Phillip G Popovich

List of Publications by Year in Descending Order

144 papers	14,988 citations	60 h-index	122 g-index
186 ext. papers	17,310 ext. citations	7.4 avg, IF	6.73 L-index

#	Paper	IF	Citations
144	Central nervous system injury-induced immune suppression.. *Neurosurgical Focus*, **2022**, 52, E10	4.2	0
143	Thoracic VGlut2 spinal interneurons regulate structural and functional plasticity of sympathetic networks after high-level spinal cord injury.. *Journal of Neuroscience*, **2022**,	6.6	1
142	Wolframin is a novel regulator of tau pathology and neurodegeneration.. *Acta Neuropathologica*, **2022**, 1	14.3	3
141	Genetic deletion of the glucocorticoid receptor in Cxcr1 myeloid cells is neuroprotective and improves motor recovery after spinal cord injury.. *Experimental Neurology*, **2022**, 114114	5.7	
140	Immune dysfunction after spinal cord injury - A review of autonomic and neuroendocrine mechanisms.. *Current Opinion in Pharmacology*, **2022**, 64, 102230	5.1	1
139	Spinal cord injury and the gut microbiota **2022**, 435-444		
138	Spinal Cord Injury Changes the Structure and Functional Potential of Gut Bacterial and Viral Communities. *MSystems*, **2021**, 6,	7.6	6
137	The neuroanatomical-functional paradox in spinal cord injury. *Nature Reviews Neurology*, **2021**, 17, 53-62	15	26
136	Acute post-injury blockade of [illegible]1 calcium channel subunits prevents pathological autonomic plasticity after spinal cord injury. *Cell Reports*, **2021**, 34, 108667	10.6	7
135	Acute Dose-Dependent Neuroprotective Effects of Poly(pro-17[illegible]estradiol) in a Mouse Model of Spinal Contusion Injury. *ACS Chemical Neuroscience*, **2021**, 12, 959-965	5.7	1
134	Neuroimmunological therapies for treating spinal cord injury: Evidence and future perspectives. *Experimental Neurology*, **2021**, 341, 113704	5.7	12
133	Liver inflammation at the time of spinal cord injury enhances intraspinal pathology, liver injury, metabolic syndrome and locomotor deficits. *Experimental Neurology*, **2021**, 342, 113725	5.7	3
132	Fecal transplant prevents gut dysbiosis and anxiety-like behaviour after spinal cord injury in rats. *PLoS ONE*, **2020**, 15, e0226128	3.7	40
131	The spinal cord-gut-immune axis as a master regulator of health and neurological function after spinal cord injury. *Experimental Neurology*, **2020**, 323, 113085	5.7	26
130	Serial Systemic Injections of Endotoxin (LPS) Elicit Neuroprotective Spinal Cord Microglia through IL-1-Dependent Cross Talk with Endothelial Cells. *Journal of Neuroscience*, **2020**, 40, 9103-9120	6.6	5
129	Microglia-organized scar-free spinal cord repair in neonatal mice. *Nature*, **2020**, 587, 613-618	50.4	66
128	Spinal cord injury causes chronic bone marrow failure. *Nature Communications*, **2020**, 11, 3702	17.4	9

