# CURRICULUM VITAE ET STUDIORUM

**Dati anagrafici**

**Nome e cognome:** Roberta Bortul

**Luogo e data di nascita:** Trieste 04/01/1971

**Istruzione e formazione**

**Maturità:** **Maturità scientifica** conseguita nel 1990.

**Laurea:** **Laurea in Scienze Biologiche**, con indirizzo biomolecolare, conseguita il 18/07/1996 (106/110).

**Abilitazione e Ordine dei Biologi:** **Abilitazione alla professione di Biologo** conseguita nella sessione di novembre dell'anno 1997 (102/150).
**Iscritta all'Ordine dei Biologi** dal 26/02/1998 al 9/03/2016.

**Dottorato di ricerca:** **Dottorato** di **Ricerca** in **Scienze Morfologiche Umane** nel quadriennio 1996-2000.
**Titolo** conseguito il 11/05/2001.

**Posizione attuale**

**- Collaboratore tecnico di ruolo** - area tecnico-scientifica e socio sanitaria- dal 01/03/1999 (categoria D) presso il Dipartimento Universitario di Scienze Mediche, Chirurgiche e della Salute, (unità locale: via Manzoni 16) e successivamente, in data 16/01/2023, trasferita presso il Dipartimento di Scienze della Vita- palazzina di via Fleming 31/B – Università degli Studi di Trieste.

**- Addetto alla sicurezza e al primo soccorso** del Dipartimento Universitario di Scienze Mediche, Chirurgiche e della Salute, Unità locale: via Manzoni 16 dal 22/06/2000 prot. n° 20000018210 e DELEGATO locale per la gestione rifiuti dal 1/1/2019 (con decreto n. 1454-2018, prot. n. 125445).

- **Cultore della Materia** per il settore scientifico disciplinare **BIO/17-** istologia, come da verbale del Consiglio di Facoltà di Medicina e Chirurgia n°837 del 26/11/2002 e per il

settore scientifico disciplinare **BIO/16** – anatomia umana, come da verbale del Consiglio di Facoltà di Medicina e Chirurgia n°1063 del 14/2/2012.

## ATTIVITA' SCIENTIFICA

L'attività scientifica è documentata da 64 pubblicazioni in esteso su riviste internazionali.

## Pubblicazioni per esteso:

1. The nuclear matrix and apoptosis. Martelli AM, Bareggi R, **Bortul R**, Grill V, Narducci P, Zweyer M. ***Histochem Cell Biol***. 1997;108:1-10. **IF=3.021. N° citazioni: 2**

2. Changes in the subnuclear distribution of two RNA metabolism-related proteins can be detected in nuclear scaffold or matrix prepared by different techniques. Neri LM, Zweyer M, Falcieri E, **Bortul R**, Martelli AM. ***Histochem Cell Biol***. 1997;108:525-36. **IF=3.021. N° citazioni: 2.**

3. Biochemical and morphological characterization of the nuclear matrix from apoptotic HL-60 cells. Martelli AM, **Bortul R**, Fackelmayer FO, Tazzari PL, Bareggi R, Narducci P, Zweyer M. ***J Cell Biochem***. 1999;72:35-46. **IF=2.935.**

4. Influence of different metal ions on the ultrastructure, biochemical properties and protein localization of the K562 cell nuclear matrix. Neri LM, **Bortul R**, Zweyer M, Tabellini G, Borgatti P, Marchisio M, Bareggi R, Capitani S, Martelli AM. ***J Cell Biochem***. 1999;73:342-54. **IF=2.935.**

5. Biochemical and Morphological Changes in the Nuclear Matrix Prepared from Apoptotic HL-60 Cells: Effect of Different Stabilizing Procedure. Martelli AM, **Bortul R**, Bareggi R, Grill V, Narducci P, Zweyer M. ***J Cell Biochem***. 1999;74:99-110. **IF=2.935.**

**6.** The pro-apoptotic drug camptothecin stimulates phospholipase D activity and diacylglycerol production in the nucleus of HL-60 human promyelocytic leukemia cells. Martelli AM, **Bortul R**, Bareggi R, Tabellini G, Grill V, Baldini G, Narducci P. ***Cancer Res***. 1999;59:3961-967. **IF=7.543. N° citazioni: 4.**

