

Curriculum vitae for Jonas Frisé

Born: Gothenburg, Sweden, October 4, 1966.
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Education

1986-1991 Medical School, Karolinska Institute, Sweden. Medical doctor June 14 1991.
1991-1993 Graduate studies, Department of Neuroscience, Karolinska Institute. PhD November 26, 1993.
1995 Licensed medical doctor (legitimerad läkare) 2/2.
1997 Docent September 16.

Professional experience

1993-1995 Working as a medical doctor in Surgery, Internal Medicine and Psychiatry wards (mandatory for licensing after Swedish medical school, AT-tjänst).
1995-1997 Postdoctoral fellow in Dr. Mariano Barbacid's laboratory, Dept. of Molecular Biology, Bristol-Myers Squibb, Princeton, New Jersey, USA.
1997-1999 Assistant professor, Dept. of Cell and Molecular Biology, Medical Nobel Institute, Karolinska Institutet, Sweden.

2000-2001 Associate professor (MFR forskartjänst), Karolinska Institutet.
2001- Tobias Foundation Professor of Stem Cell Research, Karolinska Institutet.

Research at foreign institution

Visiting scientist, during PhD studies, in Dr. Hans Thoenen and Dr. Dan Lindholm's laboratory at Department of Neurochemistry, Max-Planck Institute in Munich September-December 1992.

Postdoctoral fellow in Dr. Mariano Barbacid's laboratory at Department of Molecular Biology, BMS, Princeton, USA, 6/2 1995-1/1 1997.

Fellowships

EMBO (European Molecular Biology Organization) fellowship 1992.

Odd Fellow fellowship 1992.

Fullbright fellowship 1995 (declined).

Wenner-Gren postdoctoral fellowship 1995-1997.

Awards and honors

Sven and Ebba-Christina Hagberg's prize for medical research 1999

The Swedish Medical Association's (Svenska Läkaresällskapet) prize 1999

Award for best basic research review in the Swedish Medical Journal (Läkartidningen) 2000

Florman's award from the Royal Swedish Academy of Sciences 2001

The Swedish Society for Parkinson's Disease Honorary Medal in silver 2001

Anders Jahres Prize for young medical investigator 2001

Hirsch Prize 2001 (shared with Urban Lendahl)

Eric K. Fernströms Prize for young medical investigator 2001

Franzén-Fuxe award for young neuroscientist 2002

Göran Gustafsons award in Molecular Biology 2002

EMBO member 2003-

Wallenberg Scholar 2009-14

The Baxter Lecture, Stanford University 2010

International Prize of the Dargut and Milena Kemali Foundation for Basic and
Clinical Neurosciences 2010

Hilda and Alfred Eriksson's prize from the Royal Swedish Academy of Sciences
2011

Akzo Nobel Science Award from the Royal Swedish Academy of Engineering
Sciences 2011

Torsten Söderberg Professor of Medicine 2013-

The Royal Swedish Academy of Engineering Sciences Gold Medal 2013

Distinguished Professor of the Swedish Research Council 2014-

The Nicholson Lecture, Rockefeller University 2015

Eric K Fernströms Nordic Prize 2017

Commissions of trust

Chairman of the Membership Committee, Intl. Soc. for Stem Cell Research 2002-6

Member of the Board of Directors, International Society of Differentiation 2004-9

Member of the Advisory Board, Arvid Carlsson Institute 2004-6

Member of Scientific Advisory Board, TIRR, Houston, USA 2001-6

Member of the Royal Swedish Academy of Engineering Sciences 2005-

Member of the Board of Directors and scientific consultant, NeuroNova AB 1998-
2012

Member of the Swedish Government's research advisory group 2006
Member of the Board of Directors for Hjärnfonden (non-profit research funding
organization), 2005-2013