127	TGFβ is neuroprotective and alleviates the neurotoxic response induced by aligned poly-l-lactic acid fibers on naïve and activated primary astrocytes. *Acta Biomaterialia*, **2020**, 117, 273-282	10.8	8
126	Cell-Type-Specific Interleukin 1 Receptor 1 Signaling in the Brain Regulates Distinct Neuroimmune Activities. *Immunity*, **2019**, 50, 317-333.e6	32.3	60
125	Docosahexaenoic acid reduces microglia phagocytic activity via miR-124 and induces neuroprotection in rodent models of spinal cord contusion injury. *Human Molecular Genetics*, **2019**, 28, 2427-2448	5.6	13
124	The Application of Omics Technologies to Study Axon Regeneration and CNS Repair. *F1000Research*, **2019**, 8,	3.6	7
123	Human immune cells infiltrate the spinal cord and impair recovery after spinal cord injury in humanized mice. *Scientific Reports*, **2019**, 9, 19105	4.9	8
122	Emerging targets for reprograming the immune response to promote repair and recovery of function after spinal cord injury. *Current Opinion in Neurology*, **2018**, 31, 334-344	7.1	29
121	MicroRNAs: Roles in Regulating Neuroinflammation. *Neuroscientist*, **2018**, 24, 221-245	7.6	118
120	Induction of innervation by encapsulated adipocytes with engineered vitamin A metabolism. *Translational Research*, **2018**, 192, 1-14	11	7
119	MiR-155 deletion reduces ischemia-induced paralysis in an aortic aneurysm repair mouse model: Utility of immunohistochemistry and histopathology in understanding etiology of spinal cord paralysis. *Annals of Diagnostic Pathology*, **2018**, 36, 12-20	2.2	17
118	Eliciting inflammation enables successful rehabilitative training in chronic spinal cord injury. *Brain*, **2018**, 141, 1946-1962	11.2	51
117	Gut Microbiota Are Disease-Modifying Factors After Traumatic Spinal Cord Injury. *Neurotherapeutics*, **2018**, 15, 60-67	6.4	57
116	High mobility group box-1 (HMGB1) is increased in injured mouse spinal cord and can elicit neurotoxic inflammation. *Brain, Behavior, and Immunity*, **2018**, 72, 22-33	16.6	27
115	Traumatic brain injury-induced neuronal damage in the somatosensory cortex causes formation of rod-shaped microglia that promote astrogliosis and persistent neuroinflammation. *Glia*, **2018**, 66, 2719-2736	9	68
114	The spleen as a neuroimmune interface after spinal cord injury. *Journal of Neuroimmunology*, **2018**, 321, 1-11	3.5	28
113	Deletion of the Fractalkine Receptor, CX3CR1, Improves Endogenous Repair, Axon Sprouting, and Synaptogenesis after Spinal Cord Injury in Mice. *Journal of Neuroscience*, **2017**, 37, 3568-3587	6.6	51
112	E6020, a synthetic TLR4 agonist, accelerates myelin debris clearance, Schwann cell infiltration, and remyelination in the rat spinal cord. *Glia*, **2017**, 65, 883-899	9	51
111	Intraspinal TLR4 activation promotes iron storage but does not protect neurons or oligodendrocytes from progressive iron-mediated damage. *Experimental Neurology*, **2017**, 298, 42-56	5.7	18
110	Spinal Cord Injury Suppresses Cutaneous Inflammation: Implications for Peripheral Wound Healing. *Journal of Neurotrauma*, **2017**, 34, 1149-1155	5.4	8

109	Stress Increases Peripheral Axon Growth and Regeneration through Glucocorticoid Receptor-Dependent Transcriptional Programs. *ENeuro*, **2017**, 4,	3.9	18
108	Developing a data sharing community for spinal cord injury research. *Experimental Neurology*, **2017**, 295, 135-143	5.7	30
107	miR-155 Deletion in Female Mice Prevents Diet-Induced Obesity. *Scientific Reports*, **2016**, 6, 22862	4.9	60
106	Gut dysbiosis impairs recovery after spinal cord injury. *Journal of Experimental Medicine*, **2016**, 213, 2603-2620	16.6	154
105	TLR4 Deficiency Impairs Oligodendrocyte Formation in the Injured Spinal Cord. *Journal of Neuroscience*, **2016**, 36, 6352-64	6.6	36
104	Cognitive deficits develop 1month after diffuse brain injury and are exaggerated by microglia-associated reactivity to peripheral immune challenge. *Brain, Behavior, and Immunity*, **2016** , 54, 95-109	16.6	76
103	MicroRNA-155 deletion reduces anxiety- and depressive-like behaviors in mice. *Psychoneuroendocrinology*, **2016**, 63, 362-9	5	38
102	Control of the Inflammatory Macrophage Transcriptional Signature by miR-155. *PLoS ONE*, **2016**, 11, e0159724	3.7	95
101	RegenBase: a knowledge base of spinal cord injury biology for translational research. *Database: the Journal of Biological Databases and Curation*, **2016**, 2016,	5	9
100	Silencing spinal interneurons inhibits immune suppressive autonomic reflexes caused by spinal cord injury. *Nature Neuroscience*, **2016**, 19, 784-7	25.5	61
99	A silver lining of neuroinflammation: Beneficial effects on myelination. *Experimental Neurology*, **2016**, 283, 550-9	5.7	32
98	miR-155 Deletion in Mice Overcomes Neuron-Intrinsic and Neuron-Extrinsic Barriers to Spinal Cord Repair. *Journal of Neuroscience*, **2016**, 36, 8516-32	6.6	45
97	Toll-Like Receptors and Dectin-1, a C-Type Lectin Receptor, Trigger Divergent Functions in CNS Macrophages. *Journal of Neuroscience*, **2015**, 35, 9966-76	6.6	50
96	Traumatic spinal cord injury in mice with human immune systems. *Experimental Neurology*, **2015**, 271, 432-44	5.7	9
95	Stress exacerbates neuron loss and microglia proliferation in a rat model of excitotoxic lower motor neuron injury. *Brain, Behavior, and Immunity*, **2015**, 49, 246-54	16.6	6
94	Spinal cord injury causes chronic liver pathology in rats. *Journal of Neurotrauma*, **2015**, 32, 159-69	5.4	46
93	Novel Markers to Delineate Murine M1 and M2 Macrophages. *PLoS ONE*, **2015**, 10, e0145342	3.7	487
92	Galectin-1 in injured rat spinal cord: implications for macrophage phagocytosis and neural repair. *Molecular and Cellular Neurosciences*, **2015**, 64, 84-94	4.8	22

