

PERSONAL INFORMATION

Silvia Pomella



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WORKING EXPERIENCES

(01/2018 – Today) **Oncology Post-Doc at Bambino Gesù Children's Hospital, IRCCS, Rome, Italy**

Department of Oncohematology, Bambino Gesù Children's Hospital, IRCCS, Rome, Italy (Head Prof. Franco Locatelli). Epigenetics of Pediatric Sarcoma's Laboratory (PI Dr. Rossella Rota).

- Laboratory methods application: 2D and 3D cancer cell culture, plasmid DNA extraction, viral preparation, cell transduction and establishment of engineered stable cell lines, cell transfection, CRISPR-Cas9 system, Genome-wide pooled CRISPR screening, cloning techniques, protein, RNA and DNA extraction from cultured cells, PCR, RT-PCR, qRT-PCR, subcellular protein fractionation, western blot, immunofluorescence, Proximity ligation assay, ChIP, re-ChIP and Co-IP, High-throughput drug screening, proteomic and phospho-proteomic samples preparation, Bioinformatic dataset analyses (ChIP-seq, RNA-seq, cell dependency analysis).

Theme of projects: 1) Identification of resistance mechanisms to BRD4 inhibition in pediatric rhabdomyosarcoma and BET bromodomain proteins degraders as potential agents for targeted therapy in high-risk Rhabdomyosarcoma. 2) Role of E3-Ligase SKP2 in myogenic differentiation of Rhabdomyosarcoma.

(03/2018 – 04/2019) **Oncology Post-Doc at National Institute of Health (NIH), Bethesda, USA**

Oncogenomics Branch, Center for Cancer Research (CCR), National Institute of Health (NIH) (PI Dr. Javed Khan).

- Laboratory methods application: 2D cancer cell culture, plasmid DNA extraction, viral preparation, cell transduction, CRISPR-Cas9 system, Genome-wide pooled CRISPR screening, protein, RNA and DNA extraction from cultured cells, mice and human tissues, PCR, RT-PCR, qRT-PCR, western blot, ChIP, Co-IP, High-throughput drug screening, Bioinformatic analyses (ChIP-seq, RNA-seq).

Theme of projects: 1) Enhancers deregulation in alveolar PAX3-FOXO1 Rhabdomyosarcoma.

(02/2015 – 12/2017) **Oncology PhD student in Cellular and Molecular Biology, at Bambino Gesù Children's Hospital, IRCCS, Rome, Italy**

Department of Oncohematology, (Head Prof. Franco Locatelli). Epigenetics of Pediatric Sarcoma's Laboratory (PI Dr. Rossella Rota).

- Laboratory methods application: 2D cancer cell culture, clonogenic, migration and invasion, anchorage-independent assays, plasmid DNA extraction, viral preparation, cell transduction and transfection, protein, RNA and DNA extraction from cultured cells, PCR, RT-PCR, qRT-PCR, western blot, immunofluorescence, ChIP, Co-IP.

Theme of project: Study of the role of SKP2, SNAI1/2 and epigenetics molecules on the tumorigenic properties of Rhabdomyosarcoma cells.

(01/2014 – 12/2014) **Post Lauream Researcher at Istituto Dermopatico dell'Immacolata (IDI) Rome, Italy**
 Department of Vascular Pathology (Head Dr. Maurizio Colognesi Capogrossi)
 Epigenetics Laboratory (PI Dr. Roberta Ciarapica).

- Laboratory methods application: 2D primary and immortalized keratinocytes and fibroblasts cell culture, clonogenic, migration and invasion, anchorage-independent assays, drug screening, cells viability, plasmid DNA extraction, cell transfection, protein, RNA and DNA extraction from cultured cells and human tissues, PCR, RT-PCR, qRT-PCR, subcellular protein fractionation, western blot.

Theme of Project: Role of Histone Lysine Methyltransferase EZH2 and Histone Lysine Demethylase JMJD3 during wound healing in diabetic and artheriopathic foot ulcer patients.

(11/2012 – 01/2014) **Scientific and Data Manager Collaborator at Policlinico A. Gemelli, Rome, Italy**
 Natural Regulation of Fertility (Head Prof. E. Giacchi)

- Methods application: Collection, management and organization of clinical data from studies on human fertility.

