

Giampietro Schiavo

Professore di Neurobiologia cellulare all'University College of London

- s.s. eletto il 23 marzo 2019

EDUCATION

MSc in Biological Sciences, University of Padua, Italy (1992)

MSc in Chemistry and Pharmaceutical Technology, University of Padua, Italy (1988)

EMPLOYMENT HISTORY

2019-present Deputy Director, UCL Queen Square Institute of Neurology (UCL-QS-ION), UK

2018-present Associate member, The Francis Crick Institute, UK

2017-present UK Dementia Research Institute at UCL Professorship

2015-present Deputy Head, Department of Neuromuscular Diseases, UCL-QS-ION, UK

2014-present Lead Academic Scientist, ARUK UCL Drug Discovery Institute, UCL, UK

2013-present Professor of Cellular Neurobiology, UCL Queen Square Institute of Neurology, UCL, UK

2007-2013 Honorary Professor, Dept of Cell & Developmental Biology, UCL, UK

2003-2013 Senior Group Leader (tenured), Cancer Research UK London Research Institute, UK

2003-2006 Honorary Reader, Dept of Biochemistry and Molecular Biology, UCL, UK

1997-2003 Honorary Senior Research Fellow, Dept of Biochemistry and Molecular Biology, UCL, UK

1996-2002 Group Leader, Cancer Research UK London Research Institute, UK

1992-1995 Senior Researcher, Dept of Biomedical Sciences, University of Padua, Italy

1983-1991 Research Associate, Institute of General Pathology, University of Padua, Italy

AWARDS AND HONOURS

Fellowships

2017 UK Dementia Research Institute at UCL Professorship

2009 CaRiPaRo Foundation Visiting Professorship at the Scuola Galileiana di Studi Superiori, University of Padua (I)

1994 Long term European Molecular Biology Organization fellowship (Dr JE Rothman, Memorial Sloan-Kettering Cancer Center, New York (NY))

Awards

2002 Giovanni Armenise-Harvard Foundation Career Development Award

1995 International Society for Neurochemistry (ISN) Young Scientist Award

1993 Award of the Italian National Academy of Sciences "Dott Giuseppe Borgia"

1988 Award for the best student of Chemistry and Pharmaceutical Technology, University of Padua (I)

PROFESSIONAL ACTIVITIES

Membership of Professional Bodies

2019-present Foreign Fellow, Istituto Veneto di Scienze, Lettere ed Arti (IVSLA)

2014-present Fellow, Royal Society of Biology (FRSB)

2011-present Fellow, Academy of Medical Sciences (FMedSci)

2010-present Member, European Molecular Biology Organization (EMBO)

Membership of Learned Societies

2015-present Member, British Society for Cell Biology

1994-present Member, International Society for Neurochemistry

1997-2010 Member, Biochemical Society

1993-1997 Member, Italian Society of Biophysics and Molecular Biology (SIBBM)

Editorial Boards

2016-present Editorial Board, Matters

2008-present Review Editor, Frontiers in Neuroengineering

2008-present Editorial Board, Protein Journal

2007-present Editor, Journal of Cell Science (Neuroscience)

2009-2016 Academic Editor, PLoS Biology

2002-2015 Editorial Board, Traffic

2009-2015 Editorial Board, Cell Death & Disease

2006-2009 Editorial Board, Neurotoxicity Research

2005-2009 Deputy Chief Editor, Journal of Neurochemistry

2002-2005 Editor, Journal of Neurochemistry

Advisory Boards/ Board of Directors

2019-present Advisory Board, Fastox Pharma, Lausanne (CH)

2019-present Scientific Advisory Board, IRCCS Istituto Neurologico Carlo Besta, Milan (I)

