

CURRICULUM VITAE del Prof. RODOLFO QUARTO

- Nome: Rodolfo Quarto
- Professore Ordinario di Biologia Applicata (BIO13)
- Direttore del Laboratorio Cellule Staminali del Dip. Medicina Sperimentale, Univ. Di Genova
- Direttore del Laboratorio di Oncologia Cellulare IRCCS Policlinico San Martino , Genova.
- Affiliazione:
 - Scuola di Scienze Mediche e Farmaceutiche, Dip. Medicina Sperimentale (DIMES) Università' degli Studi di Genova.
 - Policlinico San Martino, IRCCS per l'Oncologia, Genova

Studi

- 1982: Laurea di Dottore in Medicina e Chirurgia, Summa cum Laude, conseguita presso la II Facolta' di Medicina e Chirurgia dell'Università' degli Studi di Napoli.
- 1982: Abilitazione alla Professione di Medico-Chirurgo (1982); Iscrizione Ordine dei Medici di Napoli (1982-1994) e di Genova (1994-oggi).
- 1986: Diploma di specializzazione in Oncologia, votazione 70/70, conseguito presso la II Facolta' di Medicina e Chirurgia dell'Università' degli Studi di Napoli.

Formazione scientifica

- 1979-82: Allievo interno presso la Cattedra d'Immunopatologia dell'Istituto di Patologia Generale della II Facolta' di Medicina e Chirurgia di Napoli.
- 1979-82: Internato clinico obbligatorio presso la II Facolta' di Medicina e Chirurgia di Napoli.
- 1981-82: Tirocinio pratico ospedaliero presso la II Facolta' di Medicina e Chirurgia di Napoli.
- 1981: Istituto d'Immunologia dell'Università' di Monaco di Baviera, FDR, Laboratorio del Dott. Tommaso Meo.
- 1981: Cattedra di Patologia e Clinica Chirurgica (Prof. Carlos Pera-Madrazo), della Facolta' di Medicina dell'Università' di Cordoba, Spagna.
- 1982: Sezione d'Immunochimica, laboratorio del Dott. Henry Metzger, NIADDK, NIH, Bethesda, MD, USA.

Attività scientifica e professionale

- 1982-83: Allievo interno specializzando presso la Cattedra di Immunopatologia dell'Istituto di Patologia Generale della II Facolta' di Medicina e Chirurgia di Napoli.
- 1983-85: Visiting Fellow presso la Sezione d'Immunochimica, Laboratorio del dott. Henry Metzger, NIADDK, NIH, Bethesda, MD (USA).

- 1985-86: Titolare di contratto di ricerca presso l'Istituto Nazionale per la Ricerca sul Cancro, Laboratorio di Differenziamento Cellulare (Prof. R.Cancedda), Genova.
- 1986-93: Assistente presso l'Istituto Nazionale per la Ricerca sul Cancro, Laboratorio di Differenziamento Cellulare (Prof. R. Cancedda), Genova.
- 1991-93: Visiting Associate presso il Laboratorio di Biochemistry del dott. George Martin, NIA, NIH, Baltimora, MD (USA).
- 1993-2002: Dirigente Medico di I livello A (Aiuto), laboratorio di Differenziamento Cellulare, Istituto Nazionale Ricerca sul Cancro, Genova.
- 1999: Membro del Gruppo di Lavoro sugli Xenotrapianti nell'ambito del Comitato Nazionale per la Biosicurezza e le Biotecnologie.
- 2002-2005: Professore Straordinario di Biologia Applicata (BIO13), Facolta' di Farmacia, Universita' degli Studi di Genova.
- 2005: Membro del Gruppo di lavoro per la Certificazione delle Biobanche nell'ambito del Comitato Nazionale per la Biosicurezza e le Biotecnologie.
- Dal 2004: Direttore del Laboratorio Cellule Staminali, del Dipartimento di Medicina Sperimentale, Universita' degli Studi di Genova c/o Centro di Biotecnologie Avanzate, Genova.
- Dal 2006: Professore Ordinario di Biologia Applicata (BIO13), Facolta' di Farmacia, Universita' degli Studi di Genova.
- 2009 Co-fondatore di Sirius Biotech srl, spinoff dell'Ateneo genovese.
- 2015 Direttore del Laboratorio di Oncologia Cellulare, IRCCS Policlinico San Martino.

