Prof. Vincenzo Sorrentino, curriculum vitae

EDUCATION AND TRAINING

1980: MD, School of Medicine, University of Rome, La Sapienza, Italy, summa cum laude
1980-1983: Postdoctoral fellow, Laboratory of Virology, Istituto Superiore di Sanita, Rome Italy
1983-1984: Postdoctoral fellow, Laboratory of Cellular and Molecular Biology, National Cancer Inst., NIH, Bethesda, MD and Frederick Cancer Research Facility, Frederick, MD
1985-1987: Research Associate, Memorial Sloan-Kettering Cancer Center, New York, N.Y.

EMPLOYMENT AND RESEARCH EXPERIENCE

1988-1993: Staff Scientist, European Molecular Biology Laboratory, Heidelberg, Germany
1993-2000: Associate Professor of Histology, School of Medicine, University of Siena.
1993-2002: Director, Growth Factors Unit, DIBIT, Istituto Scientifico San Raffaele, Milano
1994-2000: Director PhD International PhD Programme, Istituto Scientifico San Raffaele, Milano
2000-date: Professor of Histology, School of Medicine, University of Siena.
1997-2002: Director, Medical Genetics Unit, Azienda Ospedaliera Universitaria Senese
2002-2019: Director, Molecular Medicine & Genetic Unit, Azienda Ospedaliera Universitaria Senese
2019-date Director, "Programme in Molecular diagnosis and pathogenetic mechanisms of rare genetic diseases", Azienda Ospedaliera Universitaria Senese.
2004-2010: Director, Center for Stem Cell Research, University of Siena
2009-2011: Director PhD Programme in Molecular Medicine, University of Siena
2010-2012: Chairman, Department of Neuroscience, University of Siena
2010-2016: Vice-Rector for Research, University of Siena
2018-date: Director, Department of Molecular and Developmental Medicine, University of Siena

HONORS

26.11.2016: Doctor Honoris Causa, (D.H.C.), University of Debrecen, Debrecen, Hungary, 2016

BIBLIOMETRIC DATA according to Scopus

Total Articles in international peer reviewed journals:	189
Sum of the Times Cited:	8303
H-index:	50
total Impact Factor February 2019:	970.368

MEMBER OF THE EDITORIAL BOARD

Cell Calcium; International Journal of Molecular Sciences; Frontiers in Physiology; Scientific Reports.

ACTIVITY AS REVIEWER FOR MAJOR SCIENTIFIC JOURNALS:

The EMBO Journal; Experimental Cell Research; Bioph. Bioch. Acta (BBA); Molecular Cellular Biology; Journal of Cellular Physiology; Journal of Cell Biology, Biophysical Journal, Cell Calcium, FASEB J., PNAS, J. of Physiology, Human Mutation, J. of Medical Genetics, J. Cell Science, etc.

AD HOC REVIEWER FOR NATIONAL FUNDING AGENCY:

Telethon; The Italian Cancer Research Association (AIRC); The Italian Space Ageny (ASI); Ministero della Sanita; Italian Ministry of University; National Research Counsil, CNR; etc

AD HOC REVIEWER FOR INTERNATIONAL FUNDING AGENCY:

Association Francaise contre les Myopathies; Wellcome Trust Fondation; Austrian Fonds zur Forderung der Wissenschaftlichen, Forschung (FWF), Vienna, Austria; Slovak Research and Development Agency; Nationaal Fonds voor Wetenshappeliik Onderzoek, Brussel, Belgio; etc

MAJOR RESEARCH GRANTS RECEIVED FROM NATIONAL AGENCY:

a) TELETHON ITALY 1993 Project coordinator
b) TELETHON ITALY 1995 Project coordinator
c) TELETHON ITALY 1999 Project coordinator
d) TELETHON ITALY 2002 Project coordinator
e) TELETHON ITALY 2008 Unit coordinator
f) TELETHON ITALY 2013 Unit coordinator
g) TELETHON ITALY 2019 Unit coordinator

h) Ministero dell'Istruzione dell'Università e della Ricerca, FIRB 2001, Unit coordinator
i) Ministero dell'Istruzione dell'Università e della Ricerca, FIRB 2001, Unit coordinator
j) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2015 Project coordinator
k) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2009 Project coordinator
l) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2007 Project coordinator
m) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2003 Unit coordinator
n) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2001 Unit coordinator
o) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 2000 Project coordinator
p) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 1999 Unit coordinator
q) Ministero dell'Istruzione dell'Università e della Ricerca PRIN 1998 Project coordinator
r) Ministero della Sanita, Ricerca Finalizzata 2013, Unit coordinator

ADDITIONAL PAST RESEARCH GRANTS

CNR, Ministero della Sanita, AIRC, Fondazione MPS, Regione Toscana, SienaBiotech, ASI (Italian Space Agency).