2019-present International Neurotoxin Association (INA), Past President

2017-2019 International Neurotoxin Association (INA), President

2018 Scientific Advisory Board, "Synaptopathies Wellcome Collaborative Award"

2015-2018 Advisory Board, University of Milan (I).
 2015-2017 International Neurotoxin Association (INA), President elect
 2010-2017 International Neurotoxin Association (INA), Board of Directors
 2013-2015 International Neurotoxin Association (INA), Treasurer
 2007-2010 The Neurotoxin Institute Steering Committee, New York (NY)
 2006-2013 Research Board of the Chemical Biology Centre, London (UK)
 2005-2006 Advisory Board of the Chemical Biology Centre, London (UK)

Award & Selection Committees

2020-2021 TOXIN2021 Basic Science selection committee
 2017 Journal of Cell Science - Company of Biology Travelling Fellowship selection chair
 2017 ETOX18 selection committee
 2016 Institute of Neurology Queen Square Prize selection panel
 2015 9th Basic and Therapeutic Aspects of Botulinum and Tetanus Toxins selection committee
 2013 EMBO Meeting selection committee
 2013 ETOX16 selection committee
 2012 8th Basic and Therapeutic Aspects of Botulinum and Tetanus Toxins selection committee
 2009-2011 Peter and Patricia Gruber International Research Award in Neuroscience committee
 2010 Journal of Cell Science - Company of Biology Travelling Fellowship selection chair

Scientific Institute Evaluation/Recruitment Committees

2019 Tenure Committee, Laboratory of Molecular Biology, Cambridge (UK)
 2019 Mitochondria Biology Strategy, MRC, London (UK)
 2018 Institut Pasteur, Department of Cell Biology and Infection, Paris (F)
 2018 MRC Cognition and Brain Sciences Unit, Cambridge (UK) (Chair)
 2018 Centro de Biología Molecular Severo Ochoa (CBMSO), Madrid (E)
 2015-2017 Institut Pasteur Recruitment Committee, Paris (F)
 2014-2016 Evaluation and Steering Committee, Butantan Institute, Sao Paulo (Br)
 2015 Laboratory of Molecular Biology (Neuroscience Division), Cambridge (UK)
 2014 Institut Curie recruitment committee, Paris (F)
 2014 Maurice Wohl Institute recruitment committee, King's College London (UK)
 2013 Department of Health Science (DISS), University of Milan (I)
 2013 Promotion Committee, Max F. Perutz Laboratories, Vienna (AT)
 2009 Institut Curie/Inserm Unit "Signalisation, neurobiologie et cancer", Paris (F)
 2009 Institut Pasteur, Department of Cell Biology and Infection, Paris (F)

PUBLICATIONS

To date I have published 166 research papers and 101 reviews in prestigious scientific journals, which have been highly cited (>23,050 total citations, >1,000 citations per year in 2011-2018; e.g. Schiavo et al. (1992) *Nature* 359:832, 1,746 citations; Schiavo et al. (2000) *Physiol Rev* 80:717, 1,282 citations; Hafezparast et al. (2003) *Science* 300:808, 740 citations).

My h-index is 79 and i10-index 204 (44 and 136 since 2014; source: Google Scholar).

Manuscripts preprints

Humphrey J, Birsa N, Milioto C, Robaldo D, Eberle A, Kräuchi R, Bentham M, Ule A, Jarvis S, Bodo C, Garone MG, Devoy A, Rosa A, Bozzoni I, Fisher EMC, Ruepp M-C, Mühlemann O, Schiavo G, Isaacs A, Plagnol V and Fratta P (2019) FUS ALS-causative mutations impact FUS autoregulation and the processing of RNA-binding proteins through intron retention. *bioRxiv*. doi: <https://doi.org/10.1101/567735> Kanemitsu-Fujita A, Morishita S, Kjaer S, Fukuda M, Schiavo G and Nakamura T (2018) Comparable affinity of RabGDI α to GTP- and GDP-bound forms of Rab7 supports a four-state transition model for Rab7 subcellular localization. *bioRxiv*. doi: <http://dx.doi.org/10.1101/287516> Sleight JN, Tosolini AP, Gordon D, Devoy A, Fratta P, Fisher EMC, Talbot K and Schiavo G (2018) ALS mice carrying pathological mutant TDP-43, but not mutant FUS, display axonal transport defects in vivo. *bioRxiv*. doi: <https://doi.org/10.1101/438812>