EDUCATION AND TRAINING

(10/2014 – 12/2017) **PhD course in Cellular and Molecular Biology**
 University Tor Vergata, Rome, Italy

(2014) **Biology State Exam**
 University Tor Vergata, Rome, Italy

(10/2009 – 10/2012) **Master's Degree in Industrial and Molecular Biotechnology**
 University Alma Mater Studiorum, Bologna, Italy
 Graduated with honours (110/110 cum laude)

(10/2006 – 07/2009) **Bachelor's Degree in Sanitary Biotechnology**
 University Cattolica del Sacro Cuore, Rome, Italy
 Graduated with honours (110/110 cum laude)

PERSONAL COMPETENCES

Languages Italian – native speaker; English – fluent.

Personal skills Time and tasks prioritization, organization and optimization, Problem solving, Adaptation, Leadership, Empathy, Aptitude for teamwork, High reliability, Strong willingness to listen and in helping others.

Technical skills **Molecular biology:**
 PCR, RT-PCR, qRT-PCR, electrophoresis on agarose gel, Western blot, protein, DNA and RNA extraction (from human primary and immortalized cancer cells and tissues, primary human keratinocytes and fibroblasts), Plasmid DNA extraction (miniprep, midiprep and maxiprep), cloning techniques, ChIP, re-ChIP and CoIP assay, CRISPR/Cas9 system, subcellular protein fractionation, immunofluorescence, proximity-ligation-assay.
Cellular biology:
 cancer cell culture, primary human myoblasts, keratinocytes and fibroblasts culture, keratinocytes and myoblasts differentiation in vitro, human keratinocytes and fibroblasts isolation from human skin, human and murine tumor digestion, High-throughput drug screening (Celigo and Operetta), optical microscopy, clonogenic, migration, invasion and anchorage-independent assays, cell viability, lenti- and retroviral preparation, viral titration, cell transduction and transfection, gene silencing, generation of engineered stable cell lines, Genome-wide pooled CRISPR screening.

Bioinformatics:

SerialCloner, CBIportal, UALCAN, David, UCSC Genome Browser, GEO Datasets, Geo Profile, IGV, UCSC Xena, GEPIA 2, GSEA, R2 platform, KMplotter, ImageJ.

Digital skills Excelent knowledge of Windows and MAC/OS operating system, Microsoft Office (Excel, PowerPoint, Word), Internet Explorer, Safari and Mail Browser. Excellent knowledge of Adobe Photoshop, Illustrator, GraphPad.