Attivita' di revisore

1) Revisore per i seguenti giornali:

- J. Cell Biology,
- J. Bone Mineral Research,
- Differentiation,
- Exp. Cell Research,
- Exp. Hematology,
- Molecular Therapy,
- J. Cellular Biochemistry,
- Leukemia,
- Tissue Engineering,
- Biomaterials.

2) Revisore per i seguenti Enti:

- Wellcome Trust Foundation, UK;
- Arthritis Research Campaign, UK;
- European Science Foundation, EU;
- Academy of Finland, FI;
- Agence Nationale de la Recherche, FR ;
- Assessorato alla Ricerca, Regione Piemonte, IT.
- Assessorato alla Ricerca, Regione Emilia-Romagna, IT.
- Assessorato alla Ricerca, Regione Sardegna, IT.
- Ministero della Sanità, IT.

3) Esperto Scientifico MIUR

Finanziamenti per progetti di ricerca.

- **1997-1998. Telethon.** “Myositis Ossificans Progressiva in Cell Culture and Transgenic Mice”. (Co-responsabile).
- **1999-2001. MURST Art.10-L46/82.** “Sviluppo di tecnologie di fabbricazione di materiali e componenti per sostituzioni ossee”. Sottotema 2: “Messa a punto di un biomateriale composito (cellule/ceramica) per la rigenerazione guidata e potenziata su bioceramica”. (Responsabile U.O. IST).
- **1999-2003. EC 5th Framework Programme – PORELEASE** - “Tissue engineered bone formation, substitution and regeneration: Application of porous calcium phosphate scaffold materials and growth factors”. (Responsabile U.O. IST).
- **2004-2008. EC 6th Framework Programme - AUTOBONE** “Production unit for the decentralised engineering of autologous cell-based osteoinductive bone substitute”. (Responsabile di U.O. UNIGE).
- **2004-2006. CIPE – REGIONE LIGURIA** - “Ricerca e sviluppo di sistemi di coltura 3D per la generazione di sistemi impiantabili-area di intervento cellule staminali”. (Responsabile di U.O. UNIGE/CBA).
- **2006. RICERCA DI ATENEIO (UNIGE)** – “Isolamento e caratterizzazione di cellule staminali tumorali”. (Responsabile di Progetto).
- **2006. FinCeramica SpA** – “Cellule staminali mesenchimali e biomateriali osteo-conduttivi per l’ingegnerizzazione di tessuto osseo”. (Responsabile di U.O. UNIGE/CBA).
- **2007-2008. CIPE – REGIONE LIGURIA** - “Cellule staminali: sistemi cellule-biomateriali per la generazione di sistemi impiantabili ” (Responsabile di U.O. UNIGE/CBA).
- **2007-2010. MIUR Programma strategico: 3. Nuove applicazioni dell’industria biomedicale** “Banche di materiale biologico come strumento di ricerca, diagnosi e terapia”. (Componente di U.O. UNIGE).
- **2007-2010. MIUR Programma strategico: 3. Nuove applicazioni dell’industria biomedicale** “Bio-protesi articolari innovative per l’ortopedia”. (Responsabile di U.O. UNIGE/CBA).
- **2007-2009. MIUR Rete nazionale di ricerca TissueNet** - (Responsabile di U.O. UNIGE/CBA).
- **2012-2015. Fondazione CARIPLLO:** Synthesis of a mechano-responsive molecular brush with tuned biomimetic architectures - (Responsabile di U.O. UNIGE).
- **2014-2015. PAR-FAS 2007-2013 – REGIONE LIGURIA:** Realizzazione di microchips per l’identificazione e la validazione di cellule staminali riprogrammate (iPSC) e produzione di terreni di coltura iPSC specifici utili al differenziamento in tessuti specifici. (Responsabile di U.O. UNIGE).
- **2014-2015. PAR-FAS 2007-2013 – REGIONE LIGURIA:** HLBI Model High-level Ligurian Biobanks Infrastructure Model. (Responsabile di U.O. UNIGE).

Brevetti

- Martin I, Wendt D, Braccini A, Jakob M, Quarto R. Reverse-flow perfusion of three-dimensional scaffolds. Filed, 2004 (WO/2005/085429).