Research Papers

- Moretto E, Longatti A, Murru L, Chamma I, Sessa A, Zapata J, Hosy E, Sainlos M, Saint-Pol J, Rubinstein E, Choquet D, Broccoli V, Schiavo G, Thoumine O and Passafaro M (2019) TSPAN5 enriched microdomains provide a platform for dendritic spine maturation through neuroligin-1 clustering. *Cell Rep*, in press.
- Sebastián-Serrano A, Simón-García A, Belmonte A, Pose-Utrilla J, del Puerto A, García-Guerra L, Santos-Galindo M, Hernández IH, Schiavo G, Campanero MR, Lucas JJ and Iglesias T (2019) Differential regulation of Kidins220 isoforms in Huntington's disease. *Brain Pathol*, in press.
- Sleight JN, Tosolini AP and Schiavo G (2019) In vivo imaging of anterograde and retrograde axonal transport in rodent peripheral nerves. *Methods Mol Biol*, in press.
- Kalinski AL, Kar AN, Craver J, Tosolini AP, Sleight JN, Lee SJ, Hawthorne A, Brito-Vargas P, Miller-Randolph S, Passino R, Shi L, Wong VSC, Picci C, Smith DS, Bassell GJ, Willis DE, Havton LA, Schiavo G, Giger RJ, Langley B and Twiss JL (2019) Deacetylation of Miro1 by HDAC6 blocks mitochondrial transport and mediates axon growth inhibition. *J Cell Biol* 218, 1871-90.
- Vargas JNS, Wang C, Bunker E, Hao L, Maric D, Schiavo G, Randow F and Youle RJ (2019) Spatiotemporal control of ULK1 activation 1 by NDP52 and TBK1 during selective autophagy. *Mol Cell* 74, 1-16.
- Goto-Silva L, McShane MP, Salinas S, Kalaidzidis Y, Schiavo G and Zerial M (2019) Retrograde transport of Akt by a

neuronal Rab5-APPL1 signaling endosome. *Sci Rep* 9, 2433.

7. Shorrock HK, van der Hoorn D, Boyd PJ, Hurtado ML, Lamont DJ, Wirth B, Sleigh JN, Schiavo G, Wishart TM, Groen EJM and Gillingwater TH (2018) UBA1/GARS-dependent pathways drive sensory-motor connectivity defects in spinal muscular atrophy. *Brain* 141, 2878-94.

8. Clark AJ, Menendez G, AlQatari M, Patel N, Årstad E, Schiavo G and Koltzenburg M (2018) Functional imaging in microfluidic chambers reveal sensory neuron sensitivity is differentially regulated between neuronal regions. *Pain* 159, 1413-25.

9. Gibbs KL, Kalmar B, Rhymes ER, Fellows AD, Ahmed M, Whiting P, Davies C, Greensmith L and Schiavo G (2018) Inhibiting p38 MAPK alpha rescues axonal retrograde transport defects in a mouse model of ALS. *Cell Death Dis* 9, 596.

10. Tyzack GE, Hall C, Sibley C, Cymes T, Forostyak S, Meyer IFG, Schiavo G, Zhang S-C, Gibbons G, Newcombe J, Patani R and Lakatos A (2017) A neuroprotective astrocyte state is induced by neuronal signal EphB1 but fails in ALS models. *Nat Commun* 8, 1164.

11. Sleigh JN, Gomez-Martin A, Wei N, Yang XL and Schiavo G (2017) Neuropilin 1 sequestration by neuropathogenic mutant glycyl-tRNA synthetase is permissive to vascular homeostasis. *Sci Rep* 7, 9216.

12. Kalmar B, Innes A, Wanisch K, Kolaszynska AK, Amelie Pandraud A, Kelly G, Abramov A, Reilly M, Schiavo G and Greensmith L (2017) Mitochondrial dysfunction leading to axonal transport deficits in mutant Hsp27 induced Charcot Marie Tooth Disease. *Hum Mol Genet.* 26, 3313-3326.

