Marc Tessier-Lavigne, Curriculum Vitae

Address: The Rockefeller University, 1230 York Avenue, New York NY 10065

Born: December 18, 1959; Trenton, Ontario, Canada

Nationality: Canada and USA

Education:

1977-1980 B.Sc., First Class Honors, Physics, McGill University, Montreal
1980-1982 B.A., First Class Honors, Philosophy and Physiology, Oxford University
1983-1987 Ph.D., Department of Physiology, University College London (UCL)

Professional Experience:

1982-83 National Coordinator, Canadian Student Pugwash organization, Ottawa, Canada

Postdoctoral Training:

1987 Postdoctoral research. MRC Developmental Neurobiology Unit, UCL
1987-1991 Postdoctoral research. Center for Neurobiology and Behavior, Columbia University

Professional Appointments:

1991-2001 University of California, San Francisco
Assistant Professor of Anatomy (1991-95)
Associate Professor of Anatomy, with tenure (1995-97)
Professor of Anatomy and of Biochemistry and Biophysics (1997-2001)

1994-2003 Howard Hughes Medical Institute
Assistant Investigator (1994-97)
Investigator (1997-2003)

2001-2005 Stanford University (on leave of absence 2003-05)
Professor of Biological Sciences (2001-05)
Susan B. Ford Professor in the School of Humanities and Sciences (2001-03)
Professor, by courtesy, of Neurology and Neurological Sciences (2002-05)

2003-2011 Genentech, Inc.
Senior Vice President, Research Drug Discovery (2003-08)
Executive Vice President, Research Drug Discovery (2008-09)
Executive Vice President, Research, and Chief Scientific Officer (2009-2011)
- Head of the Genentech Research organization, overseeing ~1,400 scientists engaged in research and drug discovery in oncology, immunology, tissue growth and repair, neuroscience, and infectious diseases
- Member of Genentech's Extended Executive Committee
- Head of a research laboratory focused on basic and disease research on axon guidance, axon regeneration, and axon degeneration

2011 - **The Rockefeller University**
President
Carson Family Professor
Head of the Laboratory of Brain Development and Repair

Honors and Awards:

1978-1980	McGill University: Emily Ross Crawford Scholar, James McConnell Award, Anne Molson Scholar, University Scholar, Rowlinson Traveling Prize
1980	First Class Honors, Physics
1980	Anne Molson Gold Medal for highest achievement in Mathematics and Physics
1980	Canadian Association of Physicists University Prize Examination: ranked second among all undergraduates in Physics in Canada
1980	WL Putnam Examination in Mathematics: ranked among the top 50 undergraduates in Mathematics in the US and Canada
1980	Rhodes Scholar
1982	First Class Honors, Philosophy and Physiology (Oxford)
1983	Commonwealth Scholar (Canada) for Ph.D. studies
1987	Schaffer Prize for distinction in research in Physiology (University College London)
1989	Lucille P. Markey Scholar in Biomedical Science
1991	Searle Scholar
1991	McKnight Scholar
1992	Klingenstein Fellow
1992	Basil O'Connor Starter Scholar Research Award, March of Dimes Birth Defects Fndn
1994	McKnight Investigator Award
1994	Charles Judson Herrick Award in Comparative Neurology, American Association of Anatomists
1995	Ameritec Prize for "significant specific accomplishment in basic research toward a cure for paralysis"
1996	Fondation IPSEN Prize for Neuronal Plasticity (with Drs. C. Goodman and F. Bonhoeffer)
1997	Young Investigator Award, Society for Neuroscience, USA
1997	Viktor Hamburger Award, International Society for Developmental Neuroscience
1998	Wakeman Award for distinction in Neuroscience research (with Dr. C. Goodman)
1999	Selected as one of 25 Canadian "Leaders for the 21st Century" by Time Magazine Canada (Sep. 17, 1999)
1999	Fellow of the Royal Society of Canada
2001	Fellow of the American Association for the Advancement of Science
2001	Fellow of the Royal Society (UK)
2001	Susan B. Ford Professorship in the School of Humanities and Sciences (Stanford)
2003	Robert Dow Neuroscience Award, Neurological Sciences Institute, Oregon Health & Science University
2004	Fellow of the Academy of Medical Sciences (UK)
2005	Member, National Academy of Sciences (USA)
2006	Honorary Doctorate in Medicine and Surgery ("Laurea *honoris causa* in Medicina e Chirurgia"), University of Pavia
2007	Reeve-Irvine Research Medal for "critical contributions to promoting repair of the damaged spinal cord" (with Dr. C. Goodman)
2007	Ferrier Prize Lecture of the Royal Society (UK)
2010	Gill Distinguished Award for "shaping the field and enhancing public understanding of neuroscience", University of Indiana, Bloomington
2010	W. Alden Spencer Award, Columbia University (with Dr. L. Zipursky) "in recognition of outstanding research contributions in Neural Science".
2011	Memorial Sloan-Kettering Medal for Outstanding Contributions to Biomedical Research
2011	Honorary doctorate, McGill University
2011	Honorary Fellow, New College, Oxford, UK