- Scaglione S, Quarto R, Benatti U, Badano R. Bioreattore, in particolare per la generazione di tessuti ingegnerizzati. Filed, 2008 (TO2008A000426). Brevetto in fase di registrazione europea.
- Cama G, Quarto R, Capurro M, Barberis F, Scaglione S. Formulazioni e metodo per la preparazione di cementi ossei macroporosi a base di brushite. Filed, 2008 (MI2008A1181).
- Scaglione S., Quarto R. Materiale composito e processo per la sua preparazione. Filed, 2009 (MI2009A000274).

Spinoff

- 2009 Progetto UNITI: Socio fondatore dello spinoff Sirius-Biotech srl .
- 2014 Sirius-Biotech srl viene riconosciuta come startup innovativa.

Pubblicazioni

1. Ciferri MC, Quarto R, Tasso R. Extracellular Vesicles as Biomarkers and Therapeutic Tools: From Pre-Clinical to Clinical Applications. *Biology (Basel)*. 2021 Apr 23;10(5):359. doi: 10.3390/biology10050359.
2. Costa A, Ceresa D, De Palma A, Rossi R, Turturo S, Santamaria S, Balbi C, Villa F, Reverberi D, Cortese K, De Biasio P, Paladini D, Coviello D, Ravera S, Malatesta P, Mauri P, Quarto R, Bollini S. Comprehensive Profiling of Secretome Formulations from Fetal- and Perinatal Human Amniotic Fluid Stem Cells. *Int J Mol Sci*. 2021 Apr 2;22(7):3713. doi: 10.3390/ijms22073713.
3. Villa F., Quarto R. and Tasso R. Extracellular Vesicles as Natural, Safe and Efficient Drug Delivery Systems. *Pharmaceutics*. 2019 Oct 28;11(11):557. doi: 10.3390/pharmaceutics11110557.
4. Gorgun C, Reverberi D, Rotta G, Villa F, Quarto R, Tasso R. Isolation and Flow Cytometry Characterization of Extracellular-Vesicle Subpopulations Derived from Human Mesenchymal Stromal Cells. *Curr Protoc Stem Cell Biol*. 2019 Feb;48(1):e76. doi: 10.1002/cpsc.76.
5. Gorgun C, Ceresa D, Lesage R, Villa F, Reverberi D, Balbi C, Santamaria S, Cortese K, Malatesta P, Geris L, Quarto R, Tasso R. Dissecting the effects of preconditioning with inflammatory cytokines and hypoxia on the angiogenic potential of mesenchymal stromal cell (MSC)-derived soluble proteins and extracellular vesicles (EVs). *Biomaterials*. 2021 Feb;269:120633. doi: 10.1016/j.biomaterials.2020.120633.
6. Peñuela L, Negro C, Massa M, Repaci E, Cozzani E, Parodi A, Scaglione S, Quarto R, Raiteri R. Atomic force microscopy for biomechanical and structural analysis of human dermis: A complementary tool for medical diagnosis and therapy monitoring. *Exp Dermatol*. 2018 Feb;27(2):150-155. doi: 10.1111/exd.13468. Epub 2018 Jan 9. PubMed PMID: 29152798.
7. Gasparini S, Villa F, Molfetta L, Repaci E, Castagnola P, Quarto R, Giannoni P. Exposure to reversine affects the chondrocyte morphology and phenotype in vitro. *J Tissue Eng Regen Med*. 2017 Jul 17. doi: 10.1002/term.2515. [Epub ahead of print] PubMed PMID: 28714568.
8. Giannoni P, Villa F, Cordazzo C, Zardi L, Fattori P, Quarto R, Fiorini M. Rheological properties, biocompatibility and in vivo performance of new hydrogel-based bone fillers. *Biomater Sci*. 2016 Nov 18;4(11):1691-1703. Epub 2016 Oct 3. PubMed PMID: 27709133.
9. Alloisio S, Garbati P, Viti F, Dante S, Barbieri R, Arnaldi G, Petrelli A, Gigoni A, Giannoni P, Quarto R, Nobile M, Vassalli M, Pagano A. Generation of a Functional Human Neural Network by NDM29 Overexpression in Neuroblastoma Cancer Cells. *Mol Neurobiol*. 2017

