



Curriculum Vitae Europass

Informazioni personali

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Cittadinanza **Italiana**

Settore professionale **Istologia, embriologia e biotecnologie cellulari**

Esperienza professionale

Lavoro o posizione ricoperta
1996-2000 Research fellow in Medicine, Harvard University- Boston, USA
1999-2007 Ricercatore Universitario; Facoltà di Medicina e Chirurgia Sapienza Università di Roma
Dal 1999 ad oggi:
- Docente di Istologia ed Embriologia; corso di Laurea in Medicina e Chirurgia "B"; docente di Istologia nelle lauree triennali, Sapienza Università di Roma.
- Membro del consiglio dei docenti del corso di dottorato di ricerca in Morfogenesi e Ingegneria Tissue, Sapienza Università di Roma.
2003-2014 Adjunct Associate Professor (posizione onoraria), Edith Cowan University; Australia
Dal 2004 ad oggi Titolare dell'insegnamento Biotecnologie Cellulari; corso di Laurea in Biotecnologie Mediche, Sapienza Università di Roma.
2007- Gen.2017 Professore associato, Sapienza Università di Roma.
2011-2016 Direttore dell'Istituto Interuniversitario di Miologia (IIM)
Feb. 2017 ad oggi Professore ordinario, Sapienza Università di Roma.
2018 ad oggi: Coordinatore del dottorato di Ricerca in Morfogenesi e Ingegneria Tissue, Sapienza Università di Roma.
2018 ad oggi: Direttore del Master II livello in Stem Cells and Genome Editing, Sapienza Università di Roma.

Istruzione e formazione

Date 1991: Laurea in Scienze Biologiche-Sapienza Università di Roma-

Titolo della qualifica rilasciata 1996: Dottorato di Ricerca (PhD) in Scienze e Tecnologie Cellulari -Sapienza Università di Roma

Principali competenze professionali possedute Meccanismi molecolari della rigenerazione e riparo tissutale; cellule staminali e medicina rigenerativa; Ingegneria tissutale; meccanismi molecolari coinvolti nell'invecchiamento e nelle patologie neuromuscolari.

Capacità e competenze organizzative

2001-ad oggi Expert reviewer for international scientific journals
2004- ad oggi membro della società di Biologia Cellulare e del differenziamento
2005 Lecturer and Instructor of EMBO Practical Course: From Mice to Cells
2010-2017 membro dell'editorial board di World Journal of Biological Chemistry
2010- ad oggi membro dell'editorial board di Skeletal Muscle
2011- ad oggi membro dell'editorial board di PlosOne
2015- ad oggi membro dell'editorial board di Current Genomics
2014- ad oggi Segretario Accademico dell'Accademia Medica di Roma

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Lista completa delle pubblicazioni

1. Germani A., Fusco C., Martinotti S., Musarò A., Molinaro M., Zani BM. TPA-induced differentiation of human rhabdomyosarcoma cells involves dephosphorylation and nuclear accumulation of mutant p53. *Biochem Biophys Res Commun.* 1994, 202:17-24.
2. Musarò A., Cusella De Angelis MG, Germani A., Ciccarelli C., Molinaro M., Zani BM; Enhanced expression of myogenic regulatory genes in aging skeletal muscle *Exp Cell Res* 1995; 221:241-8.
3. Barton-Davis ER, Shoturma DI, Musarò A, Rosenthal N, Sweeney HL. Viral mediated expression of insulin-like growth factor I blocks the aging-related loss of skeletal muscle function. *Proc Natl Acad Sci U S A.* 1998 95(26):15603-7.