2011 W. Maxwell Cowan Award for Outstanding Achievement in Developmental Neuroscience
2011 Member, National Academy of Medicine (formerly *Institute of Medicine*) (USA)
2012 Henry G. Friesen International Prize in Health Research
2013 Fellow, American Academy of Arts and Sciences
2014 Burke Award, The Burke Medical Research Center
2014 Honorary doctorate, University College London
2014 New York / New Jersey CEO Lifetime Achievement Award

Named and Special Lectureships, Keynote Addresses:

1995 Ameritech Award Lecture, San Diego
1996 Grass Lecturer, North Carolina Chapter, Society for Neuroscience
1996 The Quastel Lecture in Molecular Neurobiology, McGill University, Montreal
1997 The Flexner Lecture, University of Pennsylvannia
1998 The Hadassa Horn Memorial Lecture, Weizmann Institute, Rehovot
1998 The Menashe Marcus Lecture, Hebrew University, Jerusalem
1998 Wakeman Award Lecture, Duke University
1999 Special Lecture, Annual Meeting of the Society for Neuroscience
2000 Plenary Lecturer, European Neuroscience Society meeting
2000 The Björn Lindh Lecture, Karolinska Institute, Sweden
2000 The Steven Schuetze Memorial Lecture, Columbia University, New York
2001 Keynote speaker, Australian Society for Neuroscience Annual Meeting
2001 The Einar Hille Lecture, Washington University, Seattle
2001 Jenkinson Memorial Lecture, Oxford University, Oxford UK
2001 Keynote speaker, Ninth International Asilomar Conference on Regeneration
2002 Fifth Annual David M. Kipnis Lecture, Washington University, St. Louis
2002 Keynote speaker, Keystone symposium on Cellular Motility and Signaling in the Wiring and Plasticity of Nervous Systems
2002 The Chipperfield Lecture, Massachusetts Institute of Technology
2002 Distinguished Guest Lecturer, Baylor College of Medicine
2003 Harvey Lecture, Harvey Lecture Society, New York
2003 The Sackler Distinguished Lectures, Cambridge and London, UK
2003 The Dow Award lectures, Oregon Health and Science University
2004 Provost's Distinguished Neuroscience Lecture, University of Southern California
2004 Keynote speaker, Canadian Developmental Biology Meeting
2004 The Forbes Lectures, Marine Biological Laboratory, Woods Hole
2004 The Rahn Lecture, University of Buffalo
2004 Distinguished Lecturer, M.I.N.D. Institute, UC Davis
2004 Keynote speaker, Harvard Medical School symposium on Modeling Disease
2005 The Wyeth Lecture, Hunter College, City University of New York
2005 Keynote speaker, Keystone meeting on Axonal Connections: Molecular Cues for Development and Regeneration
2005 Opening lecture, Gordon conference on Angiogenesis and Microcirculation
2005 The Kroc Lecture, Harvard Medical School
2005 Keynote speaker, AACR special conference on Anti-Angiogenesis and Drug Delivery to Tumors: Bench to Bedside and Back
2005 Keynote speaker, Society for Neuroscience satellite symposium, Moving toward Axon Protection and Remyelination Therapies in Man
2006 Keynote speaker, Developmental Biology Symp., Univ. North Carolina, Chapel Hill
2006 The Jack Cooper Lecture, Yale University