- Oct;54(8):6097-6106. doi: 10.1007/s12035-016-0161-3. Epub 2016 Oct 3. PubMed PMID: 27699601.
10. Gennai A, Zambelli A, Repaci E, Quarto R, Baldelli I, Fraternali G, Bernardini FP. Skin Rejuvenation and Volume Enhancement with the Micro Superficial Enhanced Fluid Fat Injection (M-SEFFI) for Skin Aging of the Periocular and Perioral Regions. *Aesthet Surg J*. 2017 Jan;37(1):14-23. Epub 2016 May 30. PubMed PMID:27241362.
 11. Quarto R, Giannoni P. Bone Tissue Engineering: Past-Present-Future. *Methods Mol Biol*. 2016;1416:21-33. doi: 10.1007/978-1-4939-3584-0_2. PubMed PMID: 27236664.
 12. Falvo D'Urso Labate G, Bains F, Terzini M, Audenino A, Vitale-Brovarone C, Segers P, Quarto R, Catapano G. Bone structural similarity score: a multiparametric tool to match properties of biomimetic bone substitutes with their target tissues. *J Appl Biomater Funct Mater*. 2016 Jul 26;14(3):e277-89. doi: 10.5301/jabfm.5000283. PubMed PMID: 27230451.
 13. Marrella A, Aiello M, Quarto R, Scaglione S. Chemical and morphological gradient scaffolds to mimic hierarchically complex tissues: From theoretical modeling to their fabrication. *Biotechnol Bioeng*. 2016 Oct;113(10):2286-97. doi: 10.1002/bit.25994. Epub 2016 May 8. PubMed PMID: 27093435.
 14. Ventura E, Cordazzo C, Quarto R, Zardi L, Rosano C. C6: A Monoclonal Antibody Specific for a Fibronectin Epitope Situated at the Interface between the Oncofoetal Extra-Domain B and the Repeat III8. *PLoS One*. 2016 Feb 11;11(2):e0148103. doi: 10.1371/journal.pone.0148103. eCollection 2016. PubMed PMID: 26867013; PubMed Central PMCID: PMC4750999.
 15. Massa M, Gasparini S, Baldelli I, Scarabelli L, Santi P, Quarto R, Repaci E. Interaction Between Breast Cancer Cells and Adipose Tissue Cells Derived from Fat Grafting. *Aesthet Surg J*. 2016 Mar;36(3):358-63. doi: 10.1093/asj/sjv194. Epub 2015 Oct 23. PubMed PMID: 26499941; PubMed Central PMCID: PMC5127459.
 16. Bernardini FP, Gennai A, Izzo L, Zambelli A, Repaci E, Baldelli I, Fraternali-Orcioni G, Hartstein ME, Santi PL, Quarto R. Superficial Enhanced Fluid Fat Injection (SEFFI) to Correct Volume Defects and Skin Aging of the Face and Periocular Region. *Aesthet Surg J*. 2015 Jul;35(5):504-15. doi: 10.1093/asj/sjv001. Epub 2015 Apr 24. PubMed PMID: 25911629.
 17. Scaglione, S., L. Ceseracciu, M. Aiello, L. Coluccino, F. Ferrazzo, P. Giannoni, and R. Quarto. A novel scaffold geometry for chondral applications: theoretical model and in vivo validation. *Biotechnol Bioeng*. 2014; 111:2107-19.
 18. Guarino, V., S. Scaglione, M. Sandri, M.A. Alvarez-Perez, A. Tampieri, R. Quarto, and L. Ambrosio. MgCHA particles dispersion in porous PCL scaffolds: in vitro mineralization and in vivo bone formation. *J Tissue Eng Regen Med*. 2014; 8:291-303.
 19. Iannone, M., M. Ventre, G. Pagano, P. Giannoni, R. Quarto, and P.A. Netti. Defining an optimal stromal derived factor-1 presentation for effective recruitment of mesenchymal stem cells in 3D. *Biotechnol Bioeng*. 2014; 111:2303-16.
 20. Shyti, G., F. Rosalbino, D. Maccio, L. Scarabelli, R. Quarto, and P. Giannoni. A comparative evaluation between new ternary zirconium alloys as alternative metals for orthopedic and dental prosthetic devices. *Int J Artif Organs*. 2014; 37:149-64.
 21. Giannoni, P., G. Pietra, G. Travaini, R. Quarto, G. Shyti, R. Benelli, L. Ottaggio, M.C. Mingari, S. Zupo, G. Cutrona, I. Pierri, E. Balleari, A. Pattarozzi, M. Calvaruso, C. Tripodo, M. Ferrarini, and D. de Toter. Chronic lymphocytic leukemia nurse-like cells express hepatocyte growth factor receptor (c-MET) and indoleamine 2,3-dioxygenase and display features of immunosuppressive type 2 skewed macrophages. *Haematologica*. 2014; 99:1078-87.
 22. Polini, A., S. Scaglione, R. Quarto, and D. Pisignano. Composite electrospun nanofibers for influencing stem cell fate. *Methods Mol Biol*. 2013; 1058:25-40.
 23. Giannoni, P., E. Lazzarini, L. Ceseracciu, A.C. Barone, R. Quarto, and S. Scaglione. Design and characterization of a tissue-engineered bilayer scaffold for osteochondral tissue repair. *J Tissue Eng Regen Med*. 2012 doi: 10.1002/term.1651.

