CURRICULUM VITAE

Ferdinando Di Cunto

Born in Forchia (BN), Italy on 20-12-1969

EDUCATION

-1988: Classic highschool degree, obtained at the Liceo Classico Pietro Giannone, Benevento (BN), with the score of 60/60
-1994: Degree in Medicine e Surgery, Medical School of the University of Torino with the score of 110/110 and honor.
-1994/1996: Resident, Department of Neurosciences, University of Torino.
- 2001: Ph.D. in "human biology, molecular and cellular basis ", Department of Genetics, Biology and Biochemistry, University of Torino.

PROFESSIONAL ACTIVITIES

-1990: visiting student, Department of Pediatrcs, Children's Hospital, Pittsburg, Pennsilvanya, USA.
-1991 and 1992: visiting student, Department of Pathology, Yale University, Connecticut, USA.
-1993: visiting student, Cutaneous Biology Research Center, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, USA.
-1996/1997: research fellow, Cutaneous Biology Research Center, Massachusetts General Hospital, Boston, Massachusetts, USA.
-1999 Researcher, Department of Genetics, Biology and Biochemistry, University of Torino.
-2005: Associate Professor of Molecular Biology, Department of Genetics, Biology and Biochemistry, University of Torino.
-Since 2011: Full Professor of Molecular Biology, University of Torino.
- Since Jan. 2017: Group Leader, Department of Neuroscience and Neuroscience Institute Cavalieri Ottolenghi, Orbassano, Torino.

BIBLIOMETRIC DATA

Ferdinando Di Cunto has authored 76 articles published on peer reviewed international journals. According to Scopus, these publications have received a total of 2940 citations, with an H-index of 27.

FUNDING AND AWARDS

2019 AIRC, investigator grant. Title: Development of Citron Kinase as a therapeutic target for brain tumors. Amount: 757000 €.

2017, Fondation Jerome Lèjeune (Paris), two years grant. Title: Identification and initial validation of new possible treatments for intellectual disability in Down syndrome through drug repositioning. Amount: 40000 €

2016, International Foundation for CDKL5 research, one year grant. Title: Exploiting computational biology for target identification and drug repositioning in CDKL5 disorder. Amount: 30000 €

2015, AIRC, investigator grant. Title: Validation of Citron kinase as a therapeutic target for medulloblastoma. Amount: 322000 €.

2013, Telethon Foundation, multicentric grant. Title: Relevance of the axonal SMN protein (a-SMN) for spinal muscular atrophy: novel cell models, transgenic mice and therapeutic approaches. Amount 130000 €.

2013, CNR, Epigen flagship project, three years Title: Disruption of circadian rhythms and epigenetic modifications in D. melanogaster. Amount: 83000 €.

2012, Telethon Foundation, regular grant. Title: Identification of therapeutic targets in primary microcephaly through the analysis of the CIT-K/ASPM pathway. 270000 €

2012, Fondation Jerome Lèjeune (Paris). Functional analysis of the DSCR gene TTC3 in neuronal differentiation and in a Down syndrome mouse model. Amount: 45000 €.

2011, ARISLA. Title: Molecular characterization of TDP-43 function in vivo and the mechanisms that lead to motoneuron disease in Drosophila models of ALS. Amount: 25000 €.

2011, Italian Ministry of Health. Title: Motor neuron death in Spinal Muscular Atrophy (SMA) : new animal models and innovative therapeutic strategies. Amount: 105000 €

2011, San Paolo Bank Foundation. Title: Role of the excitatory/inhibitory balance in long-term memory storage. Amount: 40000 €.

2009, San Paolo Bank Foundation, Neuroscience call. Title: Bioinformatic and experimental dissection and modeling of the molecular events underlying dendritic spine biogenesis and remodelling. 180000 €.

2009, Cavalieri Ottolenghi foundation. Title: Implementation of a two-photon microscopy setup for the dynamic analysis of cells and subcellular structures. Amount: EURO 100000 €.

2008, MIUR, PRIN 2008. Title: Computational and experimental identification of functional Citron kinase partners involved in cytokinesis. Amount: 57000 €.