Member of the Editorial Board of the journal Neural Development 2007-

Member of the Editorial Board of the journal Cell Stem Cell 2007-

Member of the Nobel Assembly 2008-

Director of the Linneaus center The Human Regenerative Map 2008-

Member of the Royal Swedish Academy of Sciences 2011-

Adjunct member of the Nobel Committee 2013

Member of Editorial Board of the journal Brain Plasticity 2014-

Member of the Editorial Board of Glia 2018-

List of publications, Jonas Frisé

Original research articles

1. Fried, K., J. Frisé and M. Mozart. (1989) De- and regeneration of axons after minor lesions in the rat sciatic nerve - effects of microneurography electrode penetrations. *PAIN*, 36:93-102,1989.
2. Fried, K. and J. Frisé. (1990) End structure and neuropeptide immunoreactivity of axons in sciatic neuromas following nerve section in neonatal rats. *Exp. Neurol.*, 109:286-293, 1990.
3. Frisé, J., Risling M., Theodorsson, E. and Fried K. (1992) NPY-like immunoreactivity in sensory nerve fibers in rat sciatic neuroma. *Brain Res*, 577:142-146,1992.
4. Frisé, J., Fried K., Sjögren A.M., and Risling, M. (1993) Growth of ascending spinal axons in CNS scar tissue. *Int. J. Dev. Neurosci*, 4: 461-475.
5. Frisé, J., Verge, V.M.K., Cullheim S., Persson, H., Fried, K., Midlemmas, D.S., Hunter, T., Hökfelt, T., and Risling, M. (1992) Increased levels of trkB mRNA and trkB protein-like immunoreactivity in the injured rat and cat spinal cord. *Proc. Natl. Acad. Sci. USA*, 89: 11282-11286, 1992.
6. Frisé, J., Risling, M., and Fried, K. (1993) Distribution and axonal relations of macrophages in a neuroma. *Neuroscience*, 55: 1003-1013.
7. Frisé, J., Verge, V.M.K., Fried, K., Risling, M, Persson, H., Trotter, J., Hökfelt, T., and Lindholm, D. (1993) Characterization of glial trkB receptors; differential response to injury in the central and peripheral nervous system. *Proc. Natl. Acad. Sci. USA*, 90: 4971-4975.

8. Funakoshi, H., Friséén, J., Barbany, G., Timmusk, T., Zachrisson, O., Verge, V.M.K., Persson, H. (1993) Differential expression of mRNAs for neurotrophins and their receptors following axotomy of the sciatic nerve. *J. Cell Biol.*, 123: 455-465.
9. Friséén, J. (1993) Chronic injuries in the nervous system. Studies on peripheral nerve injuries and lesion induced sprouting in the spinal cord. Thesis, Karolinska institutet.
10. Deckner, M.-L., Friséén, J., Verge, V.M.K., Hökfelt, T., and Risling, M. (1993) Localization of neurotrophin receptors in olfactory epithelium and bulb. *Neuroreport*, 5, 5: 301-304.
11. Friséén, J., Arvidsson, U., Lindholm, T., Fried, K., Verge, V.M.K., Cullheim, S., Hökfelt, T., Risling, M. (1993) *trkC* expression in the injured rat spinal cord. *Neuroreport*, 5: 249-352.
12. Risling, M., Dalsgaard, C.-J., Friséén, J., Sjögren, A.-M., Fried, K. (1994) Substance P-, CGRP, GAP-43 and neurotrophin receptor-like immunoreactivity associated to unmyelinated axons in feline ventral roots and pia mater. *J. Comp. Neurol.*, 339: 365-386.
13. Arvidsson, U., Risling, M., Friséén, J., Piehl, F., Fried, K., Hökfelt, T., Cullheim, S. (1994) *trkC*-like immunoreactivity in the primate descending serotonergic system. *Eur. J. Neurosci.*, 6: 230-237.
14. Piehl, F., Friséén, J., Risling, M., Hökfelt, T., and Cullheim, S. (1994) Increased *trkB* mRNA expression by axotomized motoneurons. *Neuroreport*, 5: 697-701.
15. Friséén, J., Haegerstrand, A., Fried, K., Piehl, F., Cullheim, S., and Risling, M. (1994) Adhesive/repulsive properties in the injured spinal cord; relation to myelin phagocytosis by macrophages. *Exp. Neurol.*, 129: 183-193.