24. Russo, L., S. Zanini, P. Giannoni, E. Landi, A. Villa, M. Sandri, C. Riccardi, R. Quarto, S.M. Doglia, F. Nicotra, and L. Cipolla. The influence of plasma technology coupled to chemical grafting on the cell growth compliance of 3D hydroxyapatite scaffolds. *J Mater Sci Mater Med.* 2012; 23:2727-38.
25. Scaglione, S., P. Giannoni, P. Bianchini, M. Sandri, R. Marotta, G. Firpo, U. Valbusa, A. Tampieri, A. Diaspro, P. Bianco, and R. Quarto. Order versus Disorder: in vivo bone formation within osteoconductive scaffolds. *Sci Rep.* 2012; 2:274. doi: 10.1038/srep00274.
26. Kon, E., A. Muttini, E. Arcangeli, M. Delcogliano, G. Filardo, N. Nicoli Aldini, D. Pressato, R. Quarto, S. Zaffagnini, and M. Marcacci. Erratum: Novel nanostructured scaffold for osteochondral regeneration: pilot study in horses. *J Tissue Eng Regen Med.* 2012 Feb 2. doi: 10.1002/term.1473.
27. Tasso, R., C. Ilengo, R. Quarto, R. Cancedda, R.R. Caspi, and G. Pennesi. Mesenchymal stem cells induce functionally active T-regulatory lymphocytes in a paracrine fashion and ameliorate experimental autoimmune uveitis. *Invest Ophthalmol Vis Sci.* 2012; 53:786-93.
28. Narcisi, R., R. Quarto, V. Ulivi, A. Muraglia, L. Molfetta, and P. Giannoni. TGF beta-1 administration during ex vivo expansion of human articular chondrocytes in a serum-free medium redirects the cell phenotype toward hypertrophy. *J Cell Physiol.* 2012; 227:3282-90.
29. Scaglione, S., V. Guarino, M. Sandri, A. Tampieri, L. Ambrosio, and R. Quarto. In vivo lamellar bone formation in fibre coated MgCHA-PCL-composite scaffolds. *J Mater Sci Mater Med.* 2012; 23:117-28.
30. Scaglione, S., M. Cilli, M. Fiorini, R. Quarto, and G. Pennesi. Differences in chemical composition and internal structure influence systemic host response to implants of biomaterials. *Int J Artif Organs.* 2011; 34:422-31.
31. Polini, A., D. Pisignano, M. Parodi, R. Quarto, and S. Scaglione. Osteoinduction of human mesenchymal stem cells by bioactive composite scaffolds without supplemental osteogenic growth factors. *PLoS One.* 2011;6(10):e26211. doi: 10.1371/journal.pone.0026211.
32. Giannoni, P., S. Scaglione, R. Quarto, R. Narcisi, M. Parodi, E. Balleari, F. Barbieri, A. Pattarozzi, T. Florio, S. Ferrini, G. Corte, and D. de Totero. An interaction between hepatocyte growth factor and its receptor (c-MET) prolongs the survival of chronic lymphocytic leukemic cells through STAT3 phosphorylation: a potential role of mesenchymal cells in the disease. *Haematologica.* 96:1015-23.
33. Rosalbino, F., D. Maccio, P. Giannoni, R. Quarto, and A. Saccone. Study of the in vitro corrosion behavior and biocompatibility of Zr-2.5Nb and Zr-1.5Nb-1Ta crystalline alloys. *J Mater Sci Mater Med.* 22:1293-302.
34. Pennesi, G., S. Scaglione, P. Giannoni, and R. Quarto. Regulatory influence of scaffolds on cell behavior: how cells decode biomaterials. *Curr Pharm Biotechnol.* 12:151-9.
35. Fruscione, F., S. Scarfi, C. Ferraris, S. Bruzzone, F. Benvenuto, L. Guida, A. Uccelli, A. Salis, C. Usai, E. Jacchetti, C. Ilengo, S. Scaglione, R. Quarto, E. Zocchi, and A. De Flora. Regulation of human mesenchymal stem cell functions by an autocrine loop involving NAD⁺ release and P2Y₁₁-mediated signaling. *Stem Cells Dev.* 20:1183-98.
36. Shaikh N, Russo L, Papaleo E, Giannoni P, De Gioia L, Nicotra F, et al. C-type natriuretic peptide: Structural studies, fragment synthesis, and preliminary biological evaluation in human osteosarcoma cell lines. *Biopolymers* 2010;94(2):213-219.
37. Scaglione S, Zerega B, Badano R, Benatti U, Fato M, Quarto R. A three-dimensional traction/torsion bioreactor system for tissue engineering. *Int J Artif Organs* 2010 Jun;33(6):362-369.
38. Scaglione S, Lazzarini E, Ilengo C, Quarto R. A composite material model for improved bone formation. *J Tissue Eng Regen Med* 2010 Mar 8.
39. Roato I, Caldo D, Godio L, D'Amico L, Giannoni P, Morello E, et al. Bone invading NSCLC cells produce IL-7: mice model and human histologic data. *BMC Cancer* 2010 Jan 12;10(1):12.