RESEARCH GRANTS RECEIVED FROM INTERNATIONAL AGENCY:

a) European Union GRANT: FP4–BIOMED 2, contract BMH4960656,1996-1999: 36 months
b) European Union GRANT: FP4-BIOTECH 2, contract BIO4960592, 1996-1999: 36 months
c) European Union GRANT: FP4-BIOTECH 2, contract BIO4980286, 1998-2000: 24 months
d) European Union GRANT, contract HPRN-CT-2002-00331 2002-2006: 48 months
e) AFM FRENCH TELETHON 2014 Project coordinator
f) The RYR1-Foundation (Pittsburgh, PA 15243, USA) 2020, Project coordinator

ORGANISATION OF SCIENTIFIC MEETINGS:

V, VI and VII meeting of the Interuniversity Institute of Myology, IIM, 2008, 2009 and 2010;

XXVI Annual Meeting European Malignant Hyperthermia Group, 2007

European Life Science Organization 2005, Subgroup: Mol. & Cell. Biology of the SR, Dresden, DE

European Life Science Organization, ELSO 2002, Subgroup: Calcium Signalling, Nice, France

EXTERNAL EXAMINER OF PHD THESES:

University of Paris, University of Grenoble, University of Leuven, Karolinska Institute Stockholm

TRAINING & MENTORING

More than 50 undergraduate, graduate students and post-doctoral fellows have been trained since 1981. Many of these are now Professors or Researchers in various Universities or Research Institutions

(Cambridge, Humbold-Charitè, John Innes Centre, Rome, Aquila, Palermo, Trieste, Siena, Istituto Superiore di Sanità, CNR, etc).

OVERVIEW OF THE RESEARCH INTERESTS OF THE LAST 10 YEARS

Vincenzo Sorrentino is an internationally recognized scholar in the field of molecular cell biology and genetics of skeletal muscle cells.

He trained in the United States from 1983 to 1987, at the laboratories of the National Cancer Institute (NIH) in Bethesda and the Memorial Sloan Kettering Institute for Cancer Research in New York.

From 1988 to 1993 he joined as staff researcher the European Molecular Biology Laboratory in Heidelberg, Germany.

In 1994 he returned to Italy as Director of the "Factors of Growth and Signaling Intracellular" of DIBIT, HSR, Milan and as Professor of Histology in the Faculty of Medicine of the University of Siena.

In 2002, he transferred his entire research activities from the San Raffaele Institute in Milan to Siena.

In the last years, his research activity has mainly focused on three main topics.

1) molecular genetics of human neuromuscular diseases

Many of V. Sorrentino's studies have been dedicated to genetic studies aimed to identify the patogenetic role and the mechanisms altered by mutations in genes encoding proteins of the excitation-contraction coupling in human diseases. These studies have initially addressed diseases like Malignant Hyperthermia and Central Core Diseases that are mainly due to mutations in RYR1 and CACNA1s.

In the recent years, Sorrentino provided the first evidence that mutations in the CASQ1 gene are found in patients with a myopathy characterized by unconventionally large vacuoles containing aggregates of sarcoplasmic reticulum proteins and in patients with Tubular Aggregate Myopathy. In an extension of the work on sAnk1 and obscurin, his group has identified the first causative mutation in the obscurin (OBSCN) gene in a family with a form of distal myopathy.

2) Molecular basis of sarcoplasmic reticulum organization.

This line of research aims to extended our understanding of the role of muscle-specific ankyrin isoforms and their interaction with obscurin. These studies, mainly based on the characterization of knock-out mouse lines lacking either AnkB, sAnk1 or obscurin, have confirmed the role of sAnk1.5 in sarcoplasmic reticulum architecture and the role of obscurin in the stabilization of the M band and of dystrophin at sarcomeres through the interaction with AnkB.

3) Molecular basis of the assembly of the junctional protein complex at triads

This line of research aims to better characterize the assembly, at triads, of proteins of the excitation-contraction coupling mechanism in skeletal muscle. Sorrentino team recently identified the regions whereby triadin, by establishing multiple interactions with other SR proteins (like CASQ1, RYR1 and junctin), is retained at triads. Furthermore, in line with previous work from this group, they completed a series of studies on the molecular determinants that regulate Junctophilins recruitment to triads.