4. Musarò A., Rosenthal N. Maturation of the myogenic program is induced by postmitotic expression of insulin-like growth factor I. *Mol Cell Biol.* 1999 19:3115-24.
5. Musarò A., Rosenthal N. Transgenic mouse models of muscle aging. *Exp Gerontol.* 1999 34(2):147-56. Review.
6. Musarò A, McCullagh KJ, Naya FJ, Olson EN, Rosenthal N. IGF-1 induces skeletal muscle hypertrophy through calcineurin in association with GATA-2 and NF-ATc1. *Nature.* 1999 398:581-5.
7. Tsao L, Neville G, Musarò A, McCullagh KJ, Rosenthal N. Revisiting calcineurin and heart failure. *Nature Medicine* 2000; 6: 2-3.
8. Musarò A, McCullagh K, Paul A, Houghton L, Dobrowolny G, Molinaro M, Barton ER, Sweeney HL, Rosenthal N. Localized Igf-1 transgene expression sustains hypertrophy and regeneration in senescent skeletal muscle. *Nature Genetics* 2001; 27: 195-200.
9. Barton ER, Morris L., Musarò A., Rosenthal N., and Sweeney H.L. Muscle specific expression of Insulin-like Growth Factor I counters muscle decline in mdx mice. *J.Cell Biol.* 2002; 157:137-147.
10. Scicchitano BM, Spath L, Musarò A, Molinaro M, Adamo S, and Nervi C. The Myocyte Enhancer Factor 2 is Essential for Myogenin Expression during AVP Induced Myogenesis. *Endocrinology* 2002; 16: 1407-16.
11. Musarò A. and Rosenthal N. The role of local Insulin-like Growth Factor-1 isoforms in the pathophysiology of skeletal muscle. *Current Genomics* 2002; 3: 149-162.
12. Rosenthal, N, Musarò A. Gene therapy for cardiac cachexia? *International Journal of Cardiology* 2002 85: 185-191
13. Winn N., Paul A., Musarò A., Rosenthal N. Insulin-like Growth Factor isoforms in skeletal muscle aging, regeneration and disease. *Cold Spring Harbor Symposia on Quantitative Biology.* 2002; LXVII: 507-518.
14. Musarò A, Rosenthal N. Attenuating muscle wasting: cell and gene therapy approaches. *Current Genomics* 2003; 4:575-585.
15. Bertini E, Biancalana V, Bolino A, Buj Bello A, Clague M, Guicheney P, Jungbluth H, Molinaro M, Musarò A, Nandurkar H, Pirola L, Romero N, Senderek J, Suter U, Sewry C, Tronche G, Wallgren-Pettersson C, Wishart MJ, Laporte J. 118th ENMC International Workshop on Advances in Myotubular Myopathy. 26-28 September 2003, Naarden, The Netherlands (Workshop of the International Consortium on Myotubular Myopathy). *Neuromuscul Disord.* 2004 14:387-96.
16. Musarò A, Giacinti C, Borsellino G, Dobrowolny G, Pelosi L, Cairns L, Ottolenghi S, Borsellino G, Cossu G, Battistini L, Molinaro M, Rosenthal N. Muscle restricted expression of myogenin enhances the recruitment of stem cells during muscle regeneration. *Proc Natl Acad Sci U S A.* 2004; 101: 1206-1210.
17. Dobrowolny G, Giacinti C, Pelosi L, Nicoletti C, Winn N, Barberi L, Molinaro M, Rosenthal N, Musarò A. Muscle expression of a local Igf-1 isoform protects motor neurons in an ALD mouse model. *J Cell Biol.* 2005; 168:193-9.
18. Scicchitano BM, Spath L, Musarò A, Molinaro M, Rosenthal N, Nervi C, Adamo S. Vasopressin-dependent Myogenic Cell Differentiation Is Mediated by Both Ca²⁺/Calmodulin-dependent Kinase and Calcineurin Pathways. *Mol Biol Cell.* 2005; 16:3632-41.