2006 Plenary Speaker, International Society for Developmental Neuroscience
2006 Keynote address (Letture Magistrale), Italian Society of Pathology
2006 The Lamson Lecture, Vanderbilt University
2006 The Konigsberg Lecture, University of Virginia, Charlottesville
2006 Keynote speaker, Symposium on "Celebrating Life Science Research", Flanders Interuniversity Institute for Biotechnology, Leuven, Belgium
2007 The 2007 Ferrier Lecture of the Royal Society
2007 Keynote address, Annual symposium of the Harvard Center for Neurodegeneration and Repair
2007 Keynote address, Duke Annual Graduate Student Biological Sciences Symposium
2008 Keynote address, New York Academy of Sciences symposium on "From Bench to Bedside: The Latest Discoveries in Spinal Cord Injury Research"
2008 The Guroff Memorial Lecture, National Institutes of Health
2008 Keynote address, Canadian Association for Neuroscience Annual Meeting
2008 The Kimura Lecture, University of California, San Francisco
2008 The Methusalem Lecture, University of Leuven, Belgium
2009 Keynote address, UCSF graduate student Career and Research Days
2009 The Hope Center Lecture, Washington University, St. Louis
2009 Keynote talk, Symposium on "Constructing Neural Circuits", HHMI/Janelia Farm
2009 Keynote address, McKnight Conference on Neuroscience, Aspen
2009 The Beatty Memorial Lecture, McGill University
2009 Keynote address, Eibsee Conference on Alzheimer's Disease
2010 Collège de France (Paris), Invited Lecturer (series of four lectures on Brain Development, Degeneration and Regeneration)
2010 Gill Award Lecture, University of Indiana, Bloomington
2010 Spencer Award Lecture, Columbia University
2010 The Liu Lecture, University of Pennsylvania
2011 Convocation Address, McGill University
2011 Convocation Address, Memorial Sloan Kettering Cancer Center
2011 Convocation Address, Bard High School Early College
2011 Bunge Memorial Lecture, Peripheral Nerve Society, Washington DC
2012 The Bell Lecture, McGill University
2012 Convocation Address, University of California, San Francisco
2012 The Friesen Lecture, Ottawa, Canada
2012 The Heremans Lecture, the de Duve Institute and the Université catholique de Louvain Medical School
2013 The Oliver Smithies Lecture, University of Toronto
2014 Keynote Address, EMBO Workshop on Mechanisms of Neuronal Remodelling
2014 Chancellor's Lecture, Duke University
2015 Lecture, the Royal Swedish Academy of Sciences

Teaching Awards:

1997 UCSF School of Medicine, Award for "Excellence in Small Group/Lab Instruction
1998 UCSF School of Medicine, Award for "Excellence in Small Group Instruction"
1999 UCSF School of Medicine, Award for "An Outstanding Lecture Series"
2000 UCSF School of Medicine, Award for "Excellence in Lab Instruction

Editorial Advisory Boards (active):

1994- *Neuron*
1997- *Molecular and Cellular Neuroscience*
1997- *Trends in Neuroscience*
2000- *Current Opinion in Neurobiology* (co-editor in chief with T. Bonhoeffer, 2000-2010)

Scientific Advisory Boards (active):

2002- Allen Institute for Brain Science, Scientific Advisory Board (Chair, 2003-2014)
2004- Spinal Muscular Atrophy Foundation, Scientific Advisory Board (Cochair, 2006-)
2012- Howard Hughes Medical Institute, Medical Advisory Board
2014- Board of Scientific Councilors, the Broad Institute

Scientific Prize Committees (active):

2009- Member of the Jury, the Lasker Awards
2012- Member of the Jury, the Prix Galien

Boards of Directors, Boards of Governors, Start-ups (active):

Non-profit:

2011- Rockefeller Archive Center, Board of Directors
2012- New York Genome Center, Board of Directors
2014- New York Academy of Sciences, Board of Governors
2014- Federal Reserve Bank of New York, Board of Directors

Corporate:

2011- Agios Pharmaceuticals, Board of Directors (Chairman, 2015-)
2011- Regeneron Pharmaceuticals, Board of Directors
2014- Juno Therapeutics, Board of Directors
2015- Denali Therapeutics, Board of Directors (Co-founder and Chairman, 2015-)

Publications:

Peer-reviewed papers:

1. Tessier-Lavigne, M., Boothroyd, A., Zuckermann, M.J. and Pink, D.A. (1982) Lipid-mediated interactions between intrinsic molecules in bilayer membranes. **J. Chemical Physics** 76: 4587-4599.

2. Tessier-Lavigne, M., Mobbs, P. and Attwell, D. (1985) Lead and mercury toxicity and the rod light response. **Investigative Ophthalmology and Visual Science** 26: 1117-1123.