13. Sleigh JN, Dawes JM, West SJ, Wei N, Spaulding EL, Gómez-Martín A, Burgess RW, Cader MZ, Talbot K, Yang XL, Bennett DL and Schiavo G (2017) Sensory neuron fate is developmentally perturbed by Gars mutations causing human neuropathy. *Proc Natl Acad Sci USA* 114, E3324-E3333.

See: https://f1000.com/prime/727458357?ref=ypphttp://cmt.org.uk/new-therapeutic-targets-identified-in-charcot-marie-tooth-disease/http://www.muscular dystrophyuk.org/news/news/new-study-unveils-developmental-aspect-to-cmt/?utm_sour...

14. Richter S, Helm C, Meunier FA, Hering L, Campbell LI, Drukewitz SH, Undheim EAB, Jenner RA, Schiavo G and Bleidorn C (2017) Comparative analyses of glycerotoxin expression unveil a novel structural organization of the bloodworm venom system. *BMC Evol Biol* 17, 64.

15. Charlier CM, Debaisieux S, Foret C, Thouard A, Schiavo G, Gonzalez-Dunia D and Malnou CE (2016) Neuronal retrograde transport of Borna disease virus occurs in signaling endosomes. *J Gen Virol.* 97, 3215-3224.

16. Zussy C, Loustalot F, Junyent F, Gardoni F, Bories C, Desarmenien MG, Valero J, Bernex F, Henaff D, Bayo-Puxan N, Chen J-W, Lonjon N, De Koninck Y, Malva J, Bergelson JMB, Di Luca M, Schiavo G, Salinas S and Kremer EJ (2016) Coxsackievirus adenovirus receptor loss impairs adult neurogenesis, synapse content and hippocampus plasticity. *J Neurosci* 36, 9558-71.

17. Sleigh JN and Schiavo G (2016) Older but not slower: aging does not alter axonal transport dynamics of signalling endosomes in vivo. *Matters* 10.19185/matters.201605000018.

18. Twelvetrees AE, Pernigo S, Sanger A, Schiavo G, Steiner RA, Dodding MP, Holzbaur EL (2016) The dynamic localization of cytoplasmic dynein in neurons is driven by kinesin-1. *Neuron* 90, 1000-15.

19. Ahmed M, Machado P, Miller A, Spicer C, Herbelin L, He J, Noel J, Wang Y, McVey AL, Pasnoor M, Gallagher P, Statland J, Lu C-H, Kalmar B, Brady S, Sethi H, Samandouras G, Parton M, Holton JL, Weston A, Collinson L, Taylor JP, Schiavo G, Hanna MG, Barohn RJ, Dimachkie MM, Greensmith L (2016) Targeting protein homeostasis in sporadic inclusion body myositis. *Sci Transl Med* 8, 331ra41.

20. Sleigh JN, Weir GA and Schiavo G (2016) A simple, step-by-step dissection protocol for the rapid isolation of mouse dorsal root ganglia. *BMC Res Notes* 9, 82.

21. Debaisieux S, Encheva V, Chakravarty P, Snijders AP and Schiavo G (2016) Analysis of signaling endosome composition and dynamics using SILAC in embryonic stem cell-derived motor neurons. *Mol Cell Proteomics* 15, 542-57.

22. Gibbs K, Kalmar B, Sleigh JN, Greensmith L and Schiavo G (2016) In vivo imaging of axonal transport in murine motor and sensory neurons. *J Neurosci Meth* 257, 26-33.

23. Simão D, Pinto C, Fernandes P, Peddie CJ, Piersanti C, Collinson LM, Salinas S, Saggio I, Schiavo G, Kremer EJ, Brito C and Alves PM (2016) Evaluation of helper-dependent 1 canine adenovirus vectors in a 3D human CNS model. *Gene Ther* 23, 86-94.

24. Yasuda S, Morishita S, Fujita A, Nanao T, Wada N, Waguri S, Schiavo G, Fukuda M and Nakamura T (2016) Mon1-Ccz1 activates Rab7 only on the late endosome and dissociates from the lysosome in mammalian cells. *J Cell Sci* 29, 329-40.

25. Schmieg N, Thomas C, Yabe A, Lynch DS, Iglesias T, Chakravarty P and Schiavo G (2015) Novel Kidins220/ARMS splice isoforms: potential specific regulators of neuronal and cardiovascular development. *PLoS One* 10, e0129944.

26. Simão D, Pinto C, Piersanti S, Weston A, Peddie CJ, Bastos AE, Licursi V, Schwarz SC, Collinson LM, Salinas S, Serra M, Teixeira AP, Saggio I, Lima PA, Kremer EJ, Schiavo G, Brito C and Alves PM (2014) Modeling human neural functionality in vitro: 3D culture for dopaminergic differentiation. *Tissue Eng Part A* 21, 654-68.

27. Bercsenyi K, Schmieg N, Bryson JB, Wallace M, Caccin P, Golding M, Zanotti G, Greensmith L, Nischt R and Schiavo G (2014) Nidogens are therapeutic targets for the prevention of tetanus. *Science* 346, 1118-23.

See: <http://f1000.com/prime/725249770http://www.ucl.ac.uk/news/news-articles/1114/281114-secrets-of-tetanus-toxicityhttp://www.medicalnewstoday.com/articles/286140.phphttp://healthmedicinet.com/secret-of-tetanus-toxicity-offers-new-way-to-treat-motor-neuron-disease/https://hereditaryspasticparaplegia.wordpress.com/28>

28. Wang Y, Chakravarty P, Ranes M, Kelly GP, Brooks PJ, Neilan E, Stewart A, Schiavo G and Svejsstrup JQ (2014) Dysregulation of gene expression as the cause of Cockayne syndrome neurologic disease. *Proc Natl Acad Sci U S A* 111, 14454-9.

29. Terenzio M, Golding M, Russell MRG, Wicher K, Rosewell I, Spencer-Dene B, Ish-Horowicz D and Schiavo G (2014) Bicaudal-D1 regulates the intracellular sorting and signalling of neurotrophin receptors. *EMBO J* 33, 1582-98.

30. Terenzio M, Golding M and Schiavo G (2014) siRNA screen of ES cell-derived motor neurons identifies novel regulators of tetanus toxin and neurotrophin receptor trafficking. *Frontiers Cell Neurobiol* 8, 140.

31. Hislop JN, Islam TA, Eleftheriadou I, Carpentier DCJ, Trabalza A, Parkinson M, Schiavo G and Mazarakis ND (2014) Rabies virus envelope glycoprotein targets lentiviral vectors to the axonal retrograde pathway in motor neurons. *J Biol*

Chem 289, 16148-63.