19. Musarò A. Growth factor enhancement of muscle regeneration: a central role of IGF-1. *Ital Biol.* 2005; 143:243-8
20. Denti MA, Rosa A, D'Antona G, Sthandier O, De Angelis FG, Nicoletti C, Allocca M, Pansarasa O, Parente V, Musarò A, Auricchio A, Bottinelli R, Bozzoni I. Body-wide gene therapy of Duchenne muscular dystrophy in the mdx mouse model. *Proc Natl Acad Sci USA* 2006; 103:3758-63.
21. Denti MA, Rosa A, D'Antona G, Sthandier O, Angelis FG, Nicoletti C, Allocca M, Pansarasa O, Parente V, Musarò A, Auricchio A, Bottinelli R, Bozzoni I. Chimeric Adeno-Associated Virus/Antisense U1 Small Nuclear RNA Effectively Rescues Dystrophin Synthesis and Contractile Function by Local Treatment of mdx Mice. *Human Gene Ther.* 2006 17: 1-10.
22. Musarò A., Dobrowolny G., Rosenthal N. The neuroprotective effects of a locally acting IGF-1 isoform. *Experimental Gerontology* 2007; 42:76-80.
23. Rosenthal N, Santini MP, Musarò A. Growth factor enhancement of cardiac regeneration after myocardial infarction. *Transplant.* 2006;15 Suppl 1:S41-5.
24. Musarò A., Rosenthal N. The critical role of Insulin-like Growth Factor-1 isoforms in the pathogenesis and physiopathology of skeletal muscle. *Current Genomics* 2006; 3: 19-32.
25. Pelosi L, Giacinti C, Nardis C, Borsellino G, Rizzuto E, Nicoletti C, Wannenes F, Bottinelli R, Rosenthal N, Molinaro M, Musarò A. Local expression of IGF-1 accelerates muscle regeneration by rapidly modulating inflammatory cytokines and chemokines. *FASEB J* 2007; 21:1393-402.
26. Musarò A., Giacinti C., Pelosi L., Dobrowolny G., Barberi L., Nardis C., Coletti D., Scicchitano B.M., Adamo S., Molinaro M.. Stem Cell-mediated muscle regeneration and repair in aging and neuromuscular diseases. *European Journal of Histochemistry.* 2007; 51 Suppl 1:31-36.
27. Fanzani A, Musarò A, Stoppani E, Giuliani R, Colombo F, Preti A, Marchesini S. Hypertrophy and atrophy inversely regulate Caveolin-3 expression in myoblasts. *Biochem Biophys Res Commun.* 2007; 357:314-8.
28. Pelosi M, Marampon F, Zani BM, Prudente S, Perlas E, Caputo V, Cianetti L, Berno V, Narumiya S, Kang SW, Musarò A, Rosenthal N. ROCK2 and its alternatively spliced isoform ROCK2m positively control the maturation of the myogenic program. *Mol Cell Biol.* 2007; 27:6163-76.
29. Dobrowolny G, Aucello M, Molinaro M, Musarò A. Local expression of mlgf-1 modulates ubiquitin, caspase and CDK5 expression in skeletal muscle of an ALS mouse model. *Res.* 2008; 30:131-6.
30. Del Prete Z, Musarò A, Rizzuto E. Measuring Mechanical Properties, Including Isotonic Fatigue, of Fast and Slow MLC/mlgf-1 Transgenic Skeletal Muscle. *Ann Biomed Eng.* 2008; 36:1281-90.
31. Denti M A, Incitti T, Sthandier O, Nicoletti C, De Angelis F, Rizzuto E, Auricchio A, Molinaro M, Bozzoni I. Long-term benefit of AAV/antisense-mediated exon skipping in dystrophic mice. *Human Gene Therap.* 2008; 19:601-8.
32. Giacinti C, Musarò A, De Falco G, Jourdan I, Molinaro M, Bagella L, Simone C, Giordano A. Cdk9-55: A new player in muscle regeneration. *J Cell Physiol.* 2008; 216:576-82.
33. Dobrowolny G, Aucello M, Rizzuto E, Beccafico S, Mammucari C, Boncompagni S, Berno V, Wannenes, F Nicoletti, C Del Prete Z, Rosenthal N, Molinaro M, Protasi F, Fanò G, Santini MP, and Musarò A. Skeletal muscle is a primary target of SOD1G93A -mediated toxicity. *Clin Metabolism* 2008; 8:425-36.
34. Aucello M, Dobrowolny G, Musarò A. Localized accumulation of oxidative stress causes muscle atrophy through activation of an autophagic pathway. *Autophagy.* 2009; 5:527-36.
35. Palazzolo I., Stack C., Kong L., Musarò A., Adachi H., Katsuno M., Sobue G., Taylor J, Sumner C., Fischbeck K., and Pennuto M. Overexpression of IGF-1 in Muscle Attenuates Disease in a Mouse Model of Spinal and Bulbar Muscular Atrophy. *Neuron* 2009; 63:31-42.
36. Rizzuto E, Musarò A, Catizone A, Del Prete Z. Measuring tendon properties in mdx mice: muscle viability and viscoelastic characteristics. *J. Biomech.* 2009; 42:2243-8.
37. Colombini B, Benelli G, Nocella M, Musarò A, Cecchi G, Bagni MA. Mechanical properties of intact single fibres from wild-type and MLC/mlgf-1 transgenic mouse muscle. *J Muscle Res Cell Motil.* 2009; 30:199-207.
38. Scicchitano BM, Rizzuto E, and Musarò A. Counteracting muscle wasting in aging and neuromuscular diseases: the critical role of IGF-1. *Aging* 2009; 1: 451-457.
39. Messina S, Bitto A, Aguenouz M, Mazzeo A, Migliorato A, Polito F, Irrera N, Altavilla D, Di Russo M, Naro A, De Pasquale MG, Rizzuto E, Musarò A, Squadrito F, Vita G.