SELECTED PUBLICATIONS

1. Rossi D, Gigli L, Gamberucci A, Bordoni R, Pietrelli A, Lorenzini S, Pierantozzi E, Peretto G, De Bellis G, Della Bella P, Ferrari M, Sorrentino V, Benedetti S, Sala S, Di Resta C. A novel homozygous mutation in the TRDN gene causes a severe form of pediatric malignant ventricular arrhythmia. Heart Rhythm. 2019 Aug 19. pii: S1547-5271(19)30750-7. doi: 10.1016/j.hrthm.2019.08.018. [Epub ahead of print] PMID: 31437535 IF 5.22

2. Rossi D, Scarcella AM, Liguori E, Lorenzini S, Pierantozzi E, Kutchukian C, Jacquemond V, Messa M, De Camilli P, Sorrentino V. Molecular determinants of homo- and heteromeric interactions of Junctophilin-1 at triads in adult skeletal muscle fibers. Proc Natl Acad Sci U S A. 2019 Jul 30;116(31):15716-15724. doi: 10.1073/pnas.1820980116. Epub 2019 Jul 17. PMID: 31315980. IF 9.580

3. Rossi D, Palmio J, Evilä A, Galli L, Barone V, Caldwell TA, Policke RA, Aldkheil E, Berndsen CE, Wright NT, Malfatti E, Brochier G, Pierantozzi E, Jordanova A, Guergueltcheva V, Romero NB, Hackman P, Eymard B, Udd B, Sorrentino V. A novel FLNC frameshift and an OBSCN variant in a family with distal muscular dystrophy. **PLoS One.** 2017 ;12(10):e0186642. doi: 10.1371/journal.pone.0186642. eCollection 2017. PMID 29073160 IF 2.766

4. Barone V., del Re V., Gamberucci A., Polverino V., Galli L., Costanzi E., Toniolo L., Berti G., Malandrini A., Ricci G., Siciliano G., Vattemi G., Tomelleri G., Pierantozzi E., Spinozzi S., Volpi N., Fulceri R., Reggiani C., Sorrentino V. Identification and characterization of three novel mutations in the CASQ1 gene in four patients with tubular aggregate myopathy. **Hum Mutat.** 2017 Dec;38(12):1761-1773. IF 5.359

5. Rossi D, Vezzani B, Galli L, Paolini C, Toniolo L, Pierantozzi E, Spinozzi S, Barone V, Pegoraro E, Bello L, Cenacchi G, Vattemi G, Tomelleri G, Ricci G, Siciliano G, Protasi F, Battistutta R., Reggiani C, Sorrentino V. A Mutation in the CASQ1 Gene Causes a Vacuolar Myopathy with Accumulation of Sarcoplasmic Reticulum Protein Aggregates**. Hum Mutat.** 2014 Oct;35(10):1163-70. IF 5,340

6. Klingler W, Heiderich S, Girard T, Gravino E, Heffron JJ, Johannsen S, Jurkat-Rott K, Ruffert H, Schuster F, Snoeck M, Sorrentino V, Tegazzin V, Lehmann-Horn F. Functional and genetic characterization of clinical malignant hyperthermia crises: a multi-centre study. **Orphanet J Rare Dis**. 2014 9(1):8. IF 3,358

7. Randazzo D, Giacomello E, Lorenzini S, Rossi D, Pierantozzi E, Blaauw B, Reggiani C, Lange S, Peter AK, Chen J, Sorrentino V. Obscurin is required for ankyrinB-dependent dystrophin localization and sarcolemma integrity. **J Cell Biol.** 2013 Feb 18;200(4):523-36. IF 9.786

8. Golini L, Chouabe C, Berthier C, Cusimano V, Fornaro M, Bonvallet R, Formoso L, Giacomello E, Jacquemond V, Sorrentino V. Junctophilin 1 and 2 interact with the L-type Ca2+ channel dihydropyridine receptors (DHPRs) in skeletal muscle. **J Biol Chem.** 2011 Dec 23;286(51):43717-25 IF 4.773

9. Cusimano V, Pampinella F, Giacomello E, Sorrentino V. Assembly and dynamics of proteins of the longitudinal and junctional sarcoplasmic reticulum in skeletal muscle cells. **Proc Natl Acad Sci U S A.** 2009 Mar 24;106(12):4695-700. IF 9.432

10. Egan CG, Lavery R, Caporali F, Fondelli C, Laghi-Pasini F, Dotta F, Sorrentino V. Generalised reduction of putative endothelial progenitors and CXCR4-positive peripheral blood cells in type 2 diabetes. **Diabetologia**. 2008 Jul;51(7):1296-305. 18286257. IF 6.418