3. Attwell, D., Mobbs, P., Tessier-Lavigne, M. and Wilson, M. (1987) Neurotransmitter-induced currents in retinal bipolar cells of the axolotl, Ambystoma mexicanum. **J. Physiology** (London) 387: 125-161.

4. Wilson M., Tessier-Lavigne, M. and Attwell, D. (1987) Noise analysis predicts at least four states for channels closed by glutamate. **Biophysical Journal** 52: 955-960.

5. Tessier-Lavigne, M., Attwell, D., Mobbs, P. and Wilson, M. (1988) Membrane currents in retinal bipolar cells of the axolotl, Ambystoma mexicanum. **J. General Physiology** 91: 49-72.

6. Tessier-Lavigne, M. and Attwell, D. (1988) The effect of photoreceptor coupling and synapse non-linearity on signal:noise ratio in early visual processing. **Proceedings of the Royal Society, B.** 234: 171-197.

7. Tessier-Lavigne, M., Placzek, M., Lumsden, A.G.S., Dodd, J., and Jessell, T.M. (1988) Chemotropic guidance of developing axons in the mammalian central nervous system. **Nature** 336: 775-778.

8. Placzek, M., Tessier-Lavigne, M., Jessell, T., and Dodd. J. (1990) Orientation of commissural axons in vitro in response to a floor plate-derived chemoattractant. **Development** 110: 19-30.

9. Placzek, M., Tessier-Lavigne, M., Yamada, T., Jessell, T., and Dodd. J. (1990) Mesodermal control of neural cell identity: induction of the floor plate by the notochord. **Science** 250:985-988.

10. Serafini, T., Kennedy, T., Galko, M., Mirzayan, C., Jessell, T. and Tessier-Lavigne, M. (1994) The netrins define a family of axon outgrowth-promoting proteins homologous to *C. elegans* UNC-6. **Cell** 78: 409-424.

11. Kennedy, T., Serafini, T., de la Torre, J. and Tessier-Lavigne, M. (1994) Netrins are diffusible chemotropic factors for commissural axons in the embryonic spinal cord. **Cell** 78: 425-436.

12. Fan, C.-M. and Tessier-Lavigne (1994) Patterning of mammalian somites by surface ectoderm and the notochord: Evidence for sclerotome induction by a Hedgehog homolog. **Cell** 79: 1175-1186.

13. Hynes, M., Poulsen, K., Tessier-Lavigne, M. and Rosenthal, A. (1995) Control of neuronal diversity by the floor plate: contact-mediated induction of midbrain dopaminergic neurons. **Cell** 80: 95-101.

14. Messersmith, E.K., Leonardo, E. D., Shatz, C., Tessier-Lavigne, M., Goodman, C.S., and Kolodkin, A.L. (1995) Semaphorin III can function as a selective chemorepellent to pattern sensory projections into the spinal cord. **Neuron** 14: 949-959.

15. Fan, C.M, Porter, J.A., Chiang, C., Chang, D., Beachy, P. and Tessier-Lavigne, M. (1995) Long-range sclerotome induction by Sonic hedgehog: Direct role for the amino terminal autoproteolytic product, and modulation by the cAMP signaling pathway. **Cell** 81: 457-465.

16. Hynes, M., Porter, J. A., Chiang, C., Chang, D., Tessier-Lavigne, M., Beachy, P. and Rosenthal, A. (1995) Induction of midbrain dopaminergic neurons by Sonic hedgehog. **Neuron** 15: 35-44.

17. Colamarino, S.A. and Tessier-Lavigne, M. (1995) The axonal chemoattractant netrin-1 is also a chemorepellent for trochlear motor axons. **Cell** 81: 621-629.

18. Muenke, M., Bonc, L.J., Mitchell, H.F., Hart, I., Walton, K., Hall-Johnson, K., Ippel, E.F., Dietz-Band, Jeanne, Karloy, K., Fan, C-M., Tessier-Lavigne, M. and Patterson, D. (1995) Physical mapping of the holoprosencephaly critical region in 21q22.3, exclusion of *SIM2* as a candidate gene for HPE, and mapping of *SIM2* to a region of chromosome 21 important for Down syndrome. **American Journal of Human Genetics**, 57 (5): 1074-1079.