- Flavocoxid counteracts muscle necrosis and improves functional properties in mdx mice: a comparison study with methylprednisolone. *Exp Neurol.* 2009; 220:349-58.
40. Musarò A, Fulle S and Fanò G. Oxidative stress and muscle homeostasis. *Curr Opin Metab Care* 2010; 13:236-42.
 41. Melchionna R, Di Carlo A, De Mori R, Cappuzzello C, Barberi L, Musarò A, Cencioni C, N, Tamamura H, Crescenzi M, Capogrossi MC, Napolitano M, Germani A. Induction of myogenic differentiation by SDF-1 via CXCR4 and CXCR7 receptors. *Muscle Nerve.* 2010; 41:828-35.
 42. Musarò A. Comments on Point:Counterpoint: IGF is/is not the major physiological regulator of muscle mass. The strange case of IGF-1. *J Appl Physiol.* 2010; 108:1826.
 43. Cacchiarelli D, Martone J, Girardi E, Cesana M, Incitti T, Morlando M, Nicoletti C, Santoro S, Sthandier O, Barberi L, Auricchio A, Musarò A, Bozzoni I. MicroRNAs involved in molecular circuitries relevant for the Duchenne muscular dystrophy pathogenesis are controlled by the dystrophin/nNOS pathway. *Cell Metab.* 2010; 12:341-51.
 44. Vinciguerra M, Musarò A, Rosenthal N. Regulation of muscle atrophy in aging and disuse. *Adv Exp Med Biol.* 2010; 694:211-33.
 45. Musarò A. State of the art and the dark side of amyotrophic lateral sclerosis *World J Exp Med.* 2010; 1: 62-68.
 46. Bosch-Marcé M, Wee CD, Martinez TL, Lipkes CE, Choe DW, Kong L, Vanmeerbeke B, Musarò A, Sumner CJ. Increased IGF-1 in muscle modulates the phenotype of severe dystrophy in mice. *Hum Mol Genet.* 2011 20:1844-53.
 47. Carosio S, Berardinelli MG, Aucello M, Musarò A. Impact of ageing on muscle cell regeneration. *Ageing Res Rev.* 2011;10:35-42.
 48. Dobrowolny G, Aucello M, Musarò A. Muscle atrophy induced by SOD1G93A expression does not involve the activation of caspase in the absence of denervation. *Skelet Muscle* 2011;1(1):3.
 49. Toschi A, Severi A, Coletti D, Catizone A, Musarò A, Molinaro M, Nervi C, Adamo S, Scicchitano BM. Skeletal muscle regeneration in mice is stimulated by local overexpression of angiotensin v1a-vasopressin receptor. *Mol Endocrinol.* 2011; 25:1661-73.
 50. Kuraitis D, Zhang P, Zhang Y, Padavan DT, McEwan K, Sofrenovic T, McKee D, Zhang J, Griffith M, Cao X, Musarò A, Ruel M, Suuronen EJ. A stromal cell-derived factor-1 related protein matrix enhances the progenitor cell response and blood vessel growth in ischaemic skeletal muscle. *Eur Cell Mater.* 2011; 22:109-23.
 51. Forte G, Pietronave S, Nardone G, Zamperone A, Magnani E, Pagliari S, Pagliari F, Giamberini C, Nicoletti C, Musarò A, Rinaldi M, Ribezzo M, Comoglio C, Traversa E, Okano T, Moriggi M, Prat M, Di Nardo P. Human cardiac progenitor cell grafts as unrestricted source of supernumerary cardiac cells in healthy murine hearts. *Stem Cells.* 2011;29:2051-61.
 52. Kern H, Pelosi L, Coletto L, Musarò A, Sandri M, Vogelauer M, Trimmel L, Cvecka J, D, Kovarik J, Löfler S, Sarabon N, Protasi F, Adami N, Biral D, Zampieri S, Carraro U. Atrophy/hypertrophy cell signaling in muscles of young athletes trained with vibrational proprioceptive stimulation. *Neurol Res.* 2011; 33:998-1009.
 53. Kuraitis D, Giordano C, Ruel M, Musarò A, Suuronen EJ. Exploiting extracellular matrix-cell interactions: A review of natural materials for therapeutic muscle regeneration. *Biomaterials.* 2012; 33:428-43.
 54. Sandonà D, Desaphy JF, Camerino GM, Bianchini E, Ciciliot S, Danieli-Betto D, Dobrowolny G, Furlan S, Germinario E, Goto K, Gutschmann M, Kawano F, Nakai N, Ohira T, Ohno S, Picard A, Salanova M, Schiffl G, Blottner D, Musarò A, Ohira Y, Betto R, Conte D, Schiffl S. Adaptation of Mouse Skeletal Muscle to Long-Term Microgravity in the MDS Mission. *PLoS One.* 2012; 7:e33232.
 55. Nucera E, Nicoletti C, Chiapparino C, Pacello ML, D'Alessio V, Musarò A, De Santis F. AvidinOX for tissue targeted delivery of biotinylated cells. *Int J Immunopathol Pharmacol.* 2012; 25:239-46.
 56. Murdocca M, Malgieri A, Luchetti A, Saieva L, Dobrowolny G, De Leonibus E, Filaretto M, Quitadamo MC, Novelli G, Musarò A, Sangiuolo F. IPLEX administration improves motor neuron survival and ameliorates motor functions in a severe mouse model of SMA. *Muscle Nerve.* 2012 Sep 25; 18:1076-85.
 57. Musarò A. To the heart of the problem. mIGF-1: local effort for global impact. *Aging (Albany NY).* 2012; 4:377-8.
 58. Klionsky et al. Guidelines for the use and interpretation of assays for monitoring autophagy. *Autophagy.* 2012; 8:445-544.