16. Frisé́n, J., Haegerstrand, A., Risling, M., Fried K., Johansson, C.B., Hammarberg, H., Elde, R., Hökfelt, T., and Cullheim S. (1995) Spinal axons in CNS scar tissue are closely related to laminin-immunoreactive astrocytes. *Neurosci.*, 65: 293-304.
17. Frisé́n, J., Johansson, C.B., Török, C., Risling, M., and Lendahl, U. (1995) Rapid, widespread and longlasting induction of nestin contributes to the generation of glial scar tissue after CNS injury. *J. Cell Biol.*, 131: 453-464.
18. Sánchez, M., Silos-Santiago, I., Frisé́n, J., He, B., Lira, S., and Barbacid, M. (1996) Renal agenesis and absence of enteric neurons in mice lacking GDNF. *Nature*, 382: 70-73.
19. Deckner, M.-L., Risling, M., and Frisé́n, J. (1997) Apoptotic death of olfactory sensory neurons. *Exp. Neurol.*, 143: 132-140.
20. Alcántara, S., Frisé́n, J., del Río, J.A., Soriano, E., Barbacid, M. and Silos-Santiago, I. (1997) TrkB signalling is required for postnatal survival of CNS neurons and protects hippocampal and motor neurons from axotomy-induced cell death. *J. Neuroscience*, 17: 3623-3633.
21. Yan, Y., Frisé́n, J., Lee, M.-H., Massagué, J and Barbacid, M. (1997) The cdk inhibitor p57Kip2 is required for cell differentiation and protection against apoptosis during mouse development. *Genes and Dev.*, 11: 973-983.
22. Park, S., Frisé́n, J., and Barbacid M. (1997) Aberrant axonal projections in mice lacking Eek tyrosine protein kinase receptors. *EMBO J.*, 16:3106-3114.
23. Frisé́n, J., Yates, P.A., McLaughlin, T., Friedman, G.C., O'Leary, D.D.M. and Barbacid, M. (1998) Ephrin-A5 (AL-1/RAGS) is essential for proper retinal axon guidance and topographic mapping in the mammalian visual system. *Neuron*, 20: 235-243.

24. Frisé́n, J., Risling, M., Korhonen, L., Zirrgiebel, U., Johansson, C.B., Cullheim, S. and Lindholm, D. (1998) Nerve growth factor induces process formation in meningeal cells; implications for scar formation in the injured central nervous system. *J. Neuroscience*, 18: 5714-5722.
25. Solomin, L., Johansson, C.B., Zetterstróm, R.H., Bissonnette, R.P., Heyman, R.A., Olson, L., Lendahl, U., Frisé́n, J. and Perlmann, T. (1998) Retinoid X receptor signalling in the developing spinal cord. *Nature*, 395: 398-402.
26. Feldheim, D.A., Vanderhaeghen, P., Hansen, M.J., Frisé́n, J., Lu, Q., Barbacid, M. and Flanagan, J.G. (1998) Topographic labels in a sensory projection to the forebrain. *Neuron*, 21: 1303-1313.
27. Johansson, C.B., Momma, S., Clarke, D.L., Risling, M., U. Lendahl and Frisé́n, J. (1999) Identification of a neural stem cell in the adult mammalian central nervous system. *Cell*, 96: 25-34.
28. Pekny, M., Johansson, C.B., Eliasson, C., Lendahl, U., Betsholtz, C., Berthold, C.-H. and Frisé́n, J. (1999) Abnormal reaction to central nervous system injury in mice lacking glial fibrillary acidic protein and vimentin. *J. Cell Biol.*, 145: 503-514.
29. Johansson, C.B., Svensson, M., Wallstedt, L., Janson, A.M. and Frisé́n, J. (1999) Neural stem cells in the adult human brain. *Exp. Cell Res.*, 253: 733-736.
30. Feng, G., Laskowski, M.B., Wang, H., Lewis, R., Feldheim, D.A., Frisé́n, J., Flanagan, J.G. and Sanes, J.R. (2000) Roles for ephrins in positionally selective synaptogenesis between motor neurons and muscle fibers. *Neuron*, 25: 295-306.
31. Tomko, R.P., Johansson, C.B., Totrov, M., Abagyan, R., Frisé́n, J. and Philipson, L. (2000) Expression of the Adenovirus receptor and its interaction with the fiber knob. *Exp. Cell Res.*, 255: 47-55.