40. Monticone M, Bisio A, Daga A, Giannoni P, Giaretti W, Maffei M, et al. Demethyl fruticulin A (SCO-1) causes apoptosis by inducing reactive oxygen species in mitochondria. *J Cell Biochem* 2010 Aug 3.
41. Kon E, Mutini A, Arcangeli E, Delcogliano M, Filardo G, Nicoli Aldini N, et al. Novel nanostructured scaffold for osteochondral regeneration: pilot study in horses. *J Tissue Eng Regen Med* 2010 Jan 4.
42. Kon E, Delcogliano M, Filardo G, Fini M, Giavaresi G, Francioli S, et al. Orderly osteochondral regeneration in a sheep model using a novel nano-composite multilayered biomaterial. *J Orthop Res* 2010 Jan;28(1):116-124.
43. Giannoni P, Scaglione S, Daga A, Ilengo C, Cilli M, Quarto R. Short-time survival and engraftment of bone marrow stromal cells in an ectopic model of bone regeneration. *Tissue Eng Part A* 2010 Feb;16(2):489-499.
44. Giannoni P, Narcisi R, De Toterò D, Romussi G, Quarto R, Bisio A. The administration of demethyl fruticulin A from *Salvia corrugata* to mammalian cells lines induces "anoikis", a special form of apoptosis. *Phytomedicine* 2010 May;17(6):449-456.
45. Scaglione S, Quarto R. Clinical Applications of Bone Tissue Engineering. In: Santin M, editor. *Strategies in Regenerative Medicine*: Springer Science & Business Media, 2009. p. 449-466.
46. Scaglione S, Ilengo C, Fato M, Quarto R. Hydroxyapatite-coated polycaprolacton wide mesh as a model of open structure for bone regeneration. *Tissue Eng Part A* 2009 Jan;15(1):155-163.
47. Giannoni P, Muraglia A, Giordano C, Narcisi R, Cancedda R, Quarto R, et al. Osteogenic differentiation of human mesenchymal stromal cells on surface-modified titanium alloys for orthopedic and dental implants. *Int J Artif Organs* 2009 Nov;32(11):811-820.
48. Cama G, Barberis F, Botter R, Cirillo P, Capurro M, Quarto R, et al. Preparation and properties of macroporous brushite bone cements. *Acta Biomater* 2009 Jul;5(6):2161-2168.
49. Tampieri A, Sandri M, Landi E, Pressato D, Francioli S, Quarto R, et al. Design of graded biomimetic osteochondral composite scaffolds. *Biomaterials* 2008 Sep;29(26):3539-3546.
50. Scaglione S, Wendt D, Miggino S, Papadimitropoulos A, Fato M, Quarto R, et al. Effects of fluid flow and calcium phosphate coating on human bone marrow stromal cells cultured in a defined 2D model system. *J Biomed Mater Res A* 2008 Aug;86(2):411-419.
51. Muraglia A, Perera M, Verardo S, Liu Y, Cancedda R, Quarto R, et al. DLX5 overexpression impairs osteogenic differentiation of human bone marrow stromal cells. *Eur J Cell Biol* 2008 Oct;87(10):751-761.
52. Marcacci M, Kon E, Moukhachev V, Lavroukov A, Kutepov S, Quarto R, et al. Stem cells associated with macroporous bioceramics for long bone repair: 6- to 7-year outcome of a pilot clinical study. *Tissue Eng* 2007 May;13(5):947-955.
53. Scaglione S, Braccini A, Wendt D, Jaquiere C, Beltrame F, Quarto R, et al. Engineering of osteoinductive grafts by isolation and expansion of ovine bone marrow stromal cells directly on 3D ceramic scaffolds. *Biotechnol Bioeng* 2006 Jan 5;93(1):181-187.
54. Mastrogiacomo M, Scaglione S, Martinetti R, Dolcini L, Beltrame F, Cancedda R, et al. Role of scaffold internal structure on in vivo bone formation in macroporous calcium phosphate bioceramics. *Biomaterials* 2006 Jun;27(17):3230-3237.
55. Li Pira G, Ivaldi F, Bottone L, Quarto R, Manca F. Human bone marrow stromal cells hamper specific interactions of CD4 and CD8 T lymphocytes with antigen-presenting cells. *Hum Immunol* 2006 Dec;67(12):976-985.
56. Quarto R. CELL THERAPY FOR BONE DISEASES. *J Bone Joint Surg Br* 2005 March 1, 2005;87-B(SUPP_I):56-b-57.
57. Braccini A, Wendt D, Jaquiere C, Jakob M, Heberer M, Kenins L, et al. Three-dimensional perfusion culture of human bone marrow cells and generation of osteoinductive grafts. *Stem Cells* 2005 Sep;23(8):1066-1072.
58. Beltrame F, Cancedda R, Canesi B, Crovace A, Mastrogiacomo M, Quarto R, et al. A simple non