59. Kuraitis D, Ebadi D, Zhang P, Rizzuto E, Vulesevic B, Padavan DT, Al Madhoun A, M KA, Sofrenovic T, Nicholson K, Whitman SC, Mesana TG, Skerjanc IS, Musarò A, Ru Suuronen EJ. Injected matrix stimulates myogenesis and regeneration of mouse skeletal muscle after ischaemic injury. *Eur Cell Mater.* 2012; 24:175-95
60. Rizzuto E, Catizone A, Musarò A, Del Prete Z. Dystrophic tendon functionality is recovered by muscle-specific expression of insulin-like growth factor in mdx mice. *J Biomech.* 2013; 46:604-7
61. Musarò A. Understanding ALS: new therapeutic approaches. *FEBS J.* 2013; 280:431-4
62. Kuraitis D, Berardinelli MG, Suuronen EJ, Musarò A. A Necrotic Stimulus is Required to Maximize Matrix-Mediated Myogenesis. *Dis Model Mech.* 2013; 6:793-801
63. Carosio S, Barberi L, Rizzuto E, Nicoletti C, Prete ZD, Musarò A. Generation of eX vivo vascularized Muscle Engineered Tissue (X-MET). *Sci Rep.* 2013; 3:1420.
64. Bucci L, Yani SL, Fabbri C, Bijlsma AY, Maier AB, Meskers CG, Narici MV, Jones DA, McPhee JS, Seppet E, Gapeyeva H, Pääsuke M, Sipilä S, Kovanen V, Stenroth L, M Hogrel JY, Barnouin Y, Butler-Browne G, Capri M, Franceschi C, Salvioli S. Circulating levels of adipokines and IGF-1 are associated with skeletal muscle strength of young and old healthy subjects. *Biogerontology.* 2013; 14:261-72.
65. Barberi L, Scicchitano BM, De Rossi M, Bigot A, Duguez S, Wielgosik A, Stewart C, M J, Conte M, Narici M, Franceschi C, Mouly V, Butler-Browne G, Musarò A. Age-dependent alteration in muscle regeneration: the critical role of tissue niche. *Biogerontology.* 2013; 14:273-92
66. Sandri M, Barberi L, Bijlsma AY, Blaauw B, Dyar KA, Milan G, Mammucari C, Meskers CG, Pallafacchina G, Paoli A, Pion D, Roceri M, Romanello V, Serrano AL, Toniolo L, Larsen J, Maier AB, Muñoz-Cánoves P, Musarò A, Pende M, Reggiani C, Rizzuto R, Schiaffino A. Signalling pathways regulating muscle mass in ageing skeletal muscle. The role of the Akt-mTOR-FoxO pathway. *Biogerontology.* 2013;14:303-23.
67. Pierno S, Camerino GM, Cannone M, Liantonio A, De Bellis M, Digennaro C, Gramegna De Luca A, Germinario E, Danieli-Betto D, Betto R, Dobrowolny G, Rizzuto E, Musarò A, Desaphy JF, Camerino DC. Paracrine Effects of IGF-1 Overexpression on the Functional Decline Due to Skeletal Muscle Disuse: Molecular and Functional Evaluation in Hindlimb Unloaded MLC/mIgf-1 Transgenic Mice. *PLoS One.* 2013; 8:e65167.
68. Conte M, Vasuri F, Trisolino G, Bellavista E, Santoro A, Degiovanni A, Martucci E, D'Elia G, Grigioni A, Caporossi D, Capri M, Maier AB, Seynnes O, Barberi L, Musarò A, Narici M, Franceschi C, Salvioli S. Increased Plin2 expression in human skeletal muscle is associated with sarcopenia and muscle weakness. *PLoS One.* 2013; 8:e73709.
69. Simonatto M, Marullo F, Chiacchiera F, Musarò A, Wang JY, Latella L, Puri PL. DNA damage-activated ABL-MyoD signaling contributes to DNA repair in skeletal myoblasts. *Cell Differ.* 2013; 20:1664-74.
70. Mosole S, Carraro U, Kern H, Loeffler S, Fruhmann H, Vogelauer M, Burggraf S, Mayr W, Krenn M, Paternostro-Sluga T, Hamar D, Cvecka J, Sedliak M, Tirpakova V, Sarabon N, Musarò A, Sandri M, Protasi F, Nori A, Pond A, Zampieri S. Long-term high-level exercise promotes muscle reinnervation with age. *J Neuropathol Exp Neurol.* 2014; 73:284-94.
71. Soares RJ, Cagnin S, Chemello F, Silvestrin M, Musarò A, De Pitta C, Lanfranchi G, S M. Involvement of miRNAs in the Regulation of Muscle Wasting during Catabolic Conditions. *J Biol Chem.* 2014; 289:21909-25.
72. Pelosi M, De Rossi M, Barberi L, Musarò A. IL-6 Impairs Myogenic Differentiation by Downmodulation of p90RSK/eEF2 and mTOR/p70S6K Axes, without Affecting AKT Activity. *Biomed Res Int.* 2014; 2014:206026.
73. Kern H, Barberi L, Löffler S, Sbardella S, Burggraf S, Fruhmann H, Carraro U, Mosole S, Sarabon N, Vogelauer M, Mayr W, Krenn M, Cvecka J, Romanello V, Pietrangelo L, F Sandri M, Zampieri S, Musarò A. Electrical stimulation counteracts muscle decline in skeletal muscle. *Front Aging Neurosci.* 2014; 6:189
74. Guarneri S, Morabito C, Belia S, Barberi L, Musarò A, Fanò-Illic G, Marigliò MA. New Insights into the Relationship between mIGF-1-Induced Hypertrophy and Ca²⁺ Handling in Differentiated Satellite Cells. *PLoS One.* 2014;9:e107753.
75. Zampieri S1, Pietrangelo L, Loeffler S, Fruhmann H, Vogelauer M, Burggraf S, Pond A, Stieger M, Cvecka J, Sedliak M, Tirpáková V, Mayr W, Sarabon N, Rossini K, Barberi L, Rossi M, Romanello V, Boncompagni S, Musarò A, Sandri M, Protasi F, Carraro U, K Lifelong Physical Exercise Delays Age-Associated Skeletal Muscle Decline. *J Gerontol Sci Med Sci.* 2015; 70:163-73.