11. Gallo R, Gambelli F, Gava B, Sasdelli F, Tellone V, Masini M, Marchetti P, Dotta F, Sorrentino V. Generation and expansion of multipotent mesenchymal progenitor cells from cultured human pancreatic islets. **Cell Death Differ.** 2007;14:1860-71. IF 8.254

12. Galli L, Orrico A, Lorenzini S, Censini S, Falciani M, Covacci A, Tegazzin V, Sorrentino V. Frequency and localization of mutations in the 106 exons of the RYR1 gene in 50 individuals with malignant hyperthermia. **Hum Mutat**. 2006 Aug;27(8):830. IF 6.473

13. Stuyvers BD, Dun W, Matkovich S, Sorrentino V, Boyden PA, ter Keurs HE. Ca2+ sparks and waves in canine purkinje cells: a triple layered system of Ca2+activation. **Circ Res.** 2005 Jul 8;97(1):35-43. Epub 2005 Jun 9. PubMed PMID:15947247. IF 9.408

14. Bagnato P, Barone V, Giacomello E, Rossi D, Sorrentino V. Binding of an ankyrin-1 isoform to obscurin suggests a molecular link between the sarcoplasmic reticulum and myofibrils in striated muscles. **J Cell Biol.** 2003 Jan 20;160(2):245-53. IF 12.023

15. Priori SG, Napolitano C, Tiso N, Memmi M, Vignati G, Bloise R, Sorrentino V, Danieli GA. Mutations in the cardiac ryanodine receptor gene (hRyR2) underlie catecholaminergic polymorphic ventricular tachycardia. **Circulation.** 2001 Jan 16;103(2):196-200. IF 10.517

16. Orrico A, Lam C, Galli L, Dotti MT, Hayek G, Tong SF, Poon PM, Zappella M, Federico A, Sorrentino V. MECP2 mutation in male patients with non-specific X-linked mental retardation. **FEBS Lett**. 2000;481(3):285-8. IF 3.644

17. Balschun D, Wolfer DP, Bertocchini F, Barone V, Conti A, Zuschratter W, Missiaen L, Lipp HP, Frey JU, Sorrentino V. Deletion of the ryanodine receptor type 3 (RyR3) impairs forms of synaptic plasticity and spatial learning. **EMBO J.** 1999 Oct 1;18(19):5264-73. IF 12.459

18. Islam MS, Leibiger I, Leibiger B, Rossi D, Sorrentino V, Ekström TJ, Westerblad H, Andrade FH, Berggren PO. In situ activation of the type 2 ryanodine receptor in pancreatic beta cells requires cAMP-dependent phosphorylation. **Proc Natl Acad Sci U S A.** 1998 May 26;95(11):6145-50. IF 10.896

19. Bertocchini F, Ovitt CE, Conti A, Barone V, Schöler HR, Bottinelli R, Reggiani C, Sorrentino V. Requirement for the ryanodine receptor type 3 for efficient contraction in neonatal skeletal muscles. **EMBO J**. 1997;(23):6956-63. IF 12.459

20. Giannini G, Conti A, Mammarella S, Scrobogna M, Sorrentino V. The ryanodine receptor/calcium channel genes are widely and differentially expressed in murine brain and peripheral tissues. **J Cell Biol**. 1995 Mar;128(5):893-904. IF 12.915

21. Giannini G, Clementi E, Ceci R, Marziali G, Sorrentino V. Expression of a ryanodine receptor-Ca2+ channel that is regulated by TGF-beta. **Science.** 1992 Jul 3;257(5066):91-4. IF 23.329

22. Sorrentino V, Pepperkok R, Davis RL, Ansorge W, Philipson L. Cell proliferation inhibited by MyoD1 independently of myogenic differentiation. **Nature.** 1990 Jun 28;345(6278):813-5. PubMed PMID: 2359457. IF 27.955

23. Sorrentino V, McKinney MD, Giorgi M, Geremia R, Fleissner E. Expression of cellular protooncogenes in the mouse male germ line: a distinctive 2.4-kilobase pim-1 transcript is expressed in haploid postmeiotic cells. **Proc Natl Acad Sci U S A.** 1988 Apr;85(7):2191-5. IF 10.896

24. Sorrentino V, Drozdoff V, Zeitz L, Fleissner E. Increased radiation-induced transformation in C3H/10T1/2 cells after transfer of an exogenous c-myc gene. **Proc Natl Acad Sci U S A.** 1987 Jun;84(12):4131-4. IF 10.896

25. Sorrentino V, Drozdoff V, McKinney MD, Zeitz L, Fleissner E. Potentiation of growth factor activity by exogenous c-myc expression. **Proc Natl Acad Sci U S A**. 1986 Nov;83(21):8167-71. IF 10.896