Biