

Giovanni Cazzaniga, nato nel 1965, quattro figli, è laureato in Scienze Biologiche nel 1990 presso l'Università degli Studi di Milano con votazione *summa cum laude*; ha conseguito il titolo di "Specialista in Ricerca Farmacologica" presso l'Istituto di Ricerche Farmacologiche "Mario Negri" di Milano; si è specializzato in Genetica Medica presso l'Università degli Studi di Milano con votazione *summa cum laude*.

Ha iniziato la sua attività professionale nel 1990 all'Istituto di Ricerche Farmacologiche "Mario Negri", dove ha lavorato per cinque anni. Da Novembre 1994 presta attività presso il Centro di Ricerca Tettamanti, dove ha un posizione permanente dal 1997. E' Responsabile dell'attività diagnostica del Centro, alla quale lavorano undici tecnici e due biologi. E' coordinatore delle attività di ricerca del Centro, sotto la Direzione Scientifica del Prof. Biondi, e Group Leader dell'Unità di "Genetica Molecolare della Leucemia", costituita da quattro post-Doc, tre studenti di PhD, una neo-laureata in biotecnologie.

I principali interessi scientifici riguardano lo studio dell'origine prenatale della leucemia, l'identificazione della cellula staminale leucemica, la caratterizzazione molecolare delle leucemie del bambino. Su queste aree di ricerca è titolare di progetti di ricerca finanziati da strutture pubbliche e private ed ha al proprio attivo 80 pubblicazioni su riviste internazionali peer-reviewed.

Il Dr. Cazzaniga ha professionalmente sempre operato nell'ambito della Diagnostica molecolare, dove ha rivolto i propri interessi scientifici in particolare verso il monitoraggio delle traslocazioni cromosomiche e della Malattia Residua Minima mediante riarrangiamento dei geni del T-Cell Receptor e delle Immunoglobuline. Le ricerche sviluppate nei primi anni '90 hanno consentito di mettere a punto le procedure analitiche ora utilizzate nella maggior parte dei laboratori specializzati e di identificare il monitoraggio della MRM quale fattore prognostico fondamentale per la LAL pediatrica, ora parte indispensabile della stratificazione dei pazienti nei protocolli terapeutici della malattia. E' Responsabile della valutazione molecolare della MRM per la stratificazione dei pazienti Italiani nel contesto del protocollo collaborativo Italia-Germania-Austria per il trattamento della LAL Pediatrica.

Il Dr. Cazzaniga ha partecipato come relatore a numerose conferenze in Italia e all'estero, oltre a partecipare attivamente a congressi nazionali ed internazionali, tra cui Società Italiana di Ematologia Sperimentale (SIES), Associazione Italiana di Ematologia ed Oncologia Pediatrica (AIEOP), American Society of Hematology (ASH), European Society of Hematology (EHA). Partecipa inoltre attivamente a diversi programmi collaborativi Europei: Europe Against Cancer Program; BIOMED-1 Concerted Action; Biology and Diagnosis Committee of International-BFM Study Group, European Study Group on MRD detection in ALL (ESG-MRD-ALL).

Revisore di pubblicazioni scientifiche su riviste internazionali (Cancer Genet. Cytogenet., Haematologica-The Hematol J., J. Lymph.Biol., Leukemia, Leukemia Res., Ped. Hematol.Oncol.) e revisore di richieste di finanziamento presso Agenzie di paesi Europei.

Membro di Società Scientifiche Nazionali ed Internazionali (Associazione Italiana di Ematologia ed Oncologia Pediatrica-AIEOP, Società Italiana di Ematologia Sperimentale-SIES, European Hematology Association-EHA, American Society of Hematology, ASH); membro del Board dell' European Study Group on Minimal Residual Disease in ALL.

Pubblicazioni:

1. Terao M, **Cazzaniga G**, Ghezzi P, Bianchi M, Falciani F, Perani P, Garattini E. Molecular cloning of a cDNA coding for mouse liver xanthine dehydrogenase. Regulation of its transcript by interferons in vivo. *Biochem J* 1992 May 1;283 (Pt 3):863-70
2. Falciani F, Ghezzi P, Terao M, **Cazzaniga G**, Garattini E. Interferons induce xanthine dehydrogenase gene expression in L929 cells. *Biochem J* 1992 Aug 1;285 (Pt 3):1001-8
3. Falciani F, Terao M, Goldwurm S, Ronchi A, Gatti A, Minoia C, Li Calzi M, Salmona M, **Cazzaniga G**, Garattini E. Molybdenum(VI) salts convert the xanthine oxidoreductase apoprotein into the active enzyme in mouse L929 fibroblastic cells. *Biochem J* 1994 Feb 15;298 (Pt 1):69-77
4. **Cazzaniga G**, Terao M, Lo Schiavo P, Galbiati F, Segalla F, Seldin MF, Garattini E. Chromosomal mapping, isolation, and characterization of the mouse xanthine dehydrogenase gene. *Genomics* 1994 Sep 15;23(2):390-402

5. Li Calzi M, Raviolo C, Ghibaudi E, de Gioia L, Salmona M, **Cazzaniga G**, Kurosaki M, Terao M, Garattini E. Purification, cDNA cloning, and tissue distribution of bovine liver aldehyde oxidase. *J Biol Chem* 1995 Dec 29;270(52):31037-45
6. Bertoni F, **Cazzaniga G**, Bosshard G, Roggero E, Barbazza R, De Boni M, Capella C, Pedrinis E, Cavalli F, Biondi A, Zucca E. Immunoglobulin heavy chain diversity genes rearrangement pattern indicates that MALT-type gastric lymphoma B cells have undergone an antigen selection process. *Br J Haematol* 1997 Jun;97(4):830-6
7. Caslini C, Spinelli O, **Cazzaniga G**, Golay J, De Gioia L, Pedretti A, Breviaro F, Amaru R, Barbui T, Biondi A, Introna M, Rambaldi A. Identification of two novel isoforms of the ZNF162 gene: a growing family of signal transduction and activator of RNA proteins. *Genomics* 1997 Jun 1;42(2):268-77
8. Borkhardt A,* **Cazzaniga G**,* Viehmann S, Valsecchi MG, Ludwig WD, Burci L, Mangioni S, Schrappe M, Riehm H, Lampert F, Basso G, Masera G, Harbott J, Biondi A. Incidence and clinical relevance of TEL/AML1 fusion genes in children with acute lymphoblastic leukemia enrolled in the German and Italian multicenter therapy trials. Associazione Italiana Ematologia Oncologia Pediatrica and the Berlin-Frankfurt-Munster Study Group. *Blood* 1997 Jul 15;90(2):571-7 *(equal contributors)
9. Tosi S, Mosna G, **Cazzaniga G**, Giudici G, Kearney L, Biondi A, Privitera E. Unbalanced t(3;12) in a case of juvenile myelomonocytic leukemia (JMML) results in partial trisomy of 3q as defined by FISH. *Leukemia* 1997 Sep;11(9):1465-8
10. Biondi A, **Cazzaniga G**. Gli errori della trascrizione nella patologia molecolare della leucemia. *Prospettive in Pediatria*, 1997, 27:349-356.
11. Zucca E, Bertoni F, Roggero E, **Cazzaniga G**, Bosshard G, Biondi A, Cavalli F. Autoreactive B cell clones in marginal-zone B cell lymphoma (MALT lymphoma) of the stomach. *Leukemia* 1998 Feb;12(2):247-9
12. Zucca E, Bertoni F, Roggero E, Bosshard G, **Cazzaniga G**, Pedrinis E, Biondi A, Cavalli F. Molecular analysis of the progression from Helicobacter pylori-associated chronic gastritis to mucosa-associated lymphoid-tissue lymphoma of the stomach. *N Engl J Med* 1998 Mar 19;338(12):804-10
13. Tosi S, Giudici G, Mosna G, Harbott J, Specchia G, Grosveld G, Privitera E, Kearney L, Biondi A, **Cazzaniga G**. Identification of new partner chromosomes involved in fusions with the ETV6 (TEL) gene in hematologic malignancies. *Genes Chromosomes Cancer* 1998 Mar;21(3):223-9
14. van Dongen JJ, Seriu T, Panzer-Grumayer ER, Biondi A, Pongers-Willems MJ, Corral L, Stolz F, Schrappe M, Masera G, Kamps WA, Gadner H, van Wering ER, Ludwig WD, Basso G, de Bruijn MA, **Cazzaniga G**, Hettinger K, van der Does-van den Berg A, Hop WC, Riehm H, Bartram CR. Prognostic value of minimal residual disease in acute lymphoblastic leukaemia in childhood. *Lancet* 1998 Nov 28;352(9142):1731-8
15. Lo Nigro L, **Cazzaniga G**, Di Cataldo A, Pannunzio A, D'Aniello E, Masera G, Schiliro G, Biondi A. Clonal stability in children with acute lymphoblastic leukemia (ALL) who relapsed five or more years after diagnosis. *Leukemia* 1999 Feb;13(2):190-5
16. Chase A, Reiter A, Burci L, **Cazzaniga G**, Biondi A, Pickard J, Roberts IA, Goldman JM, Cross NC. Fusion of ETV6 to the caudal-related homeobox gene CDX2 in acute myeloid leukemia with the t(12;13)(p13;q12). *Blood* 1999 Feb 1;93(3):1025-31
17. Arosio C, Fossati L, Vigano M, Trombini P, **Cazzaniga G**, Piperno A. Hereditary hyperferritinemia cataract syndrome: a de novo mutation in the iron responsive element of the L-ferritin gene. *Haematologica* 1999 Jun;84(6):560-1
18. Wiemels J,* **Cazzaniga G**,* Daniotti M., Eden T., Masera G., Biondi A. and Greaves M. Pre-natal origin of acute lymphoblastic leukemia in children. *The Lancet*, 1999, 354: 1499-503. *(equal contributors)
19. **Cazzaniga G.**, S. Tosi, A. Aloisi, G. Giudici, M. Daniotti, P. Pioltelli, L. Kearney and A. Biondi. The tyrosine kinase Abl-related gene ARG is fused to ETV6 in an AML-M4Eo patient with a t(1;12)(q25;p13): molecular cloning of both reciprocal transcripts. *Blood*. 1999;94:4370-3.
20. Bertoni F., Zucca E., Genini D., **Cazzaniga G.**, Roggero E., Ghielmini M., Cavalli F., and Biondi A. Immunoglobulin light chain kappa deletion rearrangement as a marker of clonality in mantle-cell lymphoma.. *Leuk Lymphoma*. 1999;36:147-50.
21. **Cazzaniga G**, Gottardi E, Volpe G, Toiron Y, Waronko A, Biondi A, Saglio G, Gabert JA. t(12;21)(p13;q22) with the TEL-AML1 fusion gene. in van Dongen JJ et al. Standardized RT-PCR

analysis of fusion gene transcripts from chromosome aberrations in acute leukemia for detection of minimal residual disease. Report of the BIOMED-1 Concerted Action: investigation of minimal residual disease in acute leukemia. *Leukemia*. 1999;13:1901-28.

22. Bertoni F, Sanna P, Tinguely M, Roggero E, Conconi A, Gisi M, **Cazzaniga G**, Biondi A, Pedrinis E, Cavalli F, Zucca E. Association of gastric and Waldeyer's ring lymphoma: a molecular study. *Hematol Oncol*. 2000 Mar;18(1):15-9.
23. De Zen L, Orfao A, **Cazzaniga G**, Masiero L, Cocito MG, Spinelli M, Rivolta A, Biondi A, ZanESCO L, Basso G. Quantitative multiparametric immunophenotyping in acute lymphoblastic leukemia: correlation with specific genotype. I. ETV6/AML1 ALLs identification. *Leukemia*. 2000 Jul;14(7):1225-31.
24. Wiemels JL, Alexander FE, **Cazzaniga G**, Biondi A, Mayer SP, Greaves M. Microclustering of TEL-AML1 translocation breakpoints in childhood acute lymphoblastic leukemia. *Genes Chromosomes Cancer*. 2000 Nov;29(3):219-28.
25. Tosi S, Harbott J, Teigler-Schlegel A, Haas OA, Pirc-Danoewinata H, Harrison CJ, Biondi A, **Cazzaniga G**, Kempfski H, Scherer SW, Kearney L. t(7;12)(q36;p13), a new recurrent translocation involving ETV6 in infant leukemia. *Genes Chromosomes Cancer*. 2000 Dec;29(4):325-32.
26. **Cazzaniga G**, Daniotti M, Tosi S, Giudici G, Aloisi A, Pogliani E, Kearney L, Biondi A. The paired box domain gene PAX5 is fused to ETV6/TEL in an acute lymphoblastic leukemia case. *Cancer Res*. 2001 Jun 15;61(12):4666-70.
27. Eckert C, Biondi A, Seeger K, **Cazzaniga G**, Hartmann R, Beyermann B, Pogodda M, Proba J, Henze G. Prognostic value of minimal residual disease in relapsed childhood acute lymphoblastic leukaemia. *Lancet*. 2001 Oct 13;358(9289):1239-41.
28. Bellavia D, Campese AF, Checquolo S, Balestri A, Biondi A, **Cazzaniga G**, Lendahl U, Fehling HJ, Hayday AC, Frati L, von Boehmer H, Gulino A, Screpanti I. Combined expression of pTalpha and Notch3 in T cell leukemia identifies the requirement of preTCR for leukemogenesis. *Proc Natl Acad Sci U S A*. 2002 Mar 19;99(6):3788-93.
29. Bertoni F, Conconi A, Capella C, Motta T, Giardini R, Ponzoni M, Pedrinis E, Novero D, Rinaldi P, **Cazzaniga G**, Biondi A, Wotherspoon A, Hancock BW, Smith P, Souhami R, Cotter FE, Cavalli F, Zucca E. Molecular follow-up in gastric mucosa-associated lymphoid tissue lymphomas: early analysis of the LY03 cooperative trial. *Blood*. 2002 Apr 1;99(7):2541-4.
30. **Cazzaniga G**, Rossi V, Biondi A. Monitoring minimal residual disease using chromosomal translocations in childhood ALL. *Best Pract Res Clin Haematol*. 2002 Mar;15(1):21-35. (review)
31. Carlotti E, Pettenella F, Amaru R, Slater S, Lister TA, Barbui T, Basso G, **Cazzaniga G**, Rambaldi A, Biondi A. Molecular characterization of a new recombination of the SIL/TAL-1 locus in a child with T-cell acute lymphoblastic leukaemia. *Br J Haematol*. 2002 Sep;118(4):1011-8.
32. **Cazzaniga G**, Lanciotti M, Rossi V, Di Martino D, Arico M, Valsecchi MG, Basso G, Masera G, Micalizzi C, Biondi A. Prospective molecular monitoring of BCR/ABL transcript in children with Ph+ acute lymphoblastic leukaemia unravels differences in treatment response. *Br J Haematol*. 2002 Nov;119(2):445-53.
33. **Cazzaniga G**, d'Aniello E, Corral L, Biondi A. Results of minimal residual disease (MRD) evaluation and MRD-based treatment stratification in childhood ALL. *Best Pract Res Clin Haematol*. 2002;15:623-38. (review)
34. Corti P, Bonanomi S, Vallinoto C, Balduzzi A, Uderzo C, **Cazzaniga G**, Gaipa G, Dassi M, Perseghin P, Rovelli A. Rituximab for immune hemolytic anemia following T- and B-Cell-depleted hematopoietic stem cell transplantation. *Acta Haematol*. 2003;109:43-5.
35. Arrigoni P, Beretta C, Silvestri D, Rossi V, Rizzari C, Valsecchi MG, **Cazzaniga G**, Biondi A. FLT3 internal tandem duplication in childhood acute myeloid leukaemia: association with hyperleucocytosis in acute promyelocytic leukaemia. *Br J Haematol*. 2003;120:89-92.
36. van der Velden VH, Hochhaus A, **Cazzaniga G**, Szczepanski T, Gabert J, van Dongen JJ. Detection of minimal residual disease in hematologic malignancies by real-time quantitative PCR: principles, approaches, and laboratory aspects. *Leukemia*. 2003 Jun;17(6):1013-34. (review)
37. Germano G, del Giudice L, Palatron S, Giarin E, **Cazzaniga G**, Biondi A, Basso G. Clonality profile in relapsed precursor-B-ALL children by GeneScan and sequencing analyses. Consequences on minimal residual disease monitoring. *Leukemia*. 2003 Aug;17(8):1573-82.

38. Gunby RH, **Cazzaniga G**, Tassi E, Le Coutre P, Pogliani E, Specchia G, Biondi A, Gambacorti-Passerini C. Sensitivity to imatinib but low frequency of the TEL/PDGFRb fusion protein in chronic myelomonocytic leukemia. *Haematologica*. 2003;88:408-15.
39. Tosi S, Hughes J, Scherer SW, Nakabayashi K, Harbott J, Haas OA, **Cazzaniga G**, Biondi A, Kempinski H, Kearney L. Heterogeneity of the 7q36 breakpoints in the t(7;12) involving ETV6 in infant leukemia. *Genes Chromosomes Cancer*. 2003;38:191-200.
40. Scrideli CA, **Cazzaniga G**, Fazio G, Pirola L, Callegaro A, Bassan R, Rambaldi A, Nigro LL, Basso G, Maserà G, Biondi A. Gene expression profile unravels significant differences between childhood and adult Ph⁺ acute lymphoblastic leukemia. *Leukemia*. 2003;17:2234-2237.
41. **Cazzaniga G**, Gaipa G, Rossi V and Biondi A. Minimal residual disease as a surrogate marker for risk assignment to ALL patients. *Rev Clin Exp Hematol*. 2003;7:292-323 (review)
42. Eckert C, Scrideli CA, Taube T, Songia S, Wellmann S, Manenti M, Seeger K, Biondi A, **Cazzaniga G**. Comparison between TaqMan and LightCycler technologies for quantification of minimal residual disease by using immunoglobulin and T-cell receptor genes consensus probes. *Leukemia*. 2003;17:2517-24.
43. Gabert J, Beillard E, Van Der Velden VH, Bi W, Grimwade D, Pallisgaard N, Barbany G, **Cazzaniga G**, Cayuela JM, Cave H, Pane F, Aerts JL, De Micheli D, Thirion X, Pradel V, Gonzalez M, Viehmann S, Malec M, Saglio G, Van Dongen JJ. Standardization and quality control studies of 'real-time' quantitative reverse transcriptase polymerase chain reaction of fusion gene transcripts for residual disease detection in leukemia - A Europe Against Cancer Program. *Leukemia* 2003;17:2318-57.
44. Hubner S*, **Cazzaniga G***, Flohr T, Van Der Velden VH, Konrad M, Potschger U, Basso G, Schrappe M, Van Dongen JJ, Bartram CR, Biondi A, Panzer-Grumayer ER. High incidence and unique features of antigen receptor gene rearrangements in TEL-AML1-positive leukemias. *Leukemia*. 2004 ;18:84-91. *(equal contributors)
45. Tartaglia M, Martinelli S, **Cazzaniga G**, Cordeddu V, Spinelli M, Palmi C, Carta C, Pession A, Arico M, Maserà G, Basso G, Sorcini M, Gelb BD, and Biondi A. Genetic evidence for lineage- and differentiation stage-related contribution of somatic PTPN11 mutations to leukemogenesis in childhood acute leukemia. *Blood*. 2004;104:307-13.
46. Maia AT, Tussiwand R, **Cazzaniga G**, Rebullà P, Colman S, Biondi A and Greaves MF. Identification Of Pre-Leukemic Precursors Of Hyperdiploid Acute Lymphoblastic Leukemia In Cord Blood. *Genes Chromosomes Cancer*. 2004; 40:38-43.
47. Beretta C, Gaipa G, Rossi V, Bernasconi S, Spinelli O, Dell'Oro MG, Rizzari C, Rambaldi A, Biondi A and **Cazzaniga G**. Development of a quantitative-PCR method for specific FLT3/ITD monitoring in Acute Myeloid Leukemia. *Leukemia*. 2004;18:1441-4
48. Beghini A, Ripamonti CB, Cairoli R, **Cazzaniga G**, Colapietro P, Elice F, Nadali G, Grillo G, Haas OA, Biondi A, Morra E, Larizza L. KIT activating mutations: incidence in adult and pediatric acute myeloid leukemia, and identification of an internal tandem duplication. *Haematologica*. 2004;89:920-5.
49. Gaipa G, Basso G, Maglia O, Leoni V, Faini A, **Cazzaniga G**, Bugarin C, Veltroni M, Michelotto B, Ratei R, Coliva T, Valsecchi MG, Biondi A, Dworzak M. Drug-induced immunophenotypic modulation in childhood ALL: implications for minimal residual disease detection. *Leukemia*. 2005;19:49-56.
50. Cittera E, Onofri C, D'Apolito M, Cartron G, **Cazzaniga G**, Zelante L, Paolucci P, Biondi A, Introna M, Golay J. Rituximab induces different but overlapping sets of genes in human B-lymphoma cell lines. *Cancer Immunol Immunother*. 2005;54:273-86.
51. **Cazzaniga G**, Biondi A. Molecular monitoring of childhood acute lymphoblastic leukemia using antigen receptor gene rearrangements and quantitative polymerase chain reaction technology. *Haematologica*. 2005;90:382-90. (review)
52. Tartaglia M, Martinelli S, Iavarone I, **Cazzaniga G**, Spinelli M, Giarin E, Petrangeli V, Carta C, Masetti R, Arico M, Locatelli F, Basso G, Sorcini M, Pession A, Biondi A. Somatic PTPN11 mutations in childhood acute myeloid leukaemia. *Br J Haematol*. 2005;129:333-9.
53. **Cazzaniga G**, Dell'Oro MG, Mecucci C, Giarin E, Masetti R, Rossi V, Locatelli F, Martelli MF, Basso G, Pession A, Biondi A, Falini B. Nucleophosmin mutations in childhood acute myelogenous leukemia with normal karyotype. *Blood*. 2005 Aug 15;106(4):1419-22.

54. Panzer-Grümayer ER, **Cazzaniga G**, van der Velden VHJ, del Giudice L, Peham M, Mann G, Eckert C, Schrauder A, Germano G, Harbott J, Basso G, Biondi A, van Dongen JJM, Gardner H and Haas OA. Immunogenotype changes prevail in relapses of young children with TEL-AML1-positive acute lymphoblastic leukemia and derive mainly from clonal selection. *Clin Cancer Res.* 2005 Nov 1;11(21):7720-7.
55. Palmi C, Fazio G, Cassetti A, Aloisi A, Villa A, Biondi A, and **Cazzaniga G**. TEL/ARG induces cytoskeletal abnormalities in 293T cells. *Cancer Lett.* 2006 Sep 8;241(1):79-86.
56. Falini B, Bolli N, Shan J, Martelli MP, Liso A, Pucciarini A, Bigerna B, Pasqualucci L, Mannucci R, Rosati R, Gorello P, Diverio D, Roti G, Tiacci E, **Cazzaniga G**, Biondi A, Schnittger S, Haferlach T, Hiddemann W, Martelli MF, Gu W, Mecucci C, Nicoletti I. Both carboxy-terminus NES motif and mutated tryptophan(s) are crucial for aberrant nuclear export of nucleophosmin leukemic mutants in NPMc+ AML. *Blood.* 2006 Jun 1;107(11):4514-23.
57. Golay J, Cortiana C, Manganini M, **Cazzaniga G**, Salvi A, Spinelli O, Bassan R, Barbui T, Biondi A, Rambaldi A, Introna M. The sensitivity of acute lymphoblastic leukemia cells carrying the t(12;21) translocation to campath-1H-mediated cell lysis. *Haematologica.* 2006 Mar;91(3):322-30.
58. Gorello P,* **Cazzaniga G**,* Alberti F, Dell'Oro MG, Gottardi E, Specchia G, Roti G, Rosati R, Martelli MF, Diverio D, Lo Coco F, Biondi A, Saglio G, Mecucci C, Falini B. Quantitative assessment of minimal residual disease in acute myeloid leukemia carrying nucleophosmin (NPM1) gene mutations. *Leukemia.* 2006 Jun;20(6):1103-8. *(equal contributors)
59. Bungaro S, Raghavan M, Dell'Oro MG, Paolucci P, Young BD, Biondi A, **Cazzaniga G**. Assessment of submicroscopic genetic lesions by single nucleotide polymorphism arrays in a child with acute myeloid leukemia and FLT3-internal tandem duplication. *Haematologica.* 2006 Jul;91(7):998-1000.
60. Staal FJ, Cario G, **Cazzaniga G**, Haferlach T, Heuser M, Hofmann WK, Mills K, Schrappe M, Stanulla M, Wingen LU, van Dongen JJ, Schlegelberger B. Consensus guidelines for microarray gene expression analyses in leukemia from three European leukemia networks. *Leukemia.* 2006;20:1385-92.
61. Giovanni **Cazzaniga**, Giuseppe Gaipa, Vincenzo Rossi, Andrea Biondi. Monitoring of minimal residual disease in leukemia, advantages and pitfalls. (review). *Annals of Medicine.* 2006;38:512-21.
62. van der Velden VHJ, **Cazzaniga G**, Schrauder A, Hancock J, Bader P, Panzer-Grumayer R, Flohr T, Sutton R, Cave H, Madsen HO, Cayuela J-M, Trka J, Eckert C, Foroni L, zur Stadt U, Beldjord K, Raff T, C. van der Schoot CE, van Dongen JJM On behalf of the European Study Group on MRD detection in ALL (ESG-MRD-ALL). Analysis of minimal residual disease by Ig/TCR gene rearrangements: Guidelines for interpretation of real-time quantitative PCR data. *Leukemia.* 2007;21:604-11.
63. Georg Mann*, Giovanni **Cazzaniga***, Vincent HJ van der Velden, Thomas Flohr, Eva Csinady, Maddalena Paganin, Andre Schrauder, Alexander M Dohnal, Martin Schrappe, Andrea Biondi, Helmut Gardner, Jacques JM van Dongen and E Renate Panzer-Grümayer. Acute lymphoblastic leukemia with t(4;11) in children one year and older: The "big sister" of the infant disease? *Leukemia.* 2007;21:642-6. *(equal contributors)
64. van der Velden VH, Panzer-Grumayer ER, **Cazzaniga G**, Flohr T, Sutton R, Schrauder A, Basso G, Schrappe M, Wijkhuijs JM, Konrad M, Bartram CR, Masera G, Biondi A, van Dongen JJ. Optimization of PCR-based minimal residual disease diagnostics for childhood acute lymphoblastic leukemia in a multi-center setting. *Leukemia.* 2007;21:706-13.
65. Saldanha J, Silvy M, Beaufils N, Arlinghaus R, Barbany G, Branford S, Cayuela JM, **Cazzaniga G**, Gonzalez M, Grimwade D, Kairisto V, Miyamura K, Lawler M, Lion T, Macintyre E, Mahon FX, Muller MC, Ostergaard M, Pfeifer H, Saglio G, Sawyers C, Spinelli O, van der Velden VH, Wang JQ, Zoi K, Patel V, Phillips P, Matejtschuk P, Gabert J. Characterization of a reference material for BCR-ABL (M-BCR) mRNA quantitation by real-time amplification assays: towards new standards for gene expression measurements. *Leukemia.* 2007;21:1481-7.
66. Accordi B, Pillozzi S, Campo Dell'orto M, **Cazzaniga G**, Arcangeli A, Te Kronnie G, Basso G. Hepatocyte growth factor receptor c-MET is associated with FAS and when activated enhances drug-induced apoptosis in pediatric B-acute lymphoblastic leukemia with TEL-AML1 translocation. *J Biol Chem.* 2007;282:29384-93.
67. Bungaro S, Irving J, Tussiwand R, Mura R, Minto L, Molteni C, Citterio M, Hall A, Biondi A, **Cazzaniga G**. Genomic analysis of different clonal evolution in a twin pair with t(12;21) positive acute lymphoblastic leukemia sharing the same prenatal clone. *Leukemia.* 2008;22:208-11

68. Corradi B, Fazio G, Palmi C, Rossi V, Biondi A, **Cazzaniga G**. Efficient detection of leukemia-related fusion transcripts by multiplex PCR applied on a microelectronic platform. *Leukemia*. 2008;22:294-302.
69. Fazio C, Palmi C, Rolink A, Biondi A and **Cazzaniga G**. PAX5/TEL acts as a transcriptional repressor causing down modulation of CD19, enhances migration to CXCL12 and confers survival advantage in preB1 cells. *Cancer Res*. 2008;68:181-9.
70. Flohr T,* Schrauder A,* **Cazzaniga G**,* Panzer-Grümayer R, van der Velden VHJ, Fischer S, Stanulla M, Basso G, Niggli FK, Schäfer BW, Sutton R, Koehler R, Zimmermann M, Valsecchi MG, Gadner H, Masera G, Schrappe M, van Dongen JJM, Biondi A, Bartram CR, on behalf of the International BFM Study Group (I-BFM-SG). Minimal residual disease (MRD)-directed risk stratification using real-time quantitative PCR analysis of immunoglobulin and T-cell receptor gene rearrangements in the international multicenter trial AIEOP-BFM ALL 2000 for childhood acute lymphoblastic leukemia (ALL). *Leukemia*. 2008;22:771-82. *(equal contributors)
71. Flex E, Petrangeli V, Stella L, Chiaretti S, Hornakova T, Knoops L, Ariola C, Fodale V, Clappier E, Paoloni F, Martinelli S, Fragale A, Sanchez M, Tavolaro S, Messina M, **Cazzaniga G**, Camera A, Pizzolo G, Tornesello A, Vignetti M, Battistini A, Cavé H, Gelb BD, Renauld JC, Biondi A, Constantinescu SN, Foà R, Tartaglia M. Somatically acquired JAK1 mutations in adult acute lymphoblastic leukemia. *J Exp Med*. 2008;205:751-8.
72. Arico M, Ziino O, Valsecchi MG, **Cazzaniga G**, Baronci C, Messina C, Pession A, Santoro N, Basso G, Conter V; for the Italian Association of Pediatric Hematology and Oncology (AIEOP). Acute lymphoblastic leukemia and Down syndrome: presenting features and treatment outcome in the experience of the Italian Association of Pediatric Hematology and Oncology (AIEOP). *Cancer*. 2008;113:515-521.
73. Bercovich D, Ganmore I, Scott LM, Wainreb G, Birger Y, Elimelech A, Shochat C, **Cazzaniga G**, Biondi A, Basso G, Cario G, Schrappe M, Stanulla M, Strehl S, Haas OA, Mann G, Binder V, Borkhardt A, Kempfski H, Trka J, Bielorei B, Avigad S, Stark B, Smith O, Dastugue N, Bourquin JP, Tal NB, Green AR, Izraeli S. Mutations of JAK2 in acute lymphoblastic leukaemias associated with Down's syndrome. *Lancet*. 2008;372:1484-92
74. **Cazzaniga G**, Lo Nigro L, Cifola I, Milone G, Schnittger S, Haferlach T, Mirabile E, Costantino F, Martelli MP, Mastrodicasa E, Di Raimondo F, Aversa F, Biondi A, Falini B. Simultaneous occurrence of acute myeloid leukaemia with mutated nucleophosmin (NPM1) in the same family. 2009;23:199-203.
75. Bungaro S, Dell'Orto MC, Zangrando A, Basso D, Gorletta T, Lo Nigro L, Leszl A, Young BD, Basso G, Bicciato S, Biondi A, Te Kronnie G, **Cazzaniga G**. Integration of genomic and gene expression data of childhood ALL without known aberrations identifies subgroups with specific genetic hallmarks. *Genes Chromosomes Cancer*. 2009;48:22-38.
76. Van der Velden V,* Corral L,* Valsecchi MG,* Jansen MWJC,* De Lorenzo P, **Cazzaniga G**, Panzer-Grümayer ER, Schrappe M, Schrauder A, Meyer C, Marschalek R, Lo Nigro L, Metzler M, Basso G, Mann G, Den Boer ML, Biondi A, Pieters R, Van Dongen JJM. Prognostic significance of minimal residual disease in infants with acute lymphoblastic leukemia treated within the Interfant-99 protocol. *Leukemia* 2009;23:1073-9 *(equal contributors)
77. Ford A,* Palmi C,* Bueno C, Hong D, Cardus P, Knight D, **Cazzaniga G**, Enver T, Greaves M. The TEL/AML1 leukaemia fusion gene dysregulates the TGF β pathway in early B lineage progenitor cells. *J. Clinical Invest*. 2009;119:826-36. *(equal contributors)
78. Willasch A, Gruhn B, Coliva T, Kalinova M, Schneider G, Kreyenberg H, Steinbach D, Weber G, Hollink IHIM, Zwaan CM, Biondi A, van der Velden VHJ, Reinhardt D, **Cazzaniga G**,* Bader P* and Trka J.* Standardization of WT1 mRNA quantitation for minimal residual disease (MRD) monitoring in childhood AML and implications of WT1 gene mutations: a European multicenter study. *Leukemia* 2009;23:1472-9 *(equal contributors)
79. Emerenciano M, Bungaro S, **Cazzaniga G**, Fonseca Dorea MD, Coser VM, Quezado Magalhaes I, Biondi A, Pombo-de-Oliveira MS. ETV6-RUNX1 fusion gene and additional genetic changes in infant leukemia: a genome-wide analysis. *Cancer Genet and Cytogenet* 2009;193:86.
80. Lovisa F, Mussolin L, Corral L, Pillon M, **Cazzaniga G**, Biondi A, and Rosolen A. IgH and IgK gene rearrangements as PCR targets for pediatric Burkitt's lymphoma and mature B-ALL MRD analysis. *Lab Invest*. 2009;89:1182-6.