76. Biferi MG, Nicoletti C, Falcone G, Puggioni EM, Passaro N, Mazzola A, Pajalunga D, Zaccagnini G, Rizzuto E, Auricchio A, Zentilin L, De Luca G, Giacca M, Martelli F, Musarò A, Crescenzi M. Proliferation of Multiple Cell Types in the Skeletal Muscle Tissue Elicited by Acute p21 Suppression. *Mol Ther.* 2015; 23:885-95.
77. Rizzuto E, Pisu S, Musarò A, Del Prete Z. Measuring Neuromuscular Junction Function in the SOD^{G93A} Animal Model of Amyotrophic Lateral Sclerosis. *Ann Biomed Eng.* 2015; 43:2196-206.
78. Christoffolete MA, Silva WJ, Ramos GV, Bento MR, Costa MO, Ribeiro MO, Okamoto T, Lohmann TH, Machado UF, Musarò A, Moriscot AS. Muscle IGF-1-Induced Skeletal Muscle Hypertrophy Evokes Higher Insulin Sensitivity and Carbohydrate Use as Preferential Energy Substrate. *Biomed Res Int.* 2015; 2015:282984.
79. Cefalù S, Lena AM, Vojtesek B, Musarò A, Rossi A, Melino G, Candi E. TAp63gamma is required for the late stages of myogenesis. *Cell Cycle.* 2015; 14:894-901.
80. Tonkin J, Temmerman L, Sampson RD, Gallego-Colon E, Barberi L, Bilbao D, Schneiders M, Musarò A, Rosenthal N. Monocyte/Macrophage-derived IGF-1 Orchestrates Murine Skeletal Muscle Regeneration and Modulates Autocrine Polarization. *Mol Ther.* 2015; 23:1189-1200.
81. Pelosi L, Coggi A, Forcina L, Musarò A. MicroRNAs modulated by local mIGF-1 expression in mdx dystrophic mice. *Front Aging Neurosci.* 2015; 7:69.
82. Pelosi L, Berardinelli MG, De Pasquale L, Nicoletti C, D'Amico A, Carvello F, Moneta G, Catizone A, Bertini E, De Benedetti F, Musarò A. Functional and Morphological Improvement of Dystrophic Muscle by Interleukin 6 Receptor Blockade. *EBioMedicine* 2015; 2:285-295.
83. Pelosi L, Berardinelli MG, Forcina L, Spelta E, Rizzuto E, Nicoletti C, Camilli C, Testa G, Catizone A, De Benedetti F, Musarò A. Increased levels of interleukin-6 exacerbate the dystrophic phenotype in mdx mice. *Hum Mol Genet.* 2015; 24:6041-53.
84. Scicchitano BM, Faraldi M, Musarò A. The Proteolytic Systems of Muscle Wasting. *Rev Adv DNA Gene Seq.* 2015; 9:26-35.
85. Pelosi M, Alfò M, Martella F, Pappalardo E, Musarò A. Finite mixture clustering of human muscle tissues with different levels of IGF-1 splice variants mRNA transcripts. *BMC Bioinformatics* 2015; 16:289.
86. Oltolina F, Zamperone A, Colangelo D, Gregoletto L, Reano S, Pietronave S, Merlin S, Talmon M, Novelli E, Diena M, Nicoletti C, Musarò A, Filigheddu N, Follenzi A, Prat M. Cardiac Progenitor Spheroids Exhibit Enhanced Engraftment Potential. *PLoS One.* 2015; 10:e0137999.
87. Pagliarini V, Pelosi L, Bustamante MB, Nobili A, Berardinelli MG, D'Amelio M, Musarò A, Sette C. SAM68 is a physiological regulator of SMN2 splicing in spinal muscular atrophy. *Cell Biol.* 2015; 211:77-90.
88. Martini M, Dobrowolny G, Aucello M, Musarò A. Postmitotic Expression of SOD1 (G93A) Gene Affects the Identity of Myogenic Cells and Inhibits Myoblasts Differentiation. *Mediators Inflamm.* 2015; 2015:537-853.
89. Dobrowolny G, Bernardini C, Martini M, Baranzini M, Barba M and Musarò A. Muscle-specific Expression of SOD1 Modulates microRNA and mRNA Transcription Pattern Associated with the Myelination Process in the Spinal Cord of Transgenic Mice. *Front. Cell. Neurosci.* 2015; 9:463.
90. Barberi L, Scicchitano BM, Musarò A. Molecular and Cellular Mechanisms of Muscle Atrophy and Sarcopenia and Effects of Electrical Stimulation in Seniors. *Eur J Transl Myol.* 2015; 25:231-6.
91. Rizzuto E, Carosio S, Faraldi M, Pisu S, Musarò A, Del Prete Z. A DIC Based Technique to Measure the Contraction of a Skeletal Muscle Engineered Tissue. *Appl Bionics Biomechanics* 2016; 2016:7465095.
92. Bacurau AV, Jannig PR, de Moraes WM, Cunha TF, Medeiros A, Barberi L, Coelho M, Bacurau RF, Ugrinowitsch C, Musarò A, Brum PC. Akt/mTOR pathway contributes to the muscle anti-atrophic effect of aerobic exercise training in heart failure mice. *Int J Cardiol.* 2016; 214:137-147.
93. Beqollari D, Romberg CF, Dobrowolny G, Martini M, Voss AA, Musarò A, Bannister R. Progressive impairment of CaV1.1 function in the skeletal muscle of mice expressing a mutant type 1 Cu/Zn superoxide dismutase (G93A) linked to amyotrophic lateral sclerosis. *Skelet Muscle.* 2016; 6:24.
94. Onorato I, D'Alessandro G, Di Castro MA, Renzi M, Dobrowolny G, Musarò A, Salvetti L, Limatola C, Crisanti A, Grassi F. Noise Enhances Action Potential Generation in Mouse Sensory Neurons via Stochastic Resonance. *PLoS One.* 2016; 11:e0160950.