91	Central nervous system regenerative failure: role of oligodendrocytes, astrocytes, and microglia. *Cold Spring Harbor Perspectives in Biology*, **2014**, 7, a020602	10.2	203
90	IL-4 signaling drives a unique arginase+/IL-1β microglia phenotype and recruits macrophages to the inflammatory CNS: consequences of age-related deficits in IL-4Rα after traumatic spinal cord injury. *Journal of Neuroscience*, **2014**, 34, 8904-17	6.6	135
89	The paradox of chronic neuroinflammation, systemic immune suppression, autoimmunity after traumatic chronic spinal cord injury. *Experimental Neurology*, **2014**, 258, 121-129	5.7	136
88	Pattern recognition receptors and central nervous system repair. *Experimental Neurology*, **2014**, 258, 5-16	5.7	247
87	Independent evaluation of the anatomical and behavioral effects of Taxol in rat models of spinal cord injury. *Experimental Neurology*, **2014**, 261, 97-108	5.7	35
86	Extracellular matrix regulation of inflammation in the healthy and injured spinal cord. *Experimental Neurology*, **2014**, 258, 24-34	5.7	127
85	Minimum information about a spinal cord injury experiment: a proposed reporting standard for spinal cord injury experiments. *Journal of Neurotrauma*, **2014**, 31, 1354-61	5.4	56
84	Microglia induce motor neuron death via the classical NF-B pathway in amyotrophic lateral sclerosis. *Neuron*, **2014**, 81, 1009-1023	13.9	393
83	Immune activation promotes depression 1 month after diffuse brain injury: a role for primed microglia. *Biological Psychiatry*, **2014**, 76, 575-84	7.9	165
82	Development of a database for translational spinal cord injury research. *Journal of Neurotrauma*, **2014**, 31, 1789-99	5.4	59
81	Glucocorticoids and macrophage migration inhibitory factor (MIF) are neuroendocrine modulators of inflammation and neuropathic pain after spinal cord injury. *Seminars in Immunology*, **2014**, 26, 409-14	10.7	34
80	Spinal Cord and Brain Trauma **2014**, 455-472		
79	Autonomic dysreflexia causes chronic immune suppression after spinal cord injury. *Journal of Neuroscience*, **2013**, 33, 12970-81	6.6	102
78	PPAR agonists as therapeutics for CNS trauma and neurological diseases. *ASN Neuro*, **2013**, 5, e00129	5.3	63
77	Macrophage migration inhibitory factor potentiates autoimmune-mediated neuroinflammation. *Journal of Immunology*, **2013**, 191, 1043-54	5.3	67
76	p53 Regulates the neuronal intrinsic and extrinsic responses affecting the recovery of motor function following spinal cord injury. *Journal of Neuroscience*, **2012**, 32, 13956-70	6.6	38
75	Achieving CNS axon regeneration by manipulating convergent neuro-immune signaling. *Cell and Tissue Research*, **2012**, 349, 201-13	4.2	35
74	Independent evaluation of the effects of glibenclamide on reducing progressive hemorrhagic necrosis after cervical spinal cord injury. *Experimental Neurology*, **2012**, 233, 615-22	5.7	51