2006, MIUR, PRIN 2006. Title: Identification of new cytokinesis genes by bioinformatic approaches and experimental validation in mammalian cells. Amount: 55700 €.

2009, Piedmont Region, Technological Platforms. Title: DRUIDI project. Amount 100000 €.

2007, Piedmont Region, Converging Technologies. Title: Biother project. Amount 100000 €.

2006, MIUR, PRIN 2006. Title: Identification of new cytokinesis genes by bioinformatic approaches and experimental validation in mammalian cells. Amount: 55700 €.

2005, Piedmont Region, CIPE 2005. Bioinformatic identification of new molecules involved in the pathogenesis of Alzheimer's disease and validation in neuronal cultures. e loro validazione in colture neuronali. Amount 180000 €.

2005, Fondation Jerome Lèjeune (Paris). Title: Characterization of the DCR-encoded protein TTC3 and of its interaction with Citron proteins. Amount: 50000 €.

2003, MIUR, PRIN 2003. Title: In vitro and in vivo analysis of Rho-GTPase effector Citron Kinase in mammalian cytokinesis. Amount: 71500 €.

2002, Telethon Foundation, regular grant. Title: Molecular analysis of the citron kinase pathway in human microcephalies and in experimental models. Amount: 160000 €.

2002, Fondation Jerome Lejeune (Paris). Title: Generation and analysis of new genetically modified mouse models of abnormal cortical function by targeting of the CIT-K and MRCKa transcription units. Amount: 40000 €.

2000, Italian Society of Biophysics and Molecular Biology (SIBBM), Best paper of the year award. Amount : 1000 €.

1999, Telethon Foundation, startup grant. Title: Molecular analysis of Crik, a new rho/rac interacting ser/thr kinase, in experimental models and human diseases. Amount: 52000 €.

PEER REVIEWD PUBLICATIONS

1. Frasca A, Spiombi E, Palmieri M, Albizzati E, Valente MM, Bergo A, Leva B, Kilstrup-Nielsen C, Bianchi F, Di Carlo V, Di Cunto F, Landsberger N. MECP2 mutations affect ciliogenesis: a novel perspective for Rett syndrome and related disorders. EMBO Mol Med. 2020 Jun 8;12(6):e10270. doi: 10.15252/emmm.201910270. Epub 2020 May 8. PMID: 32383329; PMCID: PMC7278541.

2. Pallavicini G, Iegiani G, Berto GE, Calamia E, Trevisiol E, Veltri A, Allis S, Di Cunto F. CITK Loss Inhibits Growth of Group 3 and Group 4 Medulloblastoma Cells and Sensitizes Them to DNA-Damaging Agents. Cancers (Basel). 2020 Feb 26;12(3):542. doi: 10.3390/cancers12030542. PMID: 32111106; PMCID: PMC7139701.

3. Chiotto AMA, Migliorero M, Pallavicini G, Bianchi FT, Gai M, Di Cunto F, Berto GE. Neuronal Cell-Intrinsic Defects in Mouse Models of Down Syndrome. Front Neurosci. 2019 Oct 10;13:1081. doi: 10.3389/fnins.2019.01081. PMID: 31649502; PMCID: PMC6795679.

4. Grasso S, Cangelosi D, Chapelle J, Alzona M, Centonze G, Lamolinara A, Salemme V, Angelini C, Morellato A, Saglietto A, Bianchi FT, Cabodi S, Salaroglio IC, Fusella F, Ognibene M, Iezzi M, Pezzolo A, Poli V, Di Cunto F, Eva A, Riganti C, Varesio L, Turco E, Defilippi P. The SRCIN1/p140Cap adaptor protein negatively regulates the aggressiveness of neuroblastoma. Cell Death Differ. 2020 Feb;27(2):790-807. doi: 10.1038/s41418-019-0386-6. Epub 2019 Jul 8.
5. Erratum in: Cell Death Differ. 2019 Sep 5;: PMID: 31285546; PMCID: PMC7205889.

6. Grassi E, Santoro R, Umbach A, Grosso A, Oliviero S, Neri F, Conti L, Ala U, Provero P, DiCunto F, Merlo GR. Choice of Alternative Polyadenylation Sites, Mediated by the RNA-Binding Protein Elavl3, Plays a Role in Differentiation of Inhibitory Neuronal Progenitors. Front Cell Neurosci. 2019 Jan 10;12:518. doi: 10.3389/fncel.2018.00518. PMID: 30687010; PMCID: PMC6338052.

7. Pallavicini G, Berto GE, Di Cunto F. Precision Revisited: Targeting Microcephaly Kinases in Brain Tumors. Int J Mol Sci. 2019 Apr 28;20(9). pii: E2098. doi: 10.3390/ijms20092098. Review.

8. Tran THY, Yang DW, Kim M, Lee DH, Gai M, Di Cunto F, Choi KW, Lim DS. Citron kinase interacts with LATS2 and inhibits its activity by occluding its hydrophobic phosphorylation motif. J Mol Cell Biol. 2019 Mar 13. pii: mjz013. doi: 10.1093/jmcb/mjz013.

9. Burla R, La Torre M, Zanetti G, Bastianelli A, Merigliano C, Del Giudice S, Vercelli A, Di Cunto F, Boido M, Vernì F, Saggio I. p53-Sensitive Epileptic Behavior and Inflammation in Ft1 Hypomorphic Mice. Front Genet. 2018 Nov 27;9:581. doi: 10.3389/fgene.2018.00581.

10. Canosa A, De Marco G, Lomartire A, Rinaudo MT, Di Cunto F, Turco E, Barberis M, Brunetti M, Casale F, Moglia C, Calvo A, Marklund SL, Andersen PM, Mora G, Chiò A. A novel p.Ser108LeufsTer15 SOD1 mutation leading to the formation of a premature stop codon in an apparently sporadic ALS patient: insights into the underlying pathomechanisms. Neurobiol Aging. 2018 Dec;72:189.e11-189.e17.

11. Bianchi FT, Berto GE, Di Cunto F. Impact of DNA repair and stability defects on cortical development. Cell Mol Life Sci. 2018 Aug 16. doi: 10.1007/s00018-018-2900-2.

12. Pallavicini G, Sgrò F, Garello F, Falcone M, Bitonto V, Berto GE, Bianchi FT, Gai M, Chiotto AMA, Filippi M, Cutrin JC, Ala U, Terreno E, Turco E, Di Cunto F. Inactivation of Citron Kinase Inhibits Medulloblastoma Progression by Inducing Apoptosis and Cell Senescence. Cancer Res. 2018 Aug 15;78(16):4599-4612. doi:
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14. Dema A, Macaluso F, Sgrò F, Berto GE, Bianchi FT, Chiotto AA, Pallavicini G, Di Cunto F, Gai M. Citron kinase-dependent F-actin maintenance at midbody secondary ingression sites mediates abscission. J Cell Sci. 2018 Apr 26;131(8). pii: jcs209080. doi: 10.1242/jcs.209080.

15. Bandini C, Pupuleku A, Spaccarotella E, Pellegrino E, Wang R, Vitale N, Duval C, Cantarella D, Rinaldi A, Provero P, Di Cunto F, Medico E, Bertoni F, Inghirami G, Piva R. IRF4 Mediates the Oncogenic Effects of STAT3 in Anaplastic Large Cell Lymphomas. Cancers (Basel). 2018 Jan 18;10(1). pii: E21. doi:
16. 10.3390/cancers10010021.

17. Zamboni V, Armentano M, Berto G, Ciraolo E, Ghigo A, Garzotto D, Umbach A, Di Cunto F, Parmigiani E, Boido M, Vercelli A, El-Assawy N, Mauro A, Priano L, Ponzoni L, Murru L, Passafaro M, Hirsch E, Merlo GR. Hyperactivity of Rac1-GTPasepathway impairs neuritogenesis of cortical neurons by altering actin dynamics.Sci Rep. 2018 May 8;8(1):7254. doi: 10.1038/s41598-018-25354-3.