32. Garrett CA, Barri M, Kuta A, Soura V, Deng W, Fisher EMC, Schiavo G and Hafezparast M (2014) DYNC1H1 mutation alters transport kinetics and ERK1/2-cFos signalling in a mouse model of distal spinal muscular atrophy. *Brain* 137, 1883-93.
33. Salinas S, Zussy C, Loustalot F, Henaff D, Menendez G, Morton PE, Parsons M, Schiavo G and Kremer EJ (2014) Disruption of the coxsackievirus and adenovirus receptor-homodimeric interaction triggers lipid microdomain- and dynamin-dependent endocytosis and lysosomal targeting *J Biol Chem* 289, 680-95.
34. Ferrari E, Gu C, Niranjana D, Restani L, Rasetti-Escargueil C, Obaral I, Geranton SM, Arsenault J, Goetze TA, Harper CB, Nguyen TH, Maywood E, O'Brien J, Schiavo G, Wheeler DW, Meunier F, Hastings M, Edwardson JM, Sesardic D, Caleo M, Hunt SP and Davletov BA (2013) A synthetic self-assembling clostridial chimera for modulation of sensory functions. *Bioconjug Chem* 24, 1750-9.
35. Goold R, McKinnon C, Rabbanian S, Collinge J, Schiavo G and Tabrizi SJ (2013) Trafficking and degradation kinetics of newly formed PrP^{Sc} in the first minutes following initial prion conversion. *J Cell Sci* 126, 3552-62.
36. Cogli C, Progida C, Thomas CL, Spencer-Dene B, Donno C, Schiavo G and Bucci C (2013) Charcot-Marie-Tooth type 2B disease-causing RAB7A mutant proteins show altered interaction with the neuronal intermediate filament peripherin. *Acta Neuropathol* 125, 257-72.
37. Restani L, Giribaldi F, Manich M, Bercsenyi K, Menendez G, Rossetto O, Caleo M and Schiavo G (2012) Botulinum neurotoxins A and E undergo retrograde axonal transport in primary motor neurons. *PLoS Pathog* 8, e1003087.
38. Rishal I, Kam N, Shinder V, Fisher EMC, Schiavo G and Fainzilber M (2012) Motor driven intracellular length sensing in neurons. *Cell Rep* 1, 1-9.
39. Scholz-Starke J, Cesca F, Schiavo G, Benfenati F and Baldelli P (2012) Kidins220/ARMS is a Novel Modulator of Short-term Synaptic Plasticity in Hippocampal GABAergic Neurons. *PLoS ONE* 4, e35785.
40. Wade A, Kalmar B, Terenzio M, Garin J, Greensmith L and Schiavo G (2012) Activated leukocyte cell adhesion molecule (ALCAM) modulates neurotrophin signaling. *J Neurochem*, 21, 575-86.
41. Cesca F, Yabe A, Spencer-Dene B, Scholz-Starke J, Medrihan L, Maden CH, Gerhardt H, Orriss IR, Baldelli P, Al-Qatari M, Koltzenburg M, Adams RH, Benfenati F and Schiavo G (2012) Kidins220/ARMS Mediates the Integration of the Neurotrophin and VEGF Pathways in Cardiovascular and Nervous System Development. *Cell Death Differ* 19, 194-208.
42. Cesca F, Yabe A, Spencer-Dene B, Arrigoni A, Al-Qatari M, Henderson D, Koltzenburg M, Benfenati F and Schiavo G (2011) Kidins220/ARMS is an Essential Modulator of Cardiovascular and Nervous System Development. *Cell Death Dis* 2:e226.
43. Ferrari E, Maywood E, Caleo M, Restani L, Schiavo G, Pirazzini M, Rossetto O, Montecucco C, Hastings M, Niranjana D and Davletov B (2011) Re-assembled botulinum neurotoxin inhibits CNS functions without systemic toxicity. *Toxins* 3, 345-55.
44. Sannerud R, Declerck I, Peric A, Raemaekers T, Menendez G, Zhou L, Baert V, Coen K, Munck S, De Strooper B, Schiavo G and Annaert W (2011) ARF6 controls APP processing by mediating the endosomal sorting of BACE1. *Proc Natl Acad Sci U S A* 108, E559-68.