32. Feldheim, D.A., Kim, Y.-I., Bergemann, A.D., Frisén, J., Barbacid, M. and Flanagan, J.G. (2000) Genetic analysis of ephrin-A2 and ephrin-A5 shows multiple functions in retinocollicular mapping. *Neuron*, 25: 563-574.
33. Vanderhaegen, P., Lu, Q., Prakash, N., Frisén, J., Walsh, C.A., Frostig, R.D. and Flanagan, J.G. (2000) A mapping label required for normal scale of body representation in the cortex. *Nature Neuroscience*, 3: 358-365.
34. Clarke, D.L., Johansson, C.B., Johannes Wilbertz, Biborka Veress, Erik Nilsson, Karlström, H., Lendahl, U. and Frisén, J. (2000) Generalized potential of adult neural stem cells. *Science*, 288: 1660-1663.
35. Prakash, N., Vanderhaegen, P., Cohen-Cory, S., Frisén, J., Flanagan, J.G., and Frostig, R.D. (2000) Malformation of the functional organization of somatosensory cortex in adult ephrin-A5 knock-out mice revealed by in vivo functional imaging. *J. Neurosci.*, 20: 5841-5847.
36. Brownlee, H., Gao, P.-P., Frisén, J., Dreyfus, C., Zhou, R. and Black, I.B. (2000) Multiple ephrins regulate hippocampal neurite outgrowth. *J. Comp. Neurol.*, 425: 315-322.
37. Holmberg, J., Clarke, D. and Frisén, J. (2000) Regulation of repulsion versus adhesion by different splice forms of an Eph receptor. *Nature*, 408: 203-206.
38. Carlén, M., Cassidy, R.M., Brismar, H., Smith, G.A., Enquist, L.W. and Frisén, J. (2002) Functional integration of adult-generated neurons into synaptic circuitry. *Current Biology*, 12: 606-608.
39. Falk, A., Holmstrom, N., Carlén, M., Cassidy, R., Lundberg, C. and Frisén, J. (2002) Gene delivery to adult neural stem cells. *Exp. Cell Res*, 279:34.
40. Falk, A. and Frisén, J. (2002) Amphiregulin is a mitogen for adult neural stem cells. *J. Neurosci. Res.*, 69:757-762.

41. Sleeper, E., Tamm, C., Frisen, J., Zhivotovsky, B., Orrenius, S. and Ceccatelli S. (2002) Cell death in adult neural stem cells. *Cell Death Differ.* 9:1377-1378.
42. Zhao, M., Momma, S., Delfani, K., Carlén, M., Cassidy, R., Johansson, C.B., Frisén, J. and Janson, A.M. (2003) Neurogenesis in the adult mammalian substantia nigra. *Proc. Natl. Acad. Sci. USA*, 100: 7925-7930.
43. Dufour, A., Seibt, J., Passante, L., Dapaeye, V., Ciossek, T., Flanagan, J.G., Frisén, J., Klein, R., Kullander, K., Polleux, F. and Vanderhaeghen, P. (2003) Inter-areal specificity and intra-areal topography of thalamocortical projections controlled by ephrin/Eph genes. *Neuron*, 39: 453-465.
44. Cutforth, T., Moring, L., Mendelsohn, M., Nemes, A. Shah, N.M., Kim, M.M., Frisén, J. and Axel, R. (2003) Axonal ephrin-As and odorant receptors: coordinate determination of the olfactory sensory map. *Cell*, 114: 311-322.
45. Mercer, A., Rönnholm, H., Holmberg, J., Lundh, H., Heidrich, J., Zachrisson, O., Ossoinak, A., Frisén, J. and Patrone, C. (2004) PACAP promotes neural stem cell proliferation in the adult brain. *J. Neurosci. Res.*, 76: 205-215.
46. Hu, Z., Wei, D., Johansson, C.B., Holmström, N., Duan, M., Frisén, J. and Ulfendahl, M. (2005) Survival and differentiation of adult neural stem cells transplanted into the mature inner ear. *Experimental Cell Research*, 302: 40-47.
47. Holmberg, J., Armulik, A., Senti, K.-A., Edoff, K., Spalding, K., Momma, S., Cassidy, R., Flanagan, J.G. and Frisén, J. (2005) Ephrin-A2 reverse signaling negatively regulates neural progenitor proliferation and neurogenesis. *Genes & Development*, 19: 462-471.
48. Hofstetter, C.P., Holmström N.A.V., Lilja, J., Schweinhardt, P., Hao, J., Spenger, C., Wiesenfeld-Hallin, Z, Kurpad, S.N., Frisén, J., and Olson, L. (2005) Induction of

allodynia limits usefulness of neural stem cells in spinal cord injury; directed differentiation improves outcome. *Nature Neuroscience*, 8: 346-353.

49. Sievertzon, M., Wirta, V., Mercer, A., Meletis, K., Erlandsson, R., Wikström, L., Frisén, J. and Lundeberg, J. (2005) Transcriptome analysis in primary neural stem cells using a tag cDNA amplification method. *BMC Neuroscience*, 6: 28.

50. Spalding, K., Bhardwaj, R., Buchholz, B, Druid, H and Frisén, J. (2005) Retrospective birth dating of cells in humans. *Cell*, 122:133-143.