**7.** Nuclear matrix protein is released from apoptotic white blood cells during cold (1-6°C) storage of concentrated red blood cells units and might induce antibody response in multitransfused patients. Martelli AM, Tazzari PL, **Bortul R,** Riccio M, Tabellini G, Santi S, Frabetti F, Musini D, Bareggi R, Conte R. ***Transfusion***. 2000;40:169-177. **IF=2.982.**

**8.** Enhanced nuclear diacylglycerol kinase activity in response to a mitogenic stimulation of quiescent Swiss 3T3 cells with insulin-like growth factor I. Martelli AM, Tabellini G, **Bortul R**, Manzoli L, Bareggi R, Baldini G, Grill V, Zweyer M, Narducci P, Cocco L. ***Cancer Res***. 2000;60:815-21. **IF=7.543. N° citazioni: 2.**

**9.** Behavior of nucleolar proteins during the course of apoptosis in camptothecin-treated HL60 cell. Martelli AM, Robuffo I, **Bortul R**, Ochs RL, Luchetti L, Cocco L, Zweyer M, Bareggi R, Falcieri E. ***J Cell Biochem***. 2000;78:264-77. **IF=2.935. N° citazioni: 2.**

**10.** Phosphatidylinositol 3-kinase translocates to the nucleus of osteoblast-like MC3T3-E1 cells in response to insulin-like growth factor I and platelet-derived growth factor but not to the pro-apoptotic cytokine TNF-α. Martelli AM, Borgatti P, **Bortul R**, Manfredini M, Massari L, Capitani S, Neri LM. ***J Bone Mineral Res***. 2000;15:1716-30. **IF=6.043. N° citazioni: 4.**

**11.** Nuclear changes in necrotic HL-60 cells. **Bortul R**, Zweyer M, Billi AM, Tabellini G, Ochs RL, Bareggi R, Cocco L, Martelli AM. ***J Cell Biochem***. 2001;suppl.36:19-31. **IF=2.935.**

**12.** Nuclear lipid signaling and cancer. Martelli AM, Manzoli L, Billi AM, Tabellini G, **Bortul R**, Peruzzi D, Aluigi M, Cocco L. ***Recent Res Devel Cancer***. 2001;3:35-48. Non ha IF.

**13.** Nuclear apoptotic changes: an overview. Martelli AM, Zweyer M, Ochs RL, Tazzari PL, Tabellini G, Narducci P, **Bortul R**. ***J Cell Biochem***. 2001;82:634-46. **IF=2.935. N° citazioni: 5.**

**14.** Re-examination of the mechanisms regulating nuclear inositol lipid metabolism. Martelli AM, **Bortul R**, Tabellini G, Aluigi M, Peruzzi D, Bareggi R, Narducci P, Cocco L. ***FEBS Letters*** 2001;505:1-6. **IF=3.541. N° citazioni: 1.**

**15.** Localization of the small monomeric GTPases Rab3D and Rab3A in the AtT-20 rat pituitary cell line. Tabellini G, Baldini G, **Bortul R**, Bareggi R, Martelli AM. ***European J Histochem*** 2001;45:347-56. **IF=0.886. N° citazioni: 1.**

**16.** Erythropoietin (EPO)-induced erythroid differentiation of K562 cells is accompanied by the nuclear translocation of phosphatidylinositol 3-kinase (PtdIns 3-K) and intranuclear generation of phosphatidylinositol (3,4,5) trisphosphate (PtdIns(3,4,5)$P_3$. Neri LM, **Bortul R**, Tabellini G, Borgatti P, Baldini G, Capitani S, Martelli AM. ***Cell Sign*** 2002;14:21-29. **IF=4.094.**

**17.** Phosphoinositide-specific phospholipase C-beta-1 expression is not linked to nerve growth factor-induced differentiation, cell survival or cell cycle control in PC12 rat pheocromocytoma cells. **Bortul R**, Aluigi M, Tazzari PL, Tabellini G, Baldini G, Bareggi R, Narducci P, Martelli AM. ***J Cell Biochem***. 2002;84:56-67. **IF=2.935.**