invasive computerized method for the assessment of bone repair within osteoconductive porous bioceramic grafts. *Biotechnol Bioeng* 2005 Oct 20;92(2):189-198.

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60. Martinetti R, Dolcini L, Belpassi A, Quarto R, Mastrogiacomo M, Cancedda R, et al. Inspired porosity for cells and tissues. *Bioceramics*, Vol 16, 2004. p. 1095-1098.
61. Garofalo S, Quarto R. Knocking out the bad allele. *Gene Ther* 2004 Sep;11(17):1301-1302.
62. Cazalbou S, Bastie C, Chatainier G, Theilgaard N, Svendsen N, Martinetti R, et al. Processing of Ca-P ceramics, surface characteristics and biological performance. *Bioceramics*, Vol 16, 2004. p. 833-836.
63. Muraglia A, Corsi A, Riminucci M, Mastrogiacomo M, Cancedda R, Bianco P, et al. Formation of a chondro-osseous rudiment in micromass cultures of human bone-marrow stromal cells. *J Cell Sci* 2003 Jul 15;116(Pt 14):2949-2955.
64. Migliaccio AR, Quarto R, Piacibello W. Cell therapy: filling the gap between basic science and clinical trials October 15-17, 2001, Rome, Italy. *Stem Cells* 2003;21(3):348-356.
65. Derubeis AR, Mastrogiacomo M, Cancedda R, Quarto R. Osteogenic potential of rat spleen stromal cells. *Eur J Cell Biol* 2003 Apr;82(4):175-181.
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