51. Sievertzon, M., Wirta, V., Mercer, A., Frisén, J and Lundeberg, J. (2005) Confounding effects of epidermal growth factor (EGF) in the study of pituitary adenylate cyclase-activating polypeptide (PACAP) activation of primary neural stem cell proliferation. *BMC Neuroscience*, 28:55.

52. Spalding, K., Buchholz, B., Bergman, L.-E., Druid, H. and Frisén, J. (2005) Forensics: Age written in teeth by nuclear tests. *Nature*, 437:333-334.

53. Meletis, K., Wirta, V., Hede, S.-M., Nistér, M., Lundeberg, J. and Frisén, J. (2006) p53 suppresses the self-renewal of adult neural stem cells. *Development*, 133: 363-369.

54. Kehr, K., Wang, F.H., Lee, I.H., Yoshitake, T., Holmström, N., Kim, D.K., Muhammed, M., Frisén, J., Olson, L., and Spenger, C. (2006) Magnetic resonance tracking of nanoparticle labelled neural stem cells in a rat's spinal cord. *Nanotechnology*, 17: 1911-1915.

55. Nomura, T., Holmberg, J., Frisén, J. and Osumi, N. (2006) Pax6-dependent boundary defines alignment of olfactory cortex neurons via repulsive activities of ephrin-A5. *Development*, 133: 1335-1345.

56. Williams, C., Wirta, V., Meletis, K., Wikström, L., Carlsson, L., Frisén, J. and Lundeberg, J. (2006) Catalog of gene expression in adult neural stem cells and their in vivo microenvironment. *Exp. Cell Res.*, 312: 1798-1812.
57. Otal, R., Burgaya, F., Frisén, J., Soriano, E. and Martínez, A. (2006) Ephrin-A5 modulates the topographic mapping and connectivity of commissural axons in the murine hippocampus. *Neuroscience*, 141: 109-121.
58. Holmberg, J., Genander, M., Halford, M.M., Annerén, C., Sondell, M., Chumley, M.J., Silvany, R.E., Henkemeyer, M. and Frisén, J. (2006) EphB receptors coordinate migration and proliferation in the intestinal stem cell niche. *Cell*, 125: 1151-1163.
59. Bhardwaj, R.D., Curtis, M.A., Spalding, K.L., Buchholz, B.A., Fink, D., Björk-Eriksson, T., Nordborg, C., Gage, F.H., Druid, H., Eriksson, P.S. and Frisén, J. (2006) Neocortical neurogenesis in humans is restricted to development. *Proc. Natl. Acad. Sci. USA*, 103: 12564-12568.
60. Carlén, M., Meletis, K., Barnabé-Heider, F. and Frisén, J. (2006) Genetic visualization of neurogenesis. *Exp. Cell Res.*, 312: 2851-2859.
61. Curtis, M.A., Kam, M., Nannmark, U., Anderson, M.F., Zetterstrom Axell, M., Wikkelsø, C., Holtås, S., van Roon-Mom, W.M.C., Björk-Eriksson, T., Nordborg, C., Frisén, J., Dragunow, M., Faull, R.L.M. and Eriksson, P.S. (2007) Human neuroblasts migrate to the olfactory bulb via a lateral ventricular extension, *Science*, 315: 1243-1249.
62. Falk, A., Karlsson, T.E., Kurdija, S., Frisén, J. and Zupicich, J. (2007) High-throughput identification of genes promoting neuron formation and lineage choice in mouse embryonic stem cells. *Stem Cells*, 25: 1539-1545.
63. Slezak, M., Göritz, C., Niemiec, A., Frisén, J., Chambon, P., Metzger, D., Pflieger, F.W. (2007) Transgenic mice for conditional gene manipulation in astroglial cells. *Glia*, 55: 1565-1576.