81. Molteni CG, Te Kronnie G, Bicciato S, Villa T, Tartaglia M, Basso G, Biondi A, **Cazzaniga G**. PTPN11 mutations in childhood acute lymphoblastic leukemia occur as a secondary event associated with high hyperdiploidy. *Leukemia*. 2010;24:232-5
82. Bardini M, Spinelli R, Bungaro S, Mangano E, Corral L, Cifola I, Fazio G, Giordan M, Basso G, De Rossi G, Biondi A, Battaglia C, **Cazzaniga G**. DNA copy-number abnormalities do not occur in infant ALL with t(4;11)/MLL-AF4. *Leukemia*. 2010;24:169-76
83. Hertzberg L, Vendramini E, Ganmore I, **Cazzaniga G**, Schmitz M, Chalker J, Shiloh R, Iacobucci I, Shochat C, Zeligson S, Cario G, Stanulla M, Strehl S, Russell LJ, Harrison CJ, Bornhauser B, Yoda A, Rechavi G, Bercovich D, Borkhardt A, Kempinski H, Kronnie GT, Bourquin JP, Domany E, Izraeli S. Down syndrome acute lymphoblastic leukemia: a highly heterogeneous disease in which aberrant expression of CRLF2 is associated with mutated JAK2: a report from the iBFM Study Group. *Blood*. 2010;115:1006-17
84. Bateman CM, Colman SM, Chaplin T, Young BD, Eden TO, Bhakta M, Gratias EJ, van Wering ER, **Cazzaniga G**, Harrison CJ, Hain R, Ancliff P, Ford AM, Kearney L, Greaves M. Acquisition of genome-wide copy number alterations in monozygotic twins with acute lymphoblastic leukaemia. *Blood*. 2010 Jan 8. [Epub ahead of print]
85. Buldini B, Zangrando A, Michielotto B, Veltroni M, Giarin E, Tosato F, **Cazzaniga G**, Biondi A, Basso G. Identification of immunophenotypic signatures by clustering analysis in pediatric patients with Philadelphia chromosome-positive acute lymphoblastic leukemia. *Am J Hematol*. 2010;85:138-41.