73	System x(c)(-) regulates microglia and macrophage glutamate excitotoxicity in vivo. *Experimental Neurology*, **2012**, 233, 333-41	5.7	50
72	A reassessment of a classic neuroprotective combination therapy for spinal cord injured rats: LPS/pregnenolone/indomethacin. *Experimental Neurology*, **2012**, 233, 677-85	5.7	23
71	Spinal cord injury with unilateral versus bilateral primary hemorrhage--effects of glibenclamide. *Experimental Neurology*, **2012**, 233, 829-35	5.7	40
70	Macrophage migration inhibitory factor (MIF) is essential for inflammatory and neuropathic pain and enhances pain in response to stress. *Experimental Neurology*, **2012**, 236, 351-62	5.7	47
69	Effects of gabapentin on muscle spasticity and both induced as well as spontaneous autonomic dysreflexia after complete spinal cord injury. *Frontiers in Physiology*, **2012**, 3, 329	4.6	38
68	Ferritin stimulates oligodendrocyte genesis in the adult spinal cord and can be transferred from macrophages to NG2 cells in vivo. *Journal of Neuroscience*, **2012**, 32, 5374-84	6.6	71
67	Cellular and Molecular Biological Assessments of Inflammation and Autoimmunity After Spinal Cord Injury. *Springer Protocols*, **2012**, 553-571	0.3	
66	Inflammation and axon regeneration. *Current Opinion in Neurology*, **2011**, 24, 577-83	7.1	173
65	Emerging concepts in myeloid cell biology after spinal cord injury. *Neurotherapeutics*, **2011**, 8, 252-61	6.4	63
64	Wallerian degeneration: gaining perspective on inflammatory events after peripheral nerve injury. *Journal of Neuroinflammation*, **2011**, 8, 110	10.1	504
63	Spinal cord injury therapies in humans: an overview of current clinical trials and their potential effects on intrinsic CNS macrophages. *Expert Opinion on Therapeutic Targets*, **2011**, 15, 505-18	6.4	60
62	Deficient CX3CR1 signaling promotes recovery after mouse spinal cord injury by limiting the recruitment and activation of Ly6Clo/iNOS+ macrophages. *Journal of Neuroscience*, **2011**, 31, 9910-22	6.6	166
61	Macrophages Promote Axon Regeneration with Concurrent Neurotoxicity. *Spinal Surgery*, **2010**, 24, 92-94		
60	A mouse model of ischemic spinal cord injury with delayed paralysis caused by aortic cross-clamping. *Anesthesiology*, **2010**, 113, 880-91	4.3	36
59	Fractalkine receptor (CX3CR1) deficiency sensitizes mice to the behavioral changes induced by lipopolysaccharide. *Journal of Neuroinflammation*, **2010**, 7, 93	10.1	142
58	B cells and autoantibodies: complex roles in CNS injury. *Trends in Immunology*, **2010**, 31, 332-8	14.4	71
57	Progranulin expression is upregulated after spinal contusion in mice. *Acta Neuropathologica*, **2010**, 119, 123-33	14.3	52
56	Semi-automated Sholl analysis for quantifying changes in growth and differentiation of neurons and glia. *Journal of Neuroscience Methods*, **2010**, 190, 71-9	3	44

