazzo A, Grosso M. Over-Expressed GATA-1s, the Short Isoform of the

Hematopoietic Transcriptional Factor GATA-1, Inhibits Ferroptosis in K562 Myeloid Leukemia Cells by Preventing Lipid Peroxidation. *Antioxidants* (Basel). 2023 Feb 21;12(3):537.

- Trombetti S, Sessa R, Catapano R, Rinaldi L, Lo Bianco A, Feliciello A, Izzo P, Grosso M. Exploring the Leukemogenic Potential of GATA-1s, the Shorter Isoform of GATA-1: Novel Insights into Mechanisms Hampering Respiratory Chain Complex II Activity and Limiting Oxidative Phosphorylation Efficiency. *Antioxidants* (Basel). 2021 Oct 12;10(10):1603.

Annalisa Lamberti

Design of hybrid nanoparticle devices based on mesoporous silica nanoparticles loaded with Photoluminescent Ruthenium(II) Complexes, for the selective diagnosis and therapy of cancer.

- Carrese B, Cavallini C, Armanetti P, Silvestri B, Cali G, Luciani G, Sanità G, Menichetti L, Lamberti A. Hybrid Nanoparticle-Assisted Chemo-Photothermal Therapy and Photoacoustic Imaging in a Three-Dimensional Breast Cancer Cell Model. *Int J Mol Sci*. 2023 Dec 12;24(24):17374.
- Carrese B, Cavallini C, Sanità G, Armanetti P, Silvestri B, Cali G, Pota G, Luciani G, Menichetti L, Lamberti A. Controlled Release of Doxorubicin for Targeted Chemo-Photothermal Therapy in Breast Cancer HS578T Cells Using Albumin Modified Hybrid Nanocarriers. *Int J Mol Sci*. 2021 Oct 18;22(20):11228.
- Sanità G, Armanetti P, Silvestri B, Carrese B, Cali G, Pota G, Pezzella A, d'Ischia M, Luciani G, Menichetti L, Lamberti A. Albumin-Modified Melanin-Silica Hybrid Nanoparticles Target Breast Cancer Cells via a SPARC-Dependent Mechanism. *Front Bioeng Biotechnol*. 2020 Jul 8;8:765.

Danilo S. Matassa

The two-faced role of Syndesmos: riboregulation of DNA damage response

- Avolio R, Agliarulo I, Criscuolo D, Sarnataro D, Auriemma M, De Lella S, Pennacchio S, Calice G, Ng MY, Giorgi C, Pinton P, Cooperman BS, Landriscina M, Esposito F, Matassa DS. Cytosolic and mitochondrial translation elongation are coordinated through the molecular chaperone TRAP1 for the synthesis and import of mitochondrial proteins. *Genome Res*. 2023 Aug;33(8):1242-1257.
- Avolio R, Järvelin AI, Mohammed S, Agliarulo I, Condelli V, Zoppoli P, Calice G, Sarnataro D, Bechara E, Tartaglia GG, Landriscina M, Castello A, Esposito F, Matassa DS. Protein Syndesmos is a novel RNA-binding protein that regulates primary cilia formation. *Nucleic Acids Res*. 2018 Dec 14;46(22):12067-12086.
- Matassa DS, Amoroso MR, Agliarulo I, Maddalena F, Sisinni L, Paladino S, Romano S, Romano MF, Sagar V, Loreni F, Landriscina M, Esposito F. Translational control in the stress adaptive response of cancer cells: a novel role for the heat shock protein TRAP1. *Cell Death Dis*. 2013 Oct 10;4(10):e851.