Driving licence B

Publications * Equal contribution

- Romito I, Porru M, Braghini MR, Pompili L, Panera N, Crudele A, Gnani D, De Stefanis C, Scarsella M, **Pomella S**, Levi Mortera S, de Billy E, Conti AL, Marzano V, Putignani L, Vinciguerra M, Balsano C, Pastore A, Rota R, Tartaglia M, Leonetti C, Alisi A. Focal adhesion kinase inhibitor TAE226 combined with Sorafenib slows down hepatocellular carcinoma by multiple epigenetic effects. *Accepted at J Exp Clinical Cancer Research*.
- Camero S, Vitali G, Pontecorvi P, Ceccarelli S, Anastasiadou E, Cicchetti F, Flex E, **Pomella S**, Cassandri M, Rota R, Marampon F, Marchese C, Schiavetti A, Megiorni F. DNMT3A and DNMT3B targeting as an effective radiosensitizing strategy in embryonal rhabdomyosarcoma. *Cells*. **2021**
- Cassandri M*, **Pomella S***, Rossetti A*, Petragnano F*, Milazzo L, Vulcano F, Camero S, Codenotti S, Cicchetti F, Maggio R, Festuccia C, Gravina GL, Fanzani A, Megiorni F, Catanoso M, Marchese C, Tombolini V, Locatelli F, Rota R, Marampon F. MS- 275 (Entinostat) Promotes Radio-sensitivity in PAX3-FOXO1 Rhabdomyosarcoma cells. *Int. J. Mol. Sci*. **2021**.
- Wang L, Hensch NR, Bondra K, Sreenivas P, Zhao XR, Chen J, Moreno Campos R, Baxi K, Vaseva AV, Sunkel BD, Gryder BE, **Pomella S**, Stanton BZ, Zheng S, Chen EY, Rota R, Khan J, Houghton PJ, Ignatius MS. SNAI2-mediated repression of BIM protects rhabdomyosarcoma from ionizing radiation. *Cancer Res*. **2021**.
- Rossetti A, Petragnano F, Milazzo L, Vulcano F, Macioce G, Codenotti S, Cassandri M, **Pomella S**, Cicchetti F, Fasciani I, Antinozzi C, Di Luigi L, Festuccia C, De Felice F, Vergine M, Fanzani A, Rota R, Maggio R, Polimeni A, Tombolini V, Gravina GL, Marampon F. Romidepsin (FK228) Fails In Counteracting The Transformed Phenotype Of Rhabdomyosarcoma Cells But Efficiently Radiosensitizes, In Vitro And In Vivo, The Alveolar Phenotype Subtype. *Int J Radiat Biol*. **2021**.
- Tiago T, Hummel B, Morelli FF, Basile V, Vinet J, Galli V, Mediani L, Antoniani F, **Pomella S**, Cassandri M, Garone MG, Silvestri B, Cimino M, Cenacchi G, Costa R, Mouly V, Poser I, Yeger-Lotem E, Rosa A, Alberti S, Rota R, Ben-Zvi A, Sawarkar R, Carra S. Small Heat-Shock Protein Hspb3 Promotes Myogenesis By Regulating the Lamin B Receptor. *Cell Death Dis*. **2021**.
- Pomella S***, Sreenivas P*, Gryder BE*, Wang L, Cassandri M, Baxi K, Hensch NR, Carcarino E, Song Y, Yohe ME, Stanton BZ, Amadio B, Caruana I, De Stefanis C, De Vito, Locatelli F, Chen Y, Chen EY, Houghton P, Khan J, Rota R, Ignatius MS. Interaction Between SNAI2 And MYOD Enhances Oncogenesis and Suppresses Differentiation In Fusion-Negative Rhabdomyosarcoma. *Nat Commun*. **2021**.
- Perrone C*, **Pomella S***, Cassandri M*, Braghini Mr, Pezzella M, Locatelli F, Rota R. Fak Signaling In Rhabdomyosarcoma. *Int J Mol Sci*. **2020**.
- Cassandri M, Fioravanti R, **Pomella S**, Valente S, Rotili D, Del Baldo G, De Angelis B, Rota R, Mai A. CDK9 As A Valuable Target in Cancer: From Natural Compounds Inhibitors to Current Treatment in Pediatric Soft Tissue Sarcomas. *Front. Pharmacol*. **2020**.
- Gryder BE, Wachtel M, Chang K, El Demerdash O, Aborenden NA, Mohammed W, Ewert W, **Pomella S**, Rota R, Wei JS, Song Y, Stanton BZ, Schäfer B, Vakoc CR, Khan J. Miswired Enhancer Logic Drives A Cancer of The Muscle Lineage. *IScience*. **2020**.
- Romanelli A, Stazi G, Fioravanti R, Zwergel C, Di Bello E, **Pomella S**, Perrone C, Battistelli C, Strippoli R, Tripodi M, Del Bufalo D, Rota R, Trisciuglio D, Mai A, Valente S. Design of First-In-Class Dual EZH2/HDAC Inhibitor: Biochemical Activity And Biological Evaluation In Cancer Cells. *ACS Med Chem Lett*. **2020**.
- Pomella S, Rota R. The CRISP(Y) Future of Pediatric Soft Tissue Sarcomas. *Front Chem*. **2020**.