19. Fan, C.M., Kuwana, E., Bulfone, A., Fletcher, C., Copeland, N.G., Jenkins, N.A., Crews, S., Martinez, S., Puelles, L., Rubenstein, J.L. and Tessier-Lavigne, M. (1996) Expression patterns of two murine homologs of *Drosophila Single-Minded* suggest possible roles in embryonic patterning and in the pathogenesis of Down syndrome. **Molecular & Cellular Neuroscience** 7: 1-16.

20. Pourquié, O., Fan, C.M., Coltey, M., Hirsinger, E., Watanabe, Y., Bréant, C., Francis-West, P., Brickell, P., Tessier-Lavigne, M. and Le Douarin, N.M. (1996) Lateral and axial signals involved in avian somite patterning: A role for BMP4. **Cell** 84: 461-471.

21. Mitchell, K.J., Doyle, J.L., Serafini, T., Kennedy, T., Tessier-Lavigne, M., Goodman, C.S., and Dickson, B.J. (1996). Genetic analsyis of Netrin genes in Drosophila: Netrins guide CNS commissural axons and peripheral motor axons. **Neuron** 17: 203-215.

22. Keino-Masu, K., Masu, M., Hinck, L., Leonardo, D., Chan, S., Culotti, J. and Tessier-Lavigne, M. (1996). *Deleted in colorectal carcinomas* encodes a netrin receptor. **Cell** 87: 175-185.

23. Shirasaki, R., Mirzayan, C., Tessier-Lavigne, M. and Murakami, F. (1996) Guidance of circumferentially growing axons by netrin-dependent and -independent floor plate chemotropism in the vertebrate brain. **Neuron** 17: 1079-1088.

24. Serafini, T., Colamarino, S., Leonardo, D., Wang, H., Beddington, R., Skarnes, W.C., and Tessier-Lavigne, M. (1996). Netrin-1 is required for commissural axon guidance in the developing vertebrate nervous system. **Cell** 87: 1001-1014.

25. Ebens, A., Brose, K., Leonardo, E.D., Hanson, M.G., Bladt, F., Birchmeier, C., Barres, B. and Tessier-Lavigne, M. (1996). Hepatocyte growth factor/scatter factor is an axonal chemoattractant and a neurotrophic factor for spinal motor neurons. **Neuron** 17: 1157-1172.

26. Mastick, G.S., Fan, C.M., Tessier-Lavigne, M., Serbedzija, G.N., McMahon, A.P. and Easter, Jr., S.S. (1996) Early deletion of neurones in Wnt-1 -/- mutant mice: Evaluation by morphological and molecular markers. **Journal of Comparative Neurology** 374: 246-258.

27. Probst, M.R., Fan, C.M., Tessier-Lavigne, M. and Hankinson, O. (1997). Two murine homologs of the Drosophila single-minded protein that interact with the mouse aryl hydrocarbon receptor nuclear translocator protein. **Journal of Biological Chemistry** 272: 4451-4457.

28. Fazeli, A., Dickinson S. L., Hermiston, M. ,Tighe, R., Steen, R., Small, C., Stoeckli, E., Keino-Masu, K., Masu, M., Rayburn, H., Simons, J., Bronson, R., Gordon, J., Tessier-Lavigne, M. and Weinberg, R.A. (1997) Phenotype of mice lacking functional *Deleted in Colorectal Cancer (DCC)* gene. **Nature** 386: 796-804.

29. Leonardo, E. ., Hinck, L., Masu, M., Keino-Masu, K., Ackerman, S.L. and Tessier-Lavigne, M. (1997) Vertebrate homologues of C. elegans UNC-5 are candidate netrin receptors. **Nature** 386: 833-838.

30. He, Z. and Tessier-Lavigne, M. (1997) Neuropilin is a receptor for the axonal chemorepellent Semaphorin III. **Cell** 90: 739-751.

31. Chen, H., Chédotal, A., He, Z., Goodman, C.S. and Tessier-Lavigne, M. (1997) Neuropilin-2, a novel member of the neuropilin family, is a high affinity receptor for the semaphorins sema E and sema IV, but not sema III. **Neuron** 19: 547-559.

32. Fan, C.M., Lee, C.S. and Tessier-Lavigne, M. (1997) A role for WNT proteins in induction of dermomyotome. **Developmental Biology** 191:160-5.

33. Deiner, M.S., Kennedy, T.E., Fazeli, A., Serafini, T., Tessier-Lavigne, M. and Sretavan, D.W. (1997) Netrin-1 and DCC mediate axon guidance locally at the optic disc: Loss of function leads to optic nerve hypoplasia. **Neuron** 19: 575-589.