Giuseppe Matarese

A metabolic basis for immunological self tolerance

- Matarese G. The link between obesity and autoimmunity. *Science*. 2023 Mar 31;379(6639):1298-1300.
- Procaccini C, Garavelli S, Carbone F, Di Silvestre D, La Rocca C, Greco D, Colamatteo A, Lepore MT, Russo C, De Rosa G, Faicchia D, Prattichizzo F, Grossi S, Campomenosi P, Buttari F, Mauri P, Uccelli A, Salvetti M, Brescia Morra V, Vella D, Galgani M, Mottola M, Zuccarelli B, Lanzillo R, Maniscalco GT, Centonze D, de Candia P, Matarese G. Signals of pseudo-starvation unveil the amino acid transporter SLC7A11 as key determinant in the control of Treg cell proliferative potential. *Immunity*. 2021 Jul 13;54(7):1543-1560.e6.
- Palma C, La Rocca C, Gigantino V, Aquino G, Piccaro G, Di Silvestre D, Brambilla F, Rossi R, Bonacina F, Lepore MT, Audano M, Mitro N, Botti G, Bruzzaniti S, Fusco C, Procaccini C, De Rosa V, Galgani M, Alviggi C, Puca A, Grassi F, Rezzonico-Jost T, Norata GD, Mauri P, Netea MG, de Candia P, Matarese G. Caloric Restriction Promotes Immunometabolic Reprogramming Leading to Protection from Tuberculosis. *Cell Metab*. 2021 Feb 2;33(2):300-318.e12.

Carmela Nardelli

Integrative omics approaches to investigate the human microbiome and its role in inflammatory status of metabolic and cancer diseases.

- Nardelli C, Aveta A, Pandolfo SD, Tripodi L, Russo F, Imbimbo C, Castaldo G, Pastore L. Microbiome Profiling in Bladder Cancer Patients Using the First-morning Urine Sample. *Eur Urol Open Sci*. 2023 Dec 19;59:18-26.
- Nardelli C, Granata I, Nunziato M, Setaro M, Carbone F, Zulli C, Pilone V, Capoluongo ED, De Palma GD, Corcione F, Matarese G, Salvatore F, Sacchetti L. 16S rRNA of Mucosal Colon Microbiome and

CCL2 Circulating Levels Are Potential Biomarkers in Colorectal Cancer. *Int J Mol Sci.* 2021 Oct 4;22(19):10747.

- Nardelli C, Granata I, D'Argenio V, Tramontano S, Compare D, Guarracino MR, Nardone G, Pilone V, Sacchetti L. Characterization of the Duodenal Mucosal Microbiome in Obese Adult Subjects by 16S rRNA Sequencing. *Microorganisms.* 2020 Mar 29;8(4):485.

Alfredo Nicosia

Encoded Immune Enhancers and Inhibitors for Gene Therapy and Genetic Vaccines: mechanisms and applications

- D'Alise AM, Leoni G, De Lucia M, Langone F, Nocchi L, Tucci FG, Micarelli E, Cotugno G, Troise F, Garzia I, Vitale R, Bignone V, Di Matteo E, Bartolomeo R, Charych DH, Lahm A, Zalevsky J, Nicosia A, Scarselli E. Maximizing cancer therapy via complementary mechanisms of immune activation: PD-1 blockade, neoantigen vaccination, and Tregs depletion. *J Immunother Cancer.* 2021 Nov;9(11):e003480.
- D'Alise AM, Nocchi L, Garzia I, Seclì L, Infante L, Troise F, Cotugno G, Allocca S, Romano G, Lahm A, Leoni G, Sasso E, Scarselli E, Nicosia A. Adenovirus Encoded Adjuvant (AdEnA) anti-CTLA-4, a novel strategy to improve Adenovirus based vaccines against infectious diseases and cancer. *Front Immunol.* 2023 Apr 26;14:1156714.
- Troise F, Leoni G, Sasso E, Del Sorbo M, Esposito M, Romano G, Allocca S, Froehlich G, Cotugno G, Capone S, Folgori A, Scarselli E, D'Alise AM, Nicosia A. Prime and pull of T cell responses against cancer-exogenous antigens is effective against CPI-resistant tumors. *Mol Ther Oncol.* 2024 Jan 10;32(1):200760.

Chiara Pagliuca

Improving the knowledge about Helicobacter pylori infection: evaluation of direct/indirect effect of commensal microbiota on H. pylori virulence to develop innovative therapeutic solutions.