13. Chiarella AM, Butler KV, Gryder BE, Lu D, Wang TA, Yu X, **Pomella S**, Khan J, Jin J, Hathaway NA. Dose-Dependent Activation of Gene Expression Is Achieved Using CRISPR And Small Molecules That Recruit Endogenous Chromatin Machinery. *Nature Biotechnol.* **2020**.
14. Gryder BE, **Pomella S**, Sayers C, Wu XS, Song Y, Chiarella AM, Bagchi S, Chou HC, Sinniah RS, Walton A, Wen X, Rota R, Hathaway NA, Zhao K, Chen J, Vakoc CR, Shern JF, Stanton BZ, Khan J. Histone Hyperacetylation Disrupts Core Gene Regulatory Architecture in Rhabdomyosarcoma. *Nature Genet.* **2019**.
15. Gryder BE, Wu L, Woldemichael GM, **Pomella S**, Quinn TR, Park PMC, Cleveland A, Stanton BZ, Song Y, Rota R, Wiest O, Yohe ME, Shern JF, Qi J, Khan J. Chemical Genomics Reveals Histone Deacetylases Are Required for Core Regulatory Transcription. *Nature Commun.* **2019**.
16. Gryder BE, Yohe ME, Chou HC, Zhang X, Marques J, Wachtel M, Schaefer B, Sen N, Song YK, Gualtieri A, **Pomella S**, Rota R, Cleveland A, Wen X, Sindiri S, Wei JS, Barr FG, Das S, Andresson T, Guha R, Lal-Nag M, Ferrer M, Shern JF, Zhao K, Thomas CJ, Khan J. Pax3-Foxo1 Establishes Myogenic Super Enhancers and Confers Bet Bromodomain Vulnerability. *Cancer Discov.* **2017**.
17. Iacobucci I, Ghelli Luserna Di Rorà A, Verga Falzacappa MV, Agostinelli C, Derenzini E, Ferrari A, Papayannidis C, Lonetti A, Righi S, Imbrogno E, **Pomella S**, Venturi C, Guadagnuolo V, Cattina F, Ottaviani E, Abbenante M, Vitale A, Elia L, Russo D, Zinzani PL, Pileri S, Pelicci PG, Martinelli G. In Vitro And In Vivo Single-Agent Efficacy Of Checkpoint Kinase Inhibition In Acute Lymphoblastic Leukemia. *J Hematol. Oncol.* **2015**.
18. Vella S*, **Pomella S***, Leoncini P P, Coletti M, Conti B, Marquez V E, Strillacci A, Roma J, Gallego S, Milano G M, Capogrossi M C, Bertaina A, Ciarapica R, Rota R. MicroRNA-101 Is Repressed By Ezh2 And Its Restoration Inhibits Tumorigenic Features In Embryonal Rhabdomyosarcoma. *Clin. Epigenetics.* **2015**.

Conferences

1. Poster at ACC, Italy September **2021**.
Poster Title: SMOX induction sensitizes Fusion-Negative Rhabdomyosarcoma cells to radiation. Perrone C, **Pomella S**, Cassandri M, Giuliani S, Quintarelli, Locatelli F, De Angelis B, Mariottini P, Marampon F, Cervelli M, Rota R.
2. Poster at AACR, Philadelphia, USA April **2020**.
Poster Title: Identification of novel inhibitors of the PAX3-FOXO1 fusion oncogene in rhabdomyosarcoma. Kim YY, Hawley R, Gryder BE, **Pomella S**, Kowalczyk J, Sinniah R, Song Y, Khan J.
3. Poster at ACC, Rome, Italy November **2019**.
Poster Title: NOTCH inhibition leads to MET activation in Rhabdomyosarcoma cells. Perrone C, Pezzella M, Pericoli G, Camera A, Cembrola B, **Pomella S**, Cassandri M, Cossetti C, Vinci M, de Billy E, Quintarelli C, Locatelli F, De Angelis B, Rota R.
4. Poster at AACR, Montreal, QC, Canada September **2019**.
Poster Title: Development of FGFR4-specific chimeric antibody receptor (CAR) T cell and bispecific T cell engager (BiTE) for rhabdomyosarcoma (RMS) immunotherapy. Cheuk A, Shivaprasad N, Schneider D, Yohe ME, Tan M, Azorsa P, Sams R, **Pomella S**, Gryder BE, Rota R, Stanton B, Wei J, Song YM, Wen X, Sindiri S, Kumar J, Hawley RG, Chung YG, Zhelev DV, Zhu Z, Dimitrov DS, Hewitt SM, Dropulic B, Orentas RJ, Khan J.
5. Poster at AACR, Montreal, QC, Canada September **2019**.
Poster Title: Liaison between SNAI2 and MYOD enhances oncogenesis and suppresses differentiation in fusion-negative rhabdomyosarcoma. **Pomella S**, Sreenivas P, Gryder BE, Wang L, Cassandri M, Baxi K, Hensch NR, Carcarino E, Song Y, Yohe M, Amadio B, Caruana I, De Stefanis C, De Vito R, Locatelli F, Chen Y, Chen EY, Houghton P, Khan J, Rota R, Ignatius MS.
6. Poster at AACR, Atlanta, USA March **2019**.
Poster Title: SNAI2 blocks differentiation and promotes tumor growth by selective inhibition of the MYOD1 differentiation program in Embryonal Rhabdomyosarcoma. **Pomella S**, Sreenivas P, Gryder BE, Wang L, Cassandri M, Baxi K, Hensch N, Song Y, Yohe ME, Chen E, Houghton P, Khan J, Rota R, Ignatius M.