18. Bianchi FT, Gai M, Berto GE, Di Cunto F. Of rings and spines: The multiple facets of Citron proteins in neural development. Small GTPases. 2017 Nov 29:1-9. doi: 10.1080/21541248.2017.1374325. [Epub ahead of print]

19. Bianchi FT, Tocco C, Pallavicini G, Liu Y, Verni F, Merigliano C, Bonaccorsi S, El-Assawy N, Priano L, Gai M, Berto GE, Chiotto AM, Sgro F, Caramello A, Tasca L, Ala U, Neri F, Oliviero S, Mauro A, Geley S, Gatti M, Di Cunto F. 2017. Citron Kinase Deficiency Leads to Chromosomal Instability and TP53-Sensitive Microcephaly. Cell Rep 18:1674-1686.

20. Bosia C, Sgro F, Conti L, Baldassi C, Brusa D, Cavallo F, Di Cunto F, Turco E, Pagnani A, Zecchina R. 2017. RNAs competing for microRNAs mutually influence their fluctuations in a highly non-linear microRNA-dependent manner in single cells. Genome Biol 18:37.

21. Gai M, Di Cunto F. 2017. Citron kinase in spindle orientation and primary microcephaly. Cell Cycle 16:245-246.

22. Gai M, Bianchi FT, Vagnoni C, Verni F, Bonaccorsi S, Pasquero S, Berto GE, Sgro F, Chiotto AM, Annaratone L, Sapino A, Bergo A, Landsberger N, Bond J, Huttner WB, Di Cunto F. 2016. ASPM and CITK regulate spindle orientation by affecting the dynamics of astral microtubules. EMBO Rep 17:1396-1409.

23. El Ghouzzi V, Bianchi FT, Molineris I, Mounce BC, Berto GE, Rak M, Lebon S, Aubry L, Tocco C, Gai M, Chiotto AM, Sgro F, Pallavicini G, Simon-Loriere E, Passemard S, Vignuzzi M, Gressens P, Di Cunto F. 2016. ZIKA virus elicits P53 activation and genotoxic stress in human neural progenitors similar to mutations involved in severe forms of genetic microcephaly. Cell Death Dis 7:e2440.

24. Harding BN, Moccia A, Drunat S, Soukarieh O, Tubeuf H, Chitty LS, Verloes A, Gressens P, El Ghouzzi V, Joriot S, Di Cunto F, Martins A, Passemard S, Bielas SL. 2016. Mutations in Citron Kinase Cause Recessive Microlissencephaly with Multinucleated Neurons. Am J Hum Genet 99:511-520.

25. Sgrò F, Bianchi FT, Falcone M, Pallavicini G, Gai M, Chiotto AM, Berto GE, Turco E, Chang YJ, Huttner WB, Di Cunto F. Tissue-specific control of midbody microtubule stability by Citron kinase through modulation of TUBB3 phosphorylation. Cell Death Differ. 2015 Nov 20.

26. Bergo A, Strollo M, Gai M, Barbiero I, Stefanelli G, Sertic S, Cobolli Gigli C, Di Cunto F, Kilstrup-Nielsen C, Landsberger N. (2015). Methyl-CpG binding protein 2 (MeCP2) localizes at the centrosome and is required for proper mitotic spindle organization. J Biol Chem 290:3223-3237.

27. Berto, G. E., Iobbi, C., Camera, P., Scarpa, E., Iampietro, C., Bianchi, F., Gai, M., Sgrò, F., Cristofani, F., Gärtner, A., Dotti, C. G., and Di Cunto, F. (2014). The DCR protein TTC3 affects differentiation and Golgi compactness in neurons through specific actin-regulating pathways. PLoS One 9:e93721.

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31. Molineris, I., Ala, U., Provero, P., and Di Cunto, F. (2013). Drug repositioning for orphan genetic diseases through Conserved Anticoexpressed Gene Clusters (CAGCs). BMC Bioinformatics 14, 288.

32. Pavan, S., Musiani, D., Torchiaro, E., Migliardi, G., Gai, M., Di Cunto, F., Erriquez, J., Olivero, M., and Di Renzo, M. F. (2013). HSP27 is required for invasion and metastasis triggered by hepatocyte growth factor. Int J Cancer.