- Pither MD, Illiano A, Pagliuca C, Jacobson A, Mantova G, Stornaiuolo A, Colicchio R, Vitiello M, Pinto G, Silipo A, Fischbach MA, Salvatore P, Amoresano A, Molinaro A, Di Lorenzo F. Bacteroides thetaiotaomicron rough-type lipopolysaccharide: The chemical structure and the immunological activity. *Carbohydr Polym.* 2022 Dec 1;297:120040.
- Liotti F, Marotta M, Sorriento D, Pagliuca C, Caturano V, Mantova G, Scaglione E, Salvatore P, Melillo RM, Prevete N. Probiotic Lactobacillus rhamnosus GG (LGG) restrains the angiogenic potential of colorectal carcinoma cells by activating a proresolving program via formyl peptide receptor 1. *Mol Oncol.* 2022 Aug;16(16):2959-2980.
- Labruna G, Nanayakkara M, Pagliuca C, Nunziato M, Iaffaldano L, D'Argenio V, Colicchio R, Budelli AL, Nigro R, Salvatore P, Barone MV, Sacchetti L. Celiac disease-associated *Neisseria flavescens* decreases mitochondrial respiration in CaCo-2 epithelial cells: Impact of Lactobacillus paracasei CBA L74 on bacterial-induced cellular imbalance. *Cell Microbiol.* 2019 Aug;21(8):e13035.

Silvia Parisi

Investigating molecular mechanisms of human genetic diseases using iPSC-based models

- Gambardella J, Fiordelisi A, Cerasuolo FA, Buonaiuto A, Avvisato R, Viti A, Sommella E, Merciai F, Salviati E, Campiglia P, D'Argenio V, Parisi S, Bianco A, Spinelli L, Di Vaia E, Cuocolo A, Pisani A, Riccio E, Di Risi T, Ciccarelli M, Santulli G, Sorriento D, Iaccarino G. Experimental evidence and clinical implications of Warburg effect in the skeletal muscle of Fabry disease. *iScience.* 2023 Jan 27;26(3):106074.
- Concilli M, Petruzzelli R, Parisi S, Catalano F, Sirci F, Napolitano F, Renda M, Galletta LJV, Di Bernardo D, Polishchuk RS. Pharmacoproteomics pinpoints HSP70 interaction for correction of the most frequent Wilson disease-causing mutant of ATP7B. *Proc Natl Acad Sci U S A.* 2020 Dec 22;117(51):32453-32463.
- Manganelli F, Parisi S, Nolano M, Miceli F, Tozza S, Pisciotta C, Iodice R, Provitera V, Cicatiello R, Zuchner S, Tagliatela M, Russo T, Santoro L. Insights into the pathogenesis of ATP1A1-related CMT disease using patient-specific iPSCs. *J Peripher Nerv Syst.* 2019 Dec;24(4):330-339.

Fabiana Passaro

Immunomodulation for heart regeneration: supporting direct cardiac reprogramming via the synergistic activation of immune response

- Testa, G., Di Benedetto, G., & Passaro, F. (2021). Advanced Technologies to Target Cardiac Cell Fate Plasticity for Heart Regeneration. *International journal of molecular sciences*, 22(17), 9517.
- Passaro, F., Tocchetti, C. G., Spinetti, G., Paudice, F., Ambrosone, L., Costagliola, C., Cacciatore, F., Abete, P., & Testa, G. (2021). Targeting fibrosis in the failing heart with nanoparticles. *Advanced drug delivery reviews*, 174, 461–481
- Testa, G., Russo, M., Di Benedetto, G., Barbato, M., Parisi, S., Pirozzi, F., Tocchetti, C. G., Abete, P., Bonaduce, D., Russo, T., & Passaro, F. (2020). Bmi1 inhibitor PTC-209 promotes Chemically-induced Direct Cardiac Reprogramming of cardiac fibroblasts into cardiomyocytes. *Scientific reports*, 10(1), 7129.

Michele Pinelli

Investigating the Genetic Causes of Neurodevelopmental Disorders Using Integrated Multiomics Analysis

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Maurizio Renna

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