95. Baruffaldi F, Montarras D, Basile V, De Feo L, Badodi S, Ganassi M, Battini R, Nicoletti C, Imbriano C, Musarò A, Molinari S. Dynamic Phosphorylation of the MEF2Cα1 Splice Variant Promotes Skeletal Muscle Regeneration and Hypertrophy. *Stem Cells*. 2016 Sep 10; 34(9):2495. doi: 10.1002/stem.2495.
96. Zampieri S, Mammucari C, Romanello V, Barberi L, Pietrangelo L, Fusella A, Mosole G, Gherardi G, Höfer C, Löfler S, Sarabon N, Cvecka J, Krenn M, Carraro U, Kern H, Protzner J, Musarò A, Sandri M, Rizzuto R. Physical exercise in aging human skeletal muscle increases mitochondrial calcium uniporter expression levels and affects mitochondria dynamics. *PLoS Rep*. 2016; 4: e13005.
97. Scicchitano BM, Sica G, Musarò A. Stem Cells and Tissue Niche: Two Faces of the Same Coin of Muscle Regeneration. *Eur J Transl Myol*. 2016; 26:6125.
98. Coste CA, Mayr W, Bijak M, Musarò A, Carraro U. FES in Europe and Beyond: Current Status and Translational Research. *Eur J Transl Myol*. 2016; 26(4):6369.
99. Marrocco V, Fiore P, Benedetti A, Pisu S, Rizzuto E, Musarò A, Madaro L, Lozanoska B, Bouché M. Pharmacological Inhibition of PKCθ Counteracts Muscle Disease in a Mouse Model of Duchenne Muscular Dystrophy. *EBioMedicine*. 2017; S2352-3964(17)30001-0.
100. Giusto M, Barberi L, Di Sario F, Rizzuto E, Nicoletti C, Ascenzi F, Renzi A, Caporaso L, D'Argenio G, Gaudio E, Musarò A, Merli M. Skeletal muscle myopenia in mice model of liver duct ligation and carbon tetrachloride-induced liver cirrhosis. *Physiol Rep*. 2017
101. Petrillo S, Pelosi L, Piemonte F, Travaglini L, Forcina L, Catteruccia M, Petrini S, Veronesi D'Amico A, Musarò A, Bertini E. Oxidative stress in Duchenne muscular dystrophy: focus on the NRF2 redox pathway. *Hum Mol Genet*. 2017; 26:2781-2790. doi: 10.1093/hmg/ddw001
102. Rizzuto E, Pisu S, Nicoletti C, Del Prete Z, Musarò A. Measuring Neuromuscular Junction Functionality. *J Vis Exp*. 2017 Aug 6;(126). doi: 10.3791/55227.
103. Pelosi L, Forcina L, Nicoletti C, Scicchitano BM, Musarò A. Increased Circulating Levels of Interleukin-6 Induce Perturbation in Redox-Regulated Signaling Cascades in Muscle of Dystrophic Mice. *Oxid Med Cell Longev*. 2017; 2017:1987218. doi: 10.1155/2017/1987218
104. Molinari F, Pin F, Gorini S, Chiandotto S, Pontecorvo L, Penna F, Rizzuto E, Pisu S, Sandri M, Costelli P, Rosano G, Ferraro E. The mitochondrial metabolic reprogramming agent trimetazidine as an 'exercise mimetic' in cachectic C26-bearing mice. *J Cachexia Sarcopenia Muscle*. 2017; 8(6):954-973. doi: 10.1002/jcsm.12226.
105. Scicchitano BM, Pelosi L, Sica G, Musarò A. The physiopathologic role of oxidative stress in skeletal muscle. *Mech Ageing Dev*. 2018; 170:37-44. doi: 10.1016/j.mad.2017.08.009
106. Dobrowolny G, Martini M, Scicchitano BM, Romanello V, Boncompagni S, Nicoletti C, Pietrangelo L, De Panfilis S, Catizone A, Bouché M, Sandri M, Rudolf R, Protasi F, Musarò A. Muscle Expression of SOD1G93A Triggers the Dismantlement of Neuromuscular Junctions and PKC-Theta. *Antioxid Redox Signal*. 2018; 28:1105-1119. doi: 10.1089/ars.2017.7054.
107. Forcina L, Miano C, Musarò A. The physiopathologic interplay between stem cells and satellite cell niche in muscle regeneration and the role of IL-6 on muscle homeostasis and disease. *Cytokine Growth Factor Rev*. 2018; 41:1-9. doi: 10.1016/j.cytogfr.2018.05.001.
108. Dobrowolny G, Lepore E, Martini M, Barberi L, Nunn A, Scicchitano BM, Musarò A. Molecular Changes Associated with Muscle Expression of SOD1G93A. *Front Physiol*. 2018;9:831. doi: 10.3389/fphys.2018.00831.
109. Scicchitano BM, Dobrowolny G, Sica G, Musarò A. Molecular Insights into Muscle Homeostasis, Atrophy and Wasting. *Curr Genomics*. 2018;19(5):356-369. doi: 10.2174/1389202919666180101153911.
110. Ballarino M, Cipriano A, Tita R, Santini T, Desideri F, Morlando M, Colantoni A, Carraro U, Nicoletti C, Musarò A, Carroll DO, Bozzoni I. Deficiency in the nuclear long noncoding RNA lincRNACHEM8 causes myogenic defects and heart remodeling in mice. *EMBO J*. 2018 ;37(10):e99697. doi: 10.15252/embj.201899697.
111. Rando A, de la Torre M, Martinez-Muriana A, Zaragoza P, Musarò A, Hernández S, López X, Toivonen JM, Osta R. Chemotherapeutic agent 5-fluorouracil increases survival of mice in a mouse model of ALS. *PLoS One*. 2019; 14 (1): e0210752. doi: 10.1371/journal.pone.0210752.
112. Forcina L, Miano C, Scicchitano BM, Musarò A. Signals from the Niche: Insights into the Role of IGF-1 and IL-6 in Modulating Skeletal Muscle Fibrosis. *Cells*. 2019 Mar 11;8(3): pii: 10.3390/cells8030232.
113. Musarò A, Dobrowolny G, Cambieri C, Onesti E, Ceccanti M, Frasca V, Pisano A, Caporaso L, Lepore E, Ruffolo G, Cifelli P, Roseti C, Giordano C, Gori MC, Palma E, Inghilleri M. Neuromuscular magnetic stimulation counteracts muscle decline in ALS patients: results from a pilot study. *PLoS One*. 2019; 14(10): e0219752. doi: 10.1371/journal.pone.0219752.