55	Macrophages promote axon regeneration with concurrent neurotoxicity. *Journal of Neuroscience*, **2009**, 29, 3956-68	6.6	173
54	Major histocompatibility complex haplotype determines hsp70-dependent protection against measles virus neurovirulence. *Journal of Virology*, **2009**, 83, 5544-55	6.6	14
53	Three Promoters Regulate Tissue- and Cell Type-specific Expression of Murine Interleukin-1 Receptor Type I. *Journal of Biological Chemistry*, **2009**, 284, 8703-13	5.4	11
52	Damage control in the nervous system: beware the immune system in spinal cord injury. *Nature Medicine*, **2009**, 15, 736-7	50.5	50
51	Stress hormones collaborate to induce lymphocyte apoptosis after high level spinal cord injury. *Journal of Neurochemistry*, **2009**, 110, 1409-21	6	73
50	An efficient and reproducible method for quantifying macrophages in different experimental models of central nervous system pathology. *Journal of Neuroscience Methods*, **2009**, 181, 36-44	3	104
49	B cells produce pathogenic antibodies and impair recovery after spinal cord injury in mice. *Journal of Clinical Investigation*, **2009**, 119, 2990-9	15.9	126
48	Stress exacerbates neuropathic pain via glucocorticoid and NMDA receptor activation. *Brain, Behavior, and Immunity*, **2009**, 23, 851-60	16.6	105
47	Neuroinflammation in spinal cord injury: therapeutic targets for neuroprotection and regeneration. *Progress in Brain Research*, **2009**, 175, 125-37	2.9	115
46	Identification of two distinct macrophage subsets with divergent effects causing either neurotoxicity or regeneration in the injured mouse spinal cord. *Journal of Neuroscience*, **2009**, 29, 13435-44	6.6	1523
45	Toll-like receptors in spinal cord injury. *Current Topics in Microbiology and Immunology*, **2009**, 336, 121-36	3.3	35
44	Can the immune system be harnessed to repair the CNS?. *Nature Reviews Neuroscience*, **2008**, 9, 481-93	13.5	222
43	Inflammation and its role in neuroprotection, axonal regeneration and functional recovery after spinal cord injury. *Experimental Neurology*, **2008**, 209, 378-88	5.7	661
42	Remote activation of microglia and pro-inflammatory cytokines predict the onset and severity of below-level neuropathic pain after spinal cord injury in rats. *Experimental Neurology*, **2008**, 212, 337-47	5.7	184
41	Macrophage depletion alters the blood-nerve barrier without affecting Schwann cell function after neural injury. *Journal of Neuroscience Research*, **2007**, 85, 766-77	4.4	37
40	Central nervous system and non-central nervous system antigen vaccines exacerbate neuropathology caused by nerve injury. *European Journal of Neuroscience*, **2007**, 25, 2053-64	3.5	28
39	Toll-like receptor (TLR)-2 and TLR-4 regulate inflammation, gliosis, and myelin sparing after spinal cord injury. *Journal of Neurochemistry*, **2007**, 102, 37-50	6	229
38	Characterization and modeling of monocyte-derived macrophages after spinal cord injury. *Journal of Neurochemistry*, **2007**, 102, 1083-94	6	77

37	Oligodendrocyte generation is differentially influenced by toll-like receptor (TLR) 2 and TLR4-mediated intraspinal macrophage activation. *Journal of Neuropathology and Experimental Neurology*, **2007**, 66, 1124-35	3.1	78
36	Impaired antibody synthesis after spinal cord injury is level dependent and is due to sympathetic nervous system dysregulation. *Experimental Neurology*, **2007**, 207, 75-84	5.7	132
35	The Immune System of the Brain. *NeuroImmune Biology*, **2007**, 127-144		1
34	Debate: "is increasing neuroinflammation beneficial for neural repair?". *Journal of NeuroImmune Pharmacology*, **2006**, 1, 195-211	6.9	46
33	Comparative analysis of lesion development and intraspinal inflammation in four strains of mice following spinal contusion injury. *Journal of Comparative Neurology*, **2006**, 494, 578-94	3.4	213
32	Basso Mouse Scale for locomotion detects differences in recovery after spinal cord injury in five common mouse strains. *Journal of Neurotrauma*, **2006**, 23, 635-59	5.4	953
31	MICAL flavoprotein monooxygenases: expression during neural development and following spinal cord injuries in the rat. *Molecular and Cellular Neurosciences*, **2006**, 31, 52-69	4.8	56
30	Spinal cord injury triggers systemic autoimmunity: evidence for chronic B lymphocyte activation and lupus-like autoantibody synthesis. *Journal of Neurochemistry*, **2006**, 99, 1073-87	6	116
29	Drug evaluation: ProCord - a potential cell-based therapy for spinal cord injury. *IDrugs: the Investigational Drugs Journal*, **2006**, 9, 354-60		4
28	Molecular control of physiological and pathological T-cell recruitment after mouse spinal cord injury. *Journal of Neuroscience*, **2005**, 25, 6576-83	6.6	74
27	Passive or active immunization with myelin basic protein impairs neurological function and exacerbates neuropathology after spinal cord injury in rats. *Journal of Neuroscience*, **2004**, 24, 3752-61	6.6	118
26	Rats and mice exhibit distinct inflammatory reactions after spinal cord injury. *Journal of Comparative Neurology*, **2003**, 462, 223-40	3.4	283
25	Hematogenous macrophages express CD8 and distribute to regions of lesion cavitation after spinal cord injury. *Experimental Neurology*, **2003**, 182, 275-87	5.7	69
24	Manipulating neuroinflammatory reactions in the injured spinal cord: back to basics. *Trends in Pharmacological Sciences*, **2003**, 24, 13-7	13.2	168
23	Pathological CNS autoimmune disease triggered by traumatic spinal cord injury: implications for autoimmune vaccine therapy. *Journal of Neuroscience*, **2002**, 22, 2690-700	6.6	171
22	The neuropathological and behavioral consequences of intraspinal microglial/macrophage activation. *Journal of Neuropathology and Experimental Neurology*, **2002**, 61, 623-33	3.1	249
21	Role of Microglia and Macrophages in Secondary Injury of the Traumatized Spinal Cord: Troublemakers or Scapegoats? **2002**, 152-165		1
20	Bone marrow chimeric rats reveal the unique distribution of resident and recruited macrophages in the contused rat spinal cord. *Journal of Neuropathology and Experimental Neurology*, **2001**, 60, 676-85	3.1	119