64. Barnabé-Heider, F., Meletis, K., Erikson M., Bergman, O., Sabelström, H., Harvey, M.A., Mikkers, H. and Frisén, J. (2008) Genetic manipulation of adult mouse neurogenic niches by in vivo electroporation. *Nature Methods*, 5: 189-196.
65. Spalding, K.L. Arner, E., Westermark, P.O., Bernard, S., Buchholz, B.A., Bergmann, O., Blomqvist, L., Hoffstedt, J., Näslund, E., Britton, T., Concha, H., Hassan, M., Rydén, M., Frisén J. and Arner, P. (2008) Dynamics of fat-cell turnover in humans. *Nature*, 453: 783-787.
66. Meletis, K., Barnabé-Heider, F., Carlén, M., Evergren, E., Tomilin, N., Shupliakov O. and Frisén, J. (2008) Spinal cord injury reveals multilineage differentiation of ependymal cells. *PLoS Biol*, 6: e182.
67. Duinsbergen, D., Eriksson, M., 't Hoen, P., Frisén, J. and Mikkers H. (2008) Induced pluripotency with endogenous and inducible genes. *Exp. Cell Res.*, 314: 3255-63.
68. Passante, L., Gaspard, N., Degraeve, M., Frisén, J., Kullander, K., De Maertelaer, V and Vanderhaeghen, P. (2008) Temporal regulation of ephrin/Eph signalling is required for the spatial patterning of the mammalian striatum. *Development*, 135: 3281-90.
69. Yumoto, N., Wakatsuki, S., Kurisaki, T., Hara, Y., Osumi, N., Frisén, J. and Sehara-Fujisawa, A. (2008) Meltrin beta/ ADAM19 interacting with EphA4 in developing neural cells participates in formation of the neuromuscular junction. *PLoS ONE*, 3: e3322.
70. Carlén, M., Meletis, K., Göritz, C., Darsalia, V., Evergren, E., Tanigaki, K., Amendola, M., Barnabé-Heider, F., Yeung, M.S.Y., Naldini, L., Honjo, T., Kokaia, Z., Shupliakov, O., Cassidy, R.M., Lindvall, O. and Frisén, J. (2009) Forebrain ependymal cells are Notch-dependent and generate neuroblasts and astrocytes after stroke. *Nature Neuroscience*, 12: 259-267.

71. Bergmann, O., Bhardwaj, R.D., Bernard, S., Zdunek, S., Barnabé-Heider, F., Walsh, S., Zupicich, J., Alkass, K., Buchholtz, B.A., Druid, H., Jovinge, S. and Frisén, J. (2009) Evidence for cardiomyocyte renewal in humans. *Science*, 324: 98-102.
72. Lindström, S., Eriksson, M., Vazin, T., Sandberg, J., Lundeberg, J., Frisén, J. and Andersson-Svahn, H. (2009) High-density microwell chip for culture and analysis of stem cells. *PLoS ONE*, 4:e6997.
73. Genander, M., Halford, M.M., Xu, N.-J., Eriksson, M., Yu, Z., Qiu, Z., Martling, A., Greicius, G., Thakar, S., Catchpole, T. Chumley, M.J., Zdunek, S., Wang, C., Holm, T., Goff, S.P., Pettersson, S., Pestell, R.G., Henkemeyer, M. and Frisén, J. (2009) Dissociation of EphB2 signaling pathways mediating progenitor cell proliferation and tumor suppression. *Cell*, 139: 679-92.
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75. Bernard, S., Frisén, J. and Spalding, K. (2010) A mathematical model for the interpretation of nuclear bomb test derived ¹⁴C incorporation in biological systems. *Nucl. Instr. and Meth. B*, 268: 1295-8.
76. Seidel, S., Garvalov, B.K., Wirta, V., Schänzer, A., Sommerlad, D., Meletis, K., Wolter, M., von Stechow, L., Henze, A.-T., Nistér, M., Reifenberger, G., Lundeberg, J., Frisén, J. and Acker, T. (2010) A hypoxic niche regulates glioma stem cells. *Brain*, 133: 983-95.
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79. Barnabé-Heider, F., Göritz, C. Sabelström, H., Takebayashi, H., Pfrieger, F.W., Meletis, K. and Frisén, J. (2010) Origin of new glial cells in the intact and injured spinal cord. *Cell Stem Cell*, 7: 470-482.
80. Genander, M., Holmberg, J. and Frisén, J. (2010) Ephrins negatively regulate cell proliferation in the epidermis and hair follicle. *Stem Cells*, 28: 1196-1205.
81. Forsberg, M., Carlén, M., Meletis, K., Yeung, M.S.Y., Barnabé-Heider, F., Persson, M.A.A., Aarum, J. and Frisén, J. (2010) Efficient reprogramming of adult neural stem cells to monocytes by ectopic expression of a single gene. *Proc. Natl. Acad. Sci. USA*, 107: 14657-14661 .
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85. Göritz, C., Dias, D., Tomilin, N., Barbacid, M. and Frisén, J. (2011) A pericyte origin of spinal cord scar tissue. *Science*, 333: 238-242.

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