**18.** Proliferating or differentiating stimuli act on different lipid-dependent signaling pathways in nuclei of human leukemia cells. Neri LM, **Bortul R**, Borgatti P, Tabellini G, Baldini G, Capitani S, Martelli AM. ***Mol Biol Cell*** 2002;13:947-64. **IF=5.979. N° citazioni: 3.**

**19.** Binding of elements of protein kinase C-□ regulatory domain to lamin B1. Tabellini G, **Bortul R**, Aluigi M, Billi AM, Bareggi R, Grill V, Narducci P, Martelli AM. ***Cell Signal***. 2002;14:819-27. **IF=4.094. N° citazioni: 1.**

**20.** Nuclear 3'-phosphorylated inositol lipids and phosphoinositide 3-kinases: key players in cell differentiation and proliferation? (Invited Review) Martelli AM, Tabellini G, **Bortul R**, Billi AM, Manzoli L, Cocco L. ***Recent Res Develop In Cancer.*** 2002;4:339-51. Non ha IF.

**21.** Diacylglycerol kinases in nuclear lipid-dependent signal transduction pathway. (review) Martelli AM, **Bortul R**, Tabellini G, Bareggi R, Manzoli L, Narducci P, Cocco L. ***Cell Mol Life Sci***. 2002;59:1129-37. **IF=4.593. N° citazioni: 1.**

**22.** Molecular characterization of protein kinase C-□□binding to lamin A. Martelli AM, **Bortul R**, Tabellini G, Faenza I, Cappellini A, Bareggi R, Manzoli L, Cocco L. ***J Cell Biochem***. 2002;86:320-30. **IF=2.935. N° citazioni: 4.**

**23.** The controversial nuclear matrix: a balanced point of view. Martelli AM, Falcieri E, Zweyer M, **Bortul R,** Tabellini G, Cappellini A, Cocco L, Manzoli L. ***Histol Histopathol***. 2002;17:1193-05. **IF=2.404. N° citazioni: 3.**

**24.** Nuclear inositol lipid signaling and its potential involvement in malignant transformation. (review) Martelli AM, Manzoli L, Faenza I, **Bortul R**, Billi AM, Cocco L. ***Biochim Biophys Acta-Reviews on Cancer***. 2002;1602:10-16. **IF=11.685. N° citazioni: 1.**

**25.** Flow cytometric detection of total and serine 473 phosphorylated AKT. Tazzari PL, Cappellini A, **Bortul R**, Ricci F, Billi AM, Tabellini G, Conte R, Martelli AM. ***J Cell Biochem***. 2002;86:704-15. **IF=2.935. N° citazioni: 1.**

**26.** Nuclear lipids: new functions for old molecules? Martelli AM, Tabellini G, Borgatti P, **Bortul R**, Capitani S, Neri LM. ***J Cell Biochem***. 2003;88:455-61. **IF=2.935. N° citazioni: 4.**

**27.** Constitutively active AKT1 protects HL-60 leukemia cells from TRAIL-induced apoptosis through a mechanism involving NF-kB activation and $cFLIP_L$ up-regulation. **Bortul R**, Tazzari PL, Cappellini A, Tabellini G, Billi AM, Bareggi R, Manzoli L, Cocco L, Martelli AM. ***Leukemia***. 2003;17:379-89. **IF=8.296. N° citazioni:11.**

**28.** The phosphoinositide 3-kinase/AKT1 pathway involvement in drug and all-trans-retinoic acid resistance of leukemia cells. Neri LM, Borgatti P, Tazzari PL, **Bortul R**, Cappellini A, Tabellini G, Bellicosa A, Capitani S, Martelli AM. ***Mol Cancer Res***. 2003;1:234-46 (in precedenza era Cell Growth Diff). **IF=4.162. N° citazioni: 5.**

**29.** Diacylglycerol kinase-θ is localized in the speckles domains of the nucleus. Tabellini G, **Bortul R,** Santi S, Riccio M, Baldini G, Cappellini A, Billi AM, Berezney R, Ruggeri A, Cocco L, Martelli AM. ***Exp Cell Res***. 2003;287:143-54. **IF=3.589. N° citazioni: 3.**

**30.** Intranucleolar localization of DNA topoisomerasi IIα is a distinctive feature of necrotic, but not apoptotic, Jurkat T-cell. Falcieri E, Burattini S, **Bortul R**, Luchetti F, Tabellini G, Tazzari PL, Cappellini A, Cocco L, Martelli AM. ***Microsc Res Techniq***. 2003;62:192-200. **IF=1.850.**