34. Métin, C., Deléglise, D., Serafini, T., Kennedy, T. E. and Tessier-Lavigne, M. (1997) A role for netrin-1 in the guidance of cortical efferents. **Development** 124: 5063-5074.

35. de la Torre, J.R., Höpker, V.H., Ming, G-L., Poo, M-M., Tessier-Lavigne, M., Hemmati-Brivanlou, A. and Holt, C.E. (1997) Turning of retinal growth cones in a netrin-1 gradient mediated by the netrin receptor DCC. **Neuron** 19: 1211-1224.

36. Ming, G-L., Song, H-J., Berninger, B., Holt, C.E., Tessier-Lavigne, M. and Poo, M-M. (1997) cAMP-dependent growth cone guidance by netrin-1. **Neuron** 19: 1225-1235.

37. Kidd, T., Brose, K., Mitchell, K.J., Fetter, R.D., Tessier-Lavigne, M., Goodman, C.S. and Tear, G. (1998) Roundabout controls axon crossing of the CNS midline and defines a novel subfamily of evolutionarily conserved guidance receptors. **Cell** 92: 205-215.

38. Song, H.J., Ming, G.L., He, Z., Lehmann, M., McKerracher, L., Tessier-Lavigne, M., and Poo, M.-M. (1998) Conversion of neuronal growth cone responses from repulsion to attraction by cyclic nucleotides. **Science**, 281(5382):1515-8.

39. Chedotal, A., Del Rio, J.A., Ruiz, M., He, Z., Borrel, V., de Castro, F., Ezan, F., Goodman, C.S., Tessier-Lavigne, M., Sotelo, C. and Soriano, E. (1998) Semaphorins III and IV repel hippocampal axons via two distinct receptors. **Development** 125:4313-23.

40. Winberg, M.L.; Noordermeer, J.N.; Tamagnone, L; Comoglio, P.M.; Spriggs, M.K., Tessier-Lavigne, M. and Goodman C.S. (1998) Plexin A is a neuronal semaphorin receptor that controls axon guidance. **Cell** 95:903-16.

41. Chen, H., He, Z., Bagri, A. and Tessier-Lavigne, M. (1998) Semaphorin-neuropilin interactions underlying sympathetic axon responses to class III semaphorins. **Neuron** 21:1283-90.

42. Ba-Charvet, K., Brose, K., Marillat, V., Kidd, T., Goodman, C.S., Tessier-Lavigne, M., Sotelo, C. and Chédotal, A. (1999). Slit-2-mediated chemorepulsion and collapse of developing forebrain axons. **Neuron** 22:463-473.

43. Brose, K., Bland, K.S., Wang, K.H., Arnott, D., Henzel, W., Goodman, C.S., Tessier-Lavigne, M. and Kidd, T. (1999) Slit Proteins bind Robo Receptors and have an Evolutionarily Conserved Role in Repulsive Axon Guidance. **Cell** 96:795-806.

44. Wang, K.H., Brose, K., Arnott, D., Kidd, T., Goodman, C.S., Henzel, W. and Tessier-Lavigne, M. (1999) Biochemical Purification of a Mammalian Slit Protein as a Positive Regulator of Sensory Axon Elongation and Branching. **Cell** 96:771-784.

45. Bloch-Gallego, E., Ezan, F., Tessier-Lavigne, M. and Sotelo, C. (1999) The floor plate and netrin-1 are involved in the migration and survival of inferior olivary neurons. **J. Neuroscience**, 19:4407-4420.

46. Wang, H., Copeland, N.G., Gilbert, D.J., Jenkins, N.A. and Tessier-Lavigne, M. (1999) Netrin-3, a mouse homologue of human NTN2L, is highly expressed in sensory ganglia and shows differential binding to netrin receptors. **J. Neuroscience**, 19:4938-47.

47. Ming, G.L., Song, H.J., Berninger, B., Naoyuki, I., Tessier-Lavigne, M., and Poo, M.M. (1999) Phospholipase C-g and phosphoinositide 3-kinase mediate cytoplasmic signaling in nerve growth cone guidance. **Neuron**, 23:139-148 .

48. Hong, K., Hinck, L., Nishiyama, M., Poo, M-m., Tessier-Lavigne, M. and Stein, E. (1999). A ligand-gated association between cytoplasmic domains of UNC5 and DCC family receptors converts netrin-1induced growth cone attraction to repulsion. **Cell**, 97:927-941.