7. Poster at AACR, Chicago, USA April **2018**.
Poster Title: SNAI2 inhibition promotes myogenic differentiation and prevents tumorigenic features of embryonal Rhabdomyosarcoma cells. **Pomella S**, Pietrobono S, Carcarino E, Cossetti C, Locatelli F, Rota R.
8. Poster at EACR-AACR-SIC Special Conference, Florence, Italy June **2017**.
Poster Title: Reduction of SKP2 prevents cell cycle progression and induces differentiation in embryonal rhabdomyosarcoma by increasing p21Cip1 and MYOG levels. **Pomella S**, Cossetti C, Carcarino E, Gualtieri A, Raimondi L, Walters Z, Shipley J, Miele L, Locatelli F, Rota R.
9. Poster at AACR, Washington, USA April **2017**.
Poster Title: Targeting the crosstalk between MET and Notch signaling in Rhabdomyosarcoma. Rota R, Cossetti C, **Pomella S**, Gualtieri A, Carcarino E, Ponzetto C, Taulli R, Miele L, Locatelli F.
10. Poster at AACR New Orleans, USA April **2016**.
Poster Title: miR-301 expression is deregulated in rhabdomyosarcoma. Rota R, Gualtieri A, Cossetti C, **Pomella S**, Adesso L, Locatelli F.
11. Poster at AHA, New Orleans, USA November **2016**.
Poster Title: Modulation of H3K27me3 epigenetic mark affects E-cadherin expression and improves diabetic wound healing. **Pomella S**, D'Aria S, Beji S, Antonini A, Dell'Ambra E, Mai A, Magenta A, Mensà E, Platone A, Mascellari L, Bartolotta V, Antonicelli R, Furgiuele S, Capogrossi MC, Ciarapica R.
12. Poster at ASH, San Diego December **2011**.
Poster Title: The Novel Small Molecule Chk1/Chk2 Inhibitor PF-0477736 (Pfizer) Is Highly Active As Single Agent in Ph+ Acute Lymphoblastic Leukemia (Ph+ ALL). Iacobucci I, Cattina F, **Pomella S**, Lonetti A, Derenzini E, Brighenti E, Ferrari A, Papayannidis C, Verga Falzacappa M V, Guadagnuolo V, Aluigi M, Ottaviani E, Formica S, Abbenante M C, Soverini S, Russo D, Pane F, Pellicci P G, Bacarani M, Martinelli G.
13. Poster at ASH, San Diego December **2011**.
Poster Title: ARF Loss, a Negative Prognostic Factor in Ph+ Acute Lymphoblastic Leukemia, May Be Efficiently Overcome by the Small Molecule MDM2 Antagonist RG7112. Iacobucci I, Cattina F, **Pomella S**, Lonetti A, Ferrari A, Papayannidis C, Trino S, Erriquez D, Guadagnuolo V, Ottaviani E, Formica S, Soverini S, Paoloni F, Vignetti M, Russo D, Perini G, Bacarani M, Martinelli G.

Certificate State exam for Biologist

Awards **Fondazione Umberto Veronesi Bambino Gesù Pediatric Hospital, Rome, Italy**
 Postdoctoral fellowship **2020**
 Postdoctoral fellowship **2019**
 Postdoctoral fellowship **2018**

Reviewer Activity Molecular Cancer, International Journal of Molecular Sciences, Cancers, Molecular Medicine, Molecular Oncology, Molecular and Cellular Pathology for Frontiers in Cell and Developmental Biology

Editor Activity Special Issue Editor at International Journal of Molecular Sciences

DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE (art. 46 e 47 D.P.R. 445/2000)

La sottoscritta Silvia Pomella, ai sensi e per gli effetti degli articoli 46 e 47 e consapevole delle sanzioni penali previste dall'articolo 76 del D.P.R. 28 dicembre 2000, n. 445 nelle ipotesi di falsità in atti e dichiarazioni mendaci, dichiara che le informazioni riportate nel presente curriculum vitae corrispondono a verità.

Roma, 16/11/2021

Silvia Pomella

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