45. Goold R, Rabbanian S, Sutton L, Andre R, Arora P, Moonga J, Clarke AR, Schiavo G, Jat P, Collinge J and Tabrizi SJ (2011) Rapid cell surface prion protein conversion revealed using a novel cell system. *Nat Commun* 2, 281.
46. Malik B, Nirmalanathan N, Bilsland LG, La Spada AR, Hanna MG, Schiavo G, Gallo J-M and Greensmith L (2011) Absence of disturbed axonal transport in spinal and bulbar muscular atrophy. *Hum Mol Genet* 20, 1776-1786.
47. Granata A, Haucke V, Schiavo G* and Warner TT* (2011) CSN complex controls the stability of selected synaptic proteins via a torsinA-dependent process. *EMBO J* 30, 181-193. *Equal contribution.
48. Bilsland L, Sahai E, Kelly G, Golding M, Greensmith L and Schiavo G (2010) Deficits in axonal transport precede ALS symptoms in vivo. *Proc Natl Acad Sci U S A* 107, 20523-20528.
49. Neubrand NE, Thomas C, Schmidt S, Debant A and Schiavo G (2010) Kidins220/ARMS regulates Rac1 dependent neurite outgrowth via a direct interaction with the RhoGEF Trio. *J Cell Sci* 123, 2111-2123.
50. Meunier FA, Nguyen TH, Colasante C, Luo F, Sullivan RKP, Lavidis NA, Molgo J, Meriney SD and Schiavo G (2010) Sustained synaptic vesicle recycling by bulk endocytosis contributes to maintaining the high-rate neurotransmitter release stimulated by Glycerotoxin. *J Cell Sci* 123, 1131-1140.
51. Stevens JC, Chia R, Hendricks WT, Bros-Facer V, van Minnen J, Martin JE, Jackson GS, Greensmith L, Schiavo G and Fisher EMC (2010) Modification of superoxide dismutase 1 (SOD1) properties by a GFP tag - implications for research into amyotrophic lateral sclerosis. *PLoS ONE* 5, e9541.
52. Pichlmair A, Schulz O, Tan C-P, Rehwinkel J, Kato H, Takeuchi O, Akira S, Way M, Schiavo G and Reis e Sousa C (2009) Activation of MDA5 requires higher order RNA structures generated during virus infection. *J Virol* 83, 10761-10769.
53. Vilar M, Charalampopoulos I, Kenchappa RS, Reversi A, Applequist J, Karaca E, Simi A, Spuch C, Choi S, Friedman WJ, Ericson J, Schiavo G, Carter BD and Ibanez CF (2009) Ligand-independent signaling by genetically-crosslinked dimers of the p75 neurotrophin receptor. *J Cell Sci* 122, 3351-3357.
54. Hammond GRV, Schiavo G and Irvine RF (2009) Novel immunocytochemical techniques reveal multiple, distinct cellular pools of PtdIns4P and PtdIns(4,5)P₂. *Biochem J* 422, 23-35.
55. Rinaldi S, Brennan KM, Goodyear CS, O'Leary CO, Schiavo G, Crocker PR and Willison HJ. (2009) Analysis of lectin binding to glycolipid complexes using combinatorial microarrays. *Glycobiology* 19, 789-796.
56. Salinas S, Bilsland L, Henaff D, Weston AE, Keriell A, Schiavo G* and Kremer EJ* (2009) CAR-dependent vesicular transport of an adenovirus in primary motor neurons. *PLoS Pathogens* 5, e1000442. *Equal contribution.
57. Ohka S, Sakai M, Bohnert S, Igarashi H, Deinhardt K, Schiavo G and Nomoto A. (2009) Receptor-dependent and -independent axonal retrograde transport of poliovirus in motor neurons. *J Virol* 83, 4995-5004.
58. Vilar M, Charalampopoulos I, Kenchappa RS, Simi A, Karaca E, Reversi A, Choi S, Bothwell M, Mingarro I, Friedman WJ, Schiavo G, Bastiaens PIH, Verveer PJ, Carter BD and Ibanez CF (2009) Activation of the p75 neurotrophin receptor