- randomized, double-blind, controlled study. Sci Rep. 2019 Feb 26;9(1):2837. doi: 10.1038/s41598-019-39313-z.
114. Camerino GM, Fonzino A, Conte E, De Bellis M, Mele A, Liantonio A, Tricarico D, Tanno N, Dobrowolny G, Musarò A, Desaphy JF, De Luca A, Pierno S. Elucidating the Control of Skeletal Muscle Ion Channels to Amyotrophic Lateral Sclerosis in search of new therapeutic options. Sci Rep. 2019 Feb 28;9(1):3185. doi: 10.1038/s41598-019-39676-0.
 115. Ascenzi F, Barberi L, Dobrowolny G, Villa Nova Bacurau A, Nicoletti C, Rizzuto E, Rando N, Scicchitano BM, Musarò A. Effects of IGF-1 isoforms on muscle growth and sarcopenia. Aging Cell. 2019 Apr 5:e12954. doi: 10.1111/acer.12954.
 116. Forcina L, Miano C, Pelosi L, Musarò A. An Overview about the Biology of Skeletal Muscle Satellite Cells. Curr Genomics. 2019; 20(1):24-37.
 117. Montagna C, Rizza S, Cirotti C, Maiani E, Muscaritoli M, Musarò A, Carrí MT, Ferraro L, Cecconi F, Filomeni G. nNOS/GSNOR interaction contributes to skeletal muscle differentiation and homeostasis. Cell Death Dis. 2019; 10(5):354.
 118. Musarò A, Scicchitano BM. Counteracting sarcopenia: the role of IGF-1 isoforms. Age Ageing (Albany NY). 2019 Jun 13;48(6):3410-3411. doi: 10.1093/ageing/afz012.
 119. Lepore E, Casola I, Dobrowolny G, Musarò A. Neuromuscular Junction as an Entity of Muscle Communication. Cells. 2019 Aug 16;9(8):pii: E906. doi: 10.3390/cells9080906.
 120. Rizzuto E, Peruzzi B, Giudice M, Urciuoli E, Pittella E, Piuze E, Musarò A, Del Prete R. Detection of the Strains Induced in Murine Tibias by Ex Vivo Uniaxial Loading with Diffusion Sensors. Sensors (Basel). 2019;19(23). pii: E5109. doi: 10.3390/s19235109.
 121. Forcina L, Miano C, Scicchitano BM, Rizzuto E, Berardinelli MG, De Benedetti F, Pelosi L, Musarò A. Increased Circulating Levels of Interleukin-6 Affect the Redox Balance in Skeletal Muscle. Oxid Med Cell Longev. 2019; 2019:3018584. doi: 10.1155/2019/3018584.

Brevetti

1. Rosenthal N, Harvey RP, Palmer S, Musarò A, inventors; Novel molecules expressed during muscle development and genetic sequences encoding the same. (PCT/AU1999/000220).
2. Rosenthal N, Musarò A, Nadine Winn, inventors; IGF-1 novel peptides. (PCT/IB2005/003953.)
3. Osta Pinzolas R, Rando Zaldueño A, Toivonen J, Zaragoza P, Musarò A. Compositions for the treatment of motor neuron diseases. (PCT/ES2015/070896).

Autorizzo al trattamento dei dati personali contenuti nel curriculum vitae ai sensi del Decreto Legislativo del 30 giugno 2003, n.196 e del GDPR (Regolamento UE 2016/679).

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