**31.** A new selective AKT pharmacological inhibitor reduces resistance to chemotherapeutic drugs, TRAIL, all-trans-retinoic acid, and ionizing radiation of human leukemia cells. Martelli AM, Tazzari PL, Tabellini G, **Bortul R**, Billi AM, Manzoli L, Ruggeri A, Conte R, Cocco L. ***Leukemia***. 2003;17: 1794-1805. **IF=8.296. N° citazioni: 6.**

**32.** The phosphoinositide 3-kinase/AKT pathway regulates cell cycle progression of HL60 human leukemia cells through cytoplasmic relocalization of the cyclin-dependent kinase inhibitor $_{p}27^{kip1}$ and control of cyclin $D_1$ expression. Cappellini A, Tabellini G, Zweyer M, **Bortul R**, Tazzari PL, Billi AM, Falà F, Cocco L, Martelli AM. ***Leukemia***. 2003;17:2157-67. **IF=8.296. N° citazioni: 5.**

**33.** Novel 2'-substituted, 3'-deoxy-phosphatidyl-myo-inositol analogues reduce drug resistance in human leukaemia cell lines with an activated phosphoinositide 3-kinase/Akt pathway. Tabellini G, Tazzari PL, **Bortul R**, Billi AM, Conte R, Manzoli L, Cocco L, Martelli AM. ***Br J Haematol***. 2004;126(4):574-82. **IF=4.597. N° citazioni: 2.**

**34.** Involvement of the phosphoinositide 3-kinase/Akt signaling pathway in the resistance to therapeutic treatments of human leukemias. Martelli AM, Tabellini G, **Bortul R**, Tazzari PL, Cappellini A, Billi AM, Cocco L. ***Histol Histopathol***. 2005;20(1):239-52. Review. **IF=2.404. N° citazioni: 1.**

**35.** Deguelin, A PI3K/AKT inhibitor, enhances chemosensitivity of leukaemia cells with an active PI3K/AKT pathway. **Bortul R**, Tazzari PL, Billi AM, Tabellini G, Mantovani I, Cappellini A, Grafone T, Martinelli G, Conte R, Martelli AM. ***Br J Haematol***. 2005;129(5):677-86. **IF=4.597. N° citazioni: 4.**

**36.** Phosphoinositide 3-kinase/Akt inhibition increases arsenic trioxide-induced apoptosis of acute promyelocytic and T-cell leukaemias. Tabellini G, Tazzari PL, **Bortul R**, Evangelisti C, Billi AM, Grafone T, Martinelli G, Baccarani M, Martelli AM. ***Br J Haematol***. 2005;130(5):716-25. **IF=4.597. N° citazioni: 1.**

**37.** Nuclear phosphoinositide specific phospholipase C (PI-PLC)-beta 1: a central intermediary in nuclear lipid-dependent signal transduction. Martelli AM, Fiume R, Faenza I, Tabellini G, Evangelista C, **Bortul R**, Follo MY, Fala F, Cocco L. ***Histol Histopathol***. 2005;20(4):1251-60. Review. **IF=2.404. N° citazioni: 2.**

**38.** Different levels of the neuronal nitric oxide synthase isoform modulate the rate of osteoclastic differentiation of TIB-71 and CRL-2278 RAW 264.7 murine cell clones. Nicolin V, Ponti C, Narducci P, Grill V, **Bortul R**, Zweyer M, Vaccarezza M, Zauli G. ***Anat Rec A Discov Mol Cell Evol Biol***. 2005;286(2):945-54. **IF=1.490.**

**39.** Nuclear expression of diacylglycerol kinases: possible involvement in DNA replication. Evangelisti C, **Bortul R**, Tabellini G, Papa V, Cocco L, Martelli AM. ***Eur J Histochem***. 2006;50(1):9-13. Review. **IF=0.886. N° citazioni: 1.**

**40.** Phosphoinositide 3-kinase/Akt signaling pathway and its therapeutical implications for human acute myeloid leukemia. Martelli AM, Nyakern M, Tabellini G, **Bortul R**, Tazzari PL, Evangelisti C, Cocco L. ***Leukemia***. 2006;20(6):911-28. Review. **IF=8.296. N° citazioni: 8.**