19	Alterations in immune cell phenotype and function after experimental spinal cord injury. *Journal of Neurotrauma*, **2001**, 18, 957-66	5.4	60
18	Immunological regulation of neuronal degeneration and regeneration in the injured spinal cord. *Progress in Brain Research*, **2000**, 128, 43-58	2.9	87
17	Strategies for spinal cord injury repair. *Progress in Brain Research*, **2000**, 128, 3-8	2.9	33
16	Traumatic spinal cord injury produced by controlled contusion in mouse. *Journal of Neurotrauma*, **2000**, 17, 299-319	5.4	176
15	Localization of transforming growth factor-beta1 and receptor mRNA after experimental spinal cord injury. *Experimental Neurology*, **2000**, 163, 220-30	5.7	77
14	Depletion of hematogenous macrophages promotes partial hindlimb recovery and neuroanatomical repair after experimental spinal cord injury. *Experimental Neurology*, **1999**, 158, 351-65	5.7	536
13	Cytokine mRNA profiles in contused spinal cord and axotomized facial nucleus suggest a beneficial role for inflammation and gliosis. *Experimental Neurology*, **1998**, 152, 74-87	5.7	273
12	Is Spinal Cord Injury an Autoimmune Disorder?. *Neuroscientist*, **1998**, 4, 71-76	7.6	16
11	Spinal cord neuropathology in rat experimental autoimmune encephalomyelitis: modulation by oral administration of myelin basic protein. *Journal of Neuropathology and Experimental Neurology*, **1997**, 56, 1323-38	3.1	23
10	Cellular inflammatory response after spinal cord injury in Sprague-Dawley and Lewis rats. *Journal of Comparative Neurology*, **1997**, 377, 443-64	3.4	708
9	A quantitative spatial analysis of the blood-spinal cord barrier. II. Permeability after intraspinal fetal transplantation. *Experimental Neurology*, **1996**, 142, 226-43	5.7	10
8	A quantitative spatial analysis of the blood-spinal cord barrier. I. Permeability changes after experimental spinal contusion injury. *Experimental Neurology*, **1996**, 142, 258-75	5.7	204
7	Concept of autoimmunity following spinal cord injury: possible roles for T lymphocytes in the traumatized central nervous system. *Journal of Neuroscience Research*, **1996**, 45, 349-63	4.4	213
6	Analysis of TGF-beta 1 gene expression in contused rat spinal cord using quantitative RT-PCR. *Journal of Neurotrauma*, **1995**, 12, 1003-14	5.4	55
5	Elevation of the neurotoxin quinolinic acid occurs following spinal cord trauma. *Brain Research*, **1994**, 633, 348-52	3.7	62
4	Differential expression of MHC class II antigen in the contused rat spinal cord. *Journal of Neurotrauma*, **1993**, 10, 37-46	5.4	37
3	Controversies on the role of inflammationin the injured spinal cord272-279		2
2	Microglia limit lesion expansion and promote functional recovery after spinal cord injury in mice		2

1 Human immune cells infiltrate the lesioned spinal cord and impair recovery after spinal cord injury in humanized mice 1