through conformational rearrangement of disulphide-linked receptor dimers. *Neuron* 62, 72-83.

59. Semerdjieva S, Shortt B, Maxwell E, Sukhdeep S, Fonarev P, Hansen J, Schiavo G, Grant BD and Smythe E. (2008) Coordinated regulation of AP2 uncoating from clathrin-coated vesicles by Rab5 and hRME-6. *J Cell Biol* 183, 499-511.

60. Granata A, Watson R, Collinson LM, Schiavo G* and Warner TT*. (2008) The dystonia-associated protein torsinA modulates synaptic vesicles recycling. *J Biol Chem* 283, 7568-7579. *Equal contribution.

61. Fasano C, Campana V, Kelly G, Schulze A, Schiavo G and Zurzolo C (2008) Gene expression profile of quinacrine-cured prion-infected mouse neuronal cells. *J Neurochem* 105, 239-250.

62. Magnani E, Fan J, Gasparini L, Golding M, Williams M, Schiavo G, Goedert M, Amos LA and Spillantini MG (2007) Interaction of tau protein with the dynactin complex. *EMBO J* 26, 4546-4554.

63. Deinhardt K, Berninghausen O, Hopkins CR and Schiavo G (2007) Neurotrophins redirect p75NTR from a clathrin-independent to a clathrin-dependent endocytic pathway coupled to axonal transport. *Traffic* 8, 1736-1749.

64. Kasperaviciute D, Weale ME, Shianna KV, Banks GT, Simpson CL, Hansen VK, Turner MR, Shaw CE, Al-Chalabi A, Pall HS, Goodall EF, Morrison KE, Orrell RW, Beck M, Jablonka S, Sendtner M, Brockington A, Ince P, Hartley J, Nixon H, Shaw P, Schiavo G, Wood NW, Goldstein DB and Fisher EM (2007) Large-scale pathways based association study in amyotrophic lateral sclerosis. *Brain* 130, 2292-2301.

65. Bowen S, Ateh DD, Deinhardt K, Bird MM, Price KM, Baker CS, Robson JC, Swash M, Shamsuddin W, Kavar S, El-Tawil T, Roos J, Hoyle A, Nickols CD, Knowles CK, Pullen AH, Luthert PJ, Weller RO, Hafezparast M, Franklin RJM, Revesz T, King RHM, Berninghausen O, Fisher EMC, Schiavo G and Martin JE (2007) The phagocytic capacity of neurons. *Eur J Neurosci* 25, 2947-2955.

66. Rigoni M, Pizzo P, Schiavo G, Weston AE, Zatti G, Caccin P, Rossetto O, Pozzan T and Montecucco M (2007) Calcium influx and mitochondrial alterations at synapses exposed to snake neurotoxins or their phospholipid hydrolysis products. *J Biol Chem* 282, 11238-11245.

67. Bracale A, Cesca F, Neubrand VE, Newsome TP, Way M and Schiavo G (2007) Kidins220/ARMS is transported by a kinesin-1 based mechanism likely to be involved in neuronal differentiation. *Mol Biol Cell* 18, 142-152.

68. Deinhardt K, Salinas S, Verastegui C, Watson R, Worth D, Hanrahan S, Bucci C and Schiavo G (2006) Rab5 and Rab7 control endocytic sorting along the axonal retrograde transport pathway. *Neuron* 52, 293-305.

69. Deinhardt K, Berninghausen O, Willison HJ, Hopkins CR and Schiavo G (2006) A specific clathrin-dependent endocytic pathway coupled to axonal transport in motor neurons. *J Cell Biol* 174, 459-471.

70. Schenning M, Proctor DT, Ragnarsson L, Barbier J, Lavidis NA, Molgó JJ, Zamponi GW, Schiavo G and Meunier FA (2006) Glycerotoxin stimulates neurotransmitter release from N-type Ca²⁺ channel expressing neurons. *J Neurochem* 98, 894-904.

71. Hammond GRV, Dove SK, Nicol A, Pinxteren JA, Zicha D and Schiavo G (2006) Hydrolysis of phosphatidylinositol (4,5)-bisphosphate is required for exocytosis from mast cells. *J Cell Sci* 119, 2084-2094.

72. Rigoni M, Caccin P, Gschmeissner S, Koster G, Postle AD, Rossetto O, Schiavo G and Montecucco C (2005) Equivalent effects of snake PLA2 neurotoxins and lysophospholipid-fatty acid mixtures. *Science* 310, 1678-1680.

73. Bohnert S and Schiavo G (2005) Tetanus toxin is transported in a novel neuronal compartment characterized by a specialized pH regulation. *J Biol Chem* 280, 42336-42344.

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Reviews and Book Chapters

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