Roberto Bottinelli
Professor of Physiology
Department of Molecular Medicine
University of Pavia
Via Forlanini 6
27100 Pavia, Italy

Biographical sketch

BORN: 20 April 1956, Pavia, Italy.

ADDRESS: Department of Molecular Medicine, Via Forlanini 6, 27100 Pavia, Italy; Tel: +39.0382987257; fax +39.0382.987664; e-mail: roberto.bottinelli@unipv.it

GOOGLE SCHOLAR PAGE: http://scholar.google.it/citations?user=FSflFosAAAAJ

RESEARCH FIELD: Muscle physiology: the cellular and molecular mechanisms at the basis of the structural and functional heterogeneity and plasticity of skeletal muscle in health and disease

RESEARCH ACTIVITY: He devoted most of his research activity two major, strictly related, topics: (i) the mechanisms of the functional diversity among skeletal myosin isoforms studied at molecular level and at the level of the kinetics of acto-myosin interaction; (ii) the impact of physiologic conditions such as ageing and disuse and of pathologic conditions, such as muscular dystrophy, on structure and function of skeletal muscle and the underlying cellular and molecular mechanisms. All studies have been performed through a wide network of national and international collaborations.

The results of his research work have been published in **143 in extenso publications** in journal indexed in PUB MED and with impact factor; **H index 60 Scopus, 68 Google Scholar; citations: 12.782 (Scopus)**

EDITORIAL ACTIVITY: Reviewing Editor of the Journal of Physiology (London) (2004-2006); Senior Editor of the Journal of Physiology (London) (2006-2011); member of the executive committee of the Journal of Physiology (2007-2011); Senior Editor European Journal of Applied Physiology (2003/2010) member of F1000 2006-2016; Associate Editor Frontiers in Skeletal Muscle Physiology (2010).

MOST IMPORTANT ONGOING COLLABORATIONS:

- C. Reggiani, Padova: intracellular signaling during skeletal muscle adaptations
- G. Cossu, Manchester University, UK: cell therapy for Muscular Dystrophies
- Marco Narici, Universty of Padova; skeletal muscle and ageing
- M. Sandri, University of Padova; muscle disuse atrophy
- Marco Bianchi, San Raffele University, Italy; skeletal muscle regeneration
- Coen Ottenheijm, VU University Medical Center, Amsterdam, The Netherlands
- Julien Gondin, Université Claude Bernard Lyon 1, France
- Simone Porcelli, University of Pavia, Italy.

MAJOR RESEARCH FUNDING:

- European Community (V Framework): Pan European Network for Ageing Muscle - Better Ageing 2001-2005. Coordinator of the University of Pavia research unit.
- Telethon Foundation: "Analysis of functional impairment of skeletal muscle in murine models of muscular dystrophy and of functional recovery following mesoangioblast treatments" (2003-2006). Principal investigator
- Cariplo Foundation: "Studio di un protocollo terapeutico per correggere le distrofie muscolari attraverso l'uso di un nuovo tipo di cellula staminale" (2004-2006); "Miglioramento dell'efficacia clinica di un nuovo tipo di cellula staminale, i

mesoangioblasti, nel modello pre-clinico della distrofia di Duchenne" (2007-2009); "La miopatia steroidea: caratterizzazione molecolare, istopatologica ed elettrofisiologica" (2011-2013). Principal investigator
- Italian Space Agency: "The cellular and molecular mechanisms of skeletal muscle plasticity in disuse induced atrophy and in pathologic conditions" (OSMA project, 2006-2009). Coordinator of the University of Pavia research unit
- European Community (VII Framework): MYOAGE (2009-2012). Coordinator of the University of Pavia research unit
- ERANET-JPI 2014: ERARE TREAT-NEMMYOP (2015-2018). Coordinator of the University of Pavia research unit
- Italian Ministry of Health: "Steroid myopathy: patogenesis and prevention" (2014-2017). Principal investigator
- Italian Ministry for Research - PRIN 2020: "Inactivity induced neuromuscular impairment through different ages: from children, to young and middle age adults (InactivAge)"