49. O'Connor, R. and Tessier-Lavigne, M. (1999). Identification of a Maxillary-Derived Chemoattractant for Developing Trigeminal Sensory Axons. **Neuron**, 24:165-178.

50. Hopker, V.H., Shewan, D., Tessier-Lavigne, M., Poo, M.M., and Holt, C. (1999). Growth-Cone attraction to netrin-1 is converted to repulsion by laminin-1. **Nature** 401:69-73.

51. Tamagnone L., Artigiani S., Chen H., He Z., Ming G., Song H., Chedotal A., Winberg M., Goodman C., Poo M., Tessier-Lavigne M. and Comoglio P. (1999). Plexins are a Large Family of Receptors for Transmembrane, Secreted, and GPI-Anchored Semaphorins in Vertebrates. **Cell**, 99: 71-80.

52. Wang, H. and Tessier-Lavigne, M. (1999). En passant neurotrophic action of an intermediate axonal target in the developing mammalian central nervous system. **Nature**, 401:765-769.

53. Yee, K.T., Simon, H.H., Tessier-Lavigne, M. and O'Leary, D.D.M. (1999) Extension of Long Leading Processes and Neuronal Migration in the Mammalian Brain Directed by the Chemoattractant Netrin-1. **Neuron** 24:607-622.

54. Hong, K., Nishiyama, M., Henley, J., Tessier-Lavigne, M., Poo, M.-M (2000) Calcium signaling in the guidance of nerve growth by netrin-1. **Nature** 403, 93-98

55. Chen, H., Bagri, A., Zupicich, J.A., Zou, Y., Stoeckli, E., Pleasure, S.J., Lowenstein, D.H., Skarnes, W.C., Chédotal, A.and Tessier-Lavigne, M. (2000). Neuropilin-2 regulates the development of select cranial and sensory nerves and hippocampal mossy fiber projections. **Neuron**, 25:43-56.

56. Galko, M. and Tessier-Lavigne, M. (2000) Biochemical characterization of netrin-synergizing activity. **Journal of Biological Chemistry** 275:7832-8.

57. Braisted, J.E., Catalano, S.M., Stimac, R., Kennedy, T.E., Tessier-Lavigne, M., Shatz, C.J. and O'Leary, D.D. (2000) Netrin-1 promotes thalamic axon growth and is required for proper development of the thalamocortical projection. **Journal of Neuroscience** 20:5792-801.

58. Ringstedt , T., Braisted, J.E., Brose, K., Kidd, T., Goodman, C., Tessier-Lavigne, M., and O'Leary, D.D. (2000) Slit inhibition of retinal axon growth and its role in retinal axon pathfinding and innervation patterns in the diencephalon. **Journal of Neuroscience** 20:4983-91.

59. Erskine, L., Williams, S.E., Brose, K., Kidd, T., Rachel, R.A., Goodman, C.S., Tessier-Lavigne, M., and Mason, C.A. (2000). Retinal ganglion cell axon guidance in the mouse optic chiasm: expression and function of robos and slits. **Journal of Neuroscience** 20:4975-82.

60. Zou, Y., Stoeckli, E., Chen, H. and Tessier-Lavigne, M. (2000) Squeezing axons out of the gray matter: A role for Slit and Semaphorin proteins from midline and ventral spinal cord. **Cell**, 102:363-375.

61. Galko, M. and Tessier-Lavigne, M. (2000). Function of an axonal attractant modulated by metalloprotease activity. **Science**, 289: 1365-1367.

62. Barallobre, M. J., Del Rio, J. A., Alcantara, S., Borrell, V., Aguado, F., Ruiz, M., Carmona, M. A., Martin, M., Fabre, M., Yuste, R., Tessier-Lavigne, M. and Soriano, E. (2000). Aberrant development of hippocampal circuits and altered neural activity in netrin 1-deficient mice. **Development** 127:22.

63. Leighton, P.A., Mitchell, K.J., Goodrich, L.V., Lu, X., Pinson, K., Scherz, P., Skarnes, W.C., and Tessier-Lavigne, M. (2001) Defining brain wiring patterns and mechanisms through gene trapping in mice. **Nature,** 410**:** 174-179.

64. Stein, E. and Tessier-Lavigne, M. (2001) Hierarchical organization of guidance receptors: Slit silences netrin attraction through a Robo/DCC receptor complex. **Science**, 291: 1928-1938.

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