33. Piro, R. M., Molineris, I., Di Cunto, F., Eils, R., and Konig, R. (2013). Disease-gene discovery by integration of 3D gene expression and transcription factor binding affinities. Bioinformatics 29, 468-475.

34. Spaccarotella, E., Pellegrino, E., Ferracin, M., Ferreri, C., Cuccuru, G., Liu, C., Iqbal, J., Cantarella, D., Taulli, R., Provero, P., Di Cunto, F., Medico, E., Negrini, M., Chan, W. C., Inghirami, G., and Piva, R. (2013). STAT3-mediated activation of microRNA cluster 17~92 promotes proliferation and survival of ALK positive anaplastic large cell lymphoma. Haematologica.

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36. Piro, R. M., and Di Cunto, F. (2012a). Computational approaches to disease-gene prediction: rationale, classification and successes. Febs J 279, 678-696.

37. Piro, R. M., Molineris, I., Ala, U., and Di Cunto, F. (2012b). Evaluation of candidate genes from orphan FEB and GEFS+ loci by analysis of human brain gene expression atlases. PLoS ONE 6, e23149.

38. Bosio, Y., Berto, G., Camera, P., Bianchi, F., Ambrogio, C., Claus, P., and Di Cunto, F. (2012). PPP4R2 regulates neuronal cell differentiation and survival, functionally cooperating with SMN. Eur J Cell Biol 91, 662-674.

39. Lembo, A., Di Cunto, F., and Provero, P. (2012). Shortening of 3'UTRs correlates with poor prognosis in breast and lung cancer. PLoS ONE 7, e31129.

40. Tay Y, Kats L, Salmena L, Weiss D, Tan SM, Ala U, Karreth F, Poliseno L, Provero P, Di Cunto F, Lieberman J, Rigoutsos I, Pandolfi PP. 2011. Coding-Independent Regulation of the Tumor Suppressor PTEN by Competing Endogenous mRNAs. Cell 147:344-357.

41. Bianchi FT, Camera P, Ala U, Imperiale D, Migheli A, Boda E, Tempia F, Berto G, Bosio Y, Oddo S, LaFerla FM, Taraglio S, Dotti CG, Di Cunto F. 2011. The collagen chaperone HSP47 is a new interactor of APP that affects the levels of extracellular beta-amyloid peptides. PLoS One 6:e22370.

42. Gai M, Camera P, Dema A, Bianchi F, Berto G, Scarpa E, Germena G, Di Cunto F. 2011. Citron kinase controls abscission through RhoA and Anillin. Mol Biol Cell.

43. Piro R, Molineris I, Ala U, Di Cunto F. 2011. Evaluation of candidate genes from orphan FEB and GEFS+ loci by analysis of human brain gene expression atlases.

44. Piro RM, Ala U, Molineris I, Grassi E, Bracco C, Perego GP, Provero P, Di Cunto F. 2011. An atlas of tissue-specific conserved coexpression for functional annotation and disease gene prediction. Eur J Hum Genet.

45. Damasco, C., Lembo, A., Somma, M. P., Gatti, M., Di Cunto, F., and Provero, P. (2011). A Signature Inferred from Drosophila Mitotic Genes Predicts Survival of Breast Cancer Patients. PLoS ONE 6, e14737.

46. Molineris, I., Grassi, E., Ala, U., Di Cunto, F., and Provero, P. (2011). Evolution of promoter affinity for transcription factors in the human lineage. Mol Biol Evol.

47. Amoresano, A., Di Costanzo, A., Leo, G., Di Cunto, F., La Mantia, G., Guerrini, L., and Calabro, V. (2010). Identification of DeltaNp63alpha protein interactions by mass spectrometry. J Proteome Res 9, 2042-2048.

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61. Olivero M, Ruggiero T, Saviozzi S, Rasola A, Coltella N, Crispi S, Di Cunto F, Calogero R, Di Renzo MF. (2006) Genes regulated by hepatocyte growth factor as targets to sensitize ovarian cancer cells to cisplatin. Mol Cancer Ther. 5,1126-35.

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Orbassano 10/06/2020

Ferdinando Di Cunto