Current position title

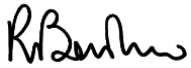
Full Professor of Physiology, Medical School, University of Pavia, Italy

Educational background

University of Pavia, Pavia, Italy, M.D. 1981 (17/7/1981)
University of Pavia, Specialization in Sport Medicine, 1986 (17/10/19865)
University of Pavia, Ph.D. Physiology 1988 (7/12/1989)

Ten most relevant in extenso publications 2014-2024

1. Sarto F, Bottinelli R, Franchi MV, Porcelli S, Simunic B, Pisot R & Narici MV. (2023). Pathophysiological mechanisms of reduced physical activity: Insights from the human step reduction model and animal analogues. ***Acta Physiol*** *(Oxf)* 238, e13986.
2. Murgia M, Rittweger J, Reggiani C, Bottinelli R, Mann M, Schiaffino S & Narici MV. (2024). Spaceflight on the ISS changed the skeletal muscle proteome of two astronauts. ***NPJ Microgravity*** 10, 60.
3. Colosio M, Brocca L, Gatti MF, Neri M, Crea E, Cadile F, Canepari M, Pellegrino MA, Polla B, Porcelli S & Bottinelli R. (2023). Structural and functional impairments of skeletal muscle in patients with postacute sequelae of SARS-CoV-2 infection**.** ***J Appl Physiol*** *(1985)* 135, 902-917.
4. Pilotto AM, Adami A, Mazzolari R, Brocca L, Crea E, Zuccarelli L, Pellegrino MA, Bottinelli R, Grassi B, Rossiter HB & Porcelli S. (2022). Near-infrared spectroscopy estimation of combined skeletal muscle oxidative capacity and O2 diffusion capacity in humans. ***J Physiol*** 600, 4153-4168.
5. Rittweger J, Albracht K, Fluck M, Ruoss S, Brocca L, Longa E, Moriggi M, Seynnes O, Di Giulio I, Tenori L, Vignoli A, Capri M, Gelfi C, Luchinat C, Francheschi C, Bottinelli R, Cerretelli P & Narici M. (2018). Sarcolab pilot study into skeletal muscle's adaptation to long-term spaceflight. ***NPJ Microgravity*** 4, 18.
6. Brocca L, Toniolo L, Reggiani C, Bottinelli R, Sandri M & Pellegrino MA. (2017). FoxO-dependent atrogenes vary among catabolic conditions and play a key role in muscle atrophy induced by hindlimb suspension. ***J Physiol*** 595, 1143-1158.
7. Brocca L, McPhee JS, Longa E, Canepari M, Seynnes O, De Vito G, Pellegrino MA, Narici M & Bottinelli R. (2017). Structure and function of human muscle fibres and muscle proteome in physically active older men. ***J Physiol*** 595, 4823-4844.
8. Cannavino J, Brocca L, Sandri M, Grassi B, Bottinelli R & Pellegrino MA. (2015). The role of alterations in mitochondrial dynamics and PGC-1alpha over-expression in fast muscle atrophy following hindlimb unloading. ***J Physiol*** 593, 1981-1995.
9. Brocca L, Longa E, Cannavino J, Seynnes O, de Vito G, McPhee J, Narici M, Pellegrino MA & Bottinelli R. (2015). Human skeletal muscle fibre contractile properties and proteomic profile: adaptations to 3 weeks of unilateral lower limb suspension and active recovery. ***J Physiol*** 593, 5361-5385
10. Cannavino J, Brocca L, Sandri M, Bottinelli R & Pellegrino MA. (2014). PGC1-alpha over-expression prevents metabolic alterations and soleus muscle atrophy in hindlimb unloaded mice**.** ***J Physiol*** 592, 4575-4589.



Roberto Bottinelli

Pavia, Wednesday 13 November 2024