**41.** Nuclear diacylglycerol kinases: emerging downstream regulators in cell signaling networks. Evangelisti C, **Bortul R**, Fala F, Tabellini G, Goto K, Martelli AM. ***Histol Histopathol***. 2007;22(5):573-9. Review. **IF=2.404. N° citazioni: 1.**

**42.** The insulin-like growth factor-I receptor kinase inhibitor NVP-AEW541 induces apoptosis in acute myeloid leukemia cells exhibiting autocrine insulin-like growth factor-I secretion. Tazzari PL, Tabellini G, **Bortul R**, Papa V, Evangelisti C, Grafone T, Martinelli G, McCubrey JA, Martelli AM. ***Leukemia***. 2007;21(5):886-96. **IF=8.296. N° citazioni: 5.**

**43.** Recombinant TRAIL induces miorelaxating activity in rat aortas, which is abrogated by the induction of diabetes mellitus. Celeghini C, **Bortul R**, Fadda R, Gonelli A. ***Atherosclerosis***. 2007;192(1):224-6. **IF=4.522.**

**44.** The phosphoinositide 3-kinase (PI3K)/AKT signaling pathway as a therapeutic target for the treatment of human acute myeloid leucemia (AML). Martelli AM, Tabellini G, **Bortul R**, Nyakern M, Tazzari PG, Evangelisti C, Cocco L. ***Current Signal Transduction Therapy***. 2007;2:246-56. **IF=0.468.**

**45.** Effects of neridronic acid on osteoclasts derived by physiological dual-cell cultures. Nicolin V, Bareggi R, Baldini G, **Bortul R**, Martinelli B, Narducci P. ***Acta Histochem***. 2007;109(5):397-402. **IF=1.234.**

**46.** Increased OPG expression and impaired OPG/TRAIL ratio in the aorta of diabetic rats. Vaccarezza M, **Bortul R**, Fadda R, Zweyer M. ***Med Chem***. 2007;3(4):387-91. **IF=1.642.**

**47.** In vitro exposure of human chondrocytes to pulsed electromagnetic fields. Nicolin V, Ponti C, Baldini G, Gibellini D, **Bortul R**, Zweyer M, Martinelli B, Narducci P. ***Eur J Histochem***. 2007;51(3):203-12. **IF=0.886.**

**48.** Breast adenocarcinoma MCF-7 cell line induces spontaneous osteoclastogenesis via a RANK-ligand-dependent pathway. Nicolin V, **Bortul R**, Bareggi R, Baldini G, Martinelli B, Narducci P. ***Acta Histochem***. 2008;110(5):388-96. **IF=1.234. N° citazioni: 1.**

**49.** Sparc localizes to the blebs of hobit cells and human primary osteoblasts. Baldini G, Ponti C, **Bortul R**, Narducci P, Grill V, Martelli AM. ***J Cell Biochem***. 2008;104(6):2310-23. **IF=2.935.**

**50.** Synergistic proapoptotic activity of recombinant TRAIL plus the AKT inhibitor Perifosine in acute myelogenous leukemia cells. Tazzari PL, Tabellini G, Ricci F, Papa V, **Bortul R**, Chiarini F, Evangelisti C, Martinelli G, Bontadini A, Cocco L, McCubrey JA, Martelli AM. ***Cancer Res***. 2008;68(22):9394-403. **IF=7.543. N° citazioni: 1.**

**51.** Clathrin-dependent endocytosis of membrane-bound RANKL in differentiated osteoclasts. Narducci P, **Bortul R**, Bareggi R, Nicolin V. ***Eur J Histochem***. 2010;54(1). **IF=0.886.**

**52.** Targeted inhibition of mTORC1 and mTORC2 by active-site mTOR inhibitors has cytotoxic effects in T-cell acute lymphoblastic leukemia. Evangelisti C, Ricci F, Tazzari P, Tabellini G, Battistelli M, Falcieri E, Chiarini F, **Bortul R**, Melchionda F, Pagliaro P, Pession A, McCubrey JA, Martelli AM. ***Leukemia***. 2011 May;25(5):781-91. **IF=8.296.**

**53.** PI3K/AKT/mTORC1 and MEK/ERK signaling in T-cell acute lymphoblastic leukemia: New options for targeted therapy. Martelli AM, Tabellini G, Ricci F, Evangelisti C, Chiarini F, **Bortul R**, McCubrey JA, Manzoli FA. ***Adv Enzyme Regul***. 2011 Oct 1.

**54.** AMP-dependent kinase/mammalian target of rapamycin complex 1 signaling in T-cell acute lymphoblastic leukemia: therapeutic implications. Grimaldi C, Chiarini F, Tabellini G, Ricci F, Tazzari PL, Battistelli M, Falcieri E, **Bortul R**, Melchionda F, Iacobucci I, Pagliaro P, **.** Martinelli G, Pession A, Barata JT, McCubrey JA, Martelli AM. ***Leukemia***. 2012 Jan;26(1):91-100. **IF=8.296.**

**55.** Production of in vivo Biotinylated Rotavirus Particles. De Lorenzo G, Eichwald C, Schraner EM, Nicolin V, **Bortul R**, Mano M, Burrone OR, Arnoldi F. ***J Gen Virol***. 2012 Jul;93(Pt 7):1474-82.

**56.** Innovative Target Therapies Are Able to Block the Inflammation Associated with Dysfunction of the Cholesterol Biosynthesis Pathway.Marcuzzi A, Piscianz E, Loganes C, Vecchi Brumatti L, Knowles A, Bilel S, Tommasini A, **Bortul R**, Zweyer M.Int J Mol Sci. 2015 Dec 30;17(1). Review

**57.** Investigating the mechanical properties of zona pellucida of whole human oocytes by atomic force spectroscopy.Andolfi L, Masiero E, Giolo E, Martinelli M, Luppi S, Dal Zilio S, Delfino I, **Bortul R**, Zweyer M, Ricci G, Lazzarino M.Integr Biol (Camb). 2016 Aug 8;8(8):886-93.

**58.** Looking for Calcium Phosphate Composite Suitable to Study Osteoclast Endocytosis: Preliminary Observations.Nicolin V, Baldini G, De Iaco D, **Bortul R**, Turco G, Nori SL.Transl Med UniSa. 2016 May 16;14:15-20. eCollection 2016 May.

**59.** Geranylgeraniol and Neurological Impairment: Involvement of Apoptosis and Mitochondrial Morphology.Marcuzzi A, Piscianz E, Zweyer M, **Bortul R**, Loganes C, Girardelli M, Baj G, Monasta L, Celeghini C.Int J Mol Sci. 2016 Mar 11;17(3):365. doi: 10.3390/ijms17030365.

**60.** Looking for Calcium Phosphate Composite Suitable to Study Osteoclast Endocytosis: Preliminary Observations. Nicolin V, Baldini G, De Iaco D, **Bortul R**, Turco G, Nori SL. Transl Med UniSa. 2016 May 16;14:15-20. eCollection 2016 May

**61.** Investigating the mechanical properties of zona pellucida of whole human oocytes by atomic force spectroscopy.
Andolfi L, Masiero E, Giolo E, Martinelli M, Luppi S, Dal Zilio S, Delfino I, **Bortul R**, Zweyer M, Ricci G, Lazzarino M.
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**62.** Neuronal Dysfunction Associated with Cholesterol Deregulation.
Marcuzzi A, Loganes C, Valencic E, Piscianz E, Monasta L, Bilel S, **Bortul R**, Celeghini C, Zweyer M, Tommasini A.
Int J Mol Sci. 2018 May 19;19(5).

**63.** Light element distribution in fresh and frozen-thawed human ovarian tissues: a preliminary study.
Pascolo L, Venturin I, Gianoncelli A, **Bortul R**, Zito G, Giolo E, Salomé M, Bedolla DE, Altissimo M, Zweyer M, Ricci G.
Reprod Biomed Online. 2018 Aug;37(2):153-162.

**64.** Bioactive lactose-modified chitosan acts as a temporary extracellular matrix for the formation of chondro-aggregates.

Pizzolitto C., Scognamiglio F., Baldini G., Bortul R., Turco G., Donati I., Nicolin V., Marsich E. ACS Applied Polymer Materials 2023, 5, 1, 504-516 Publication Date (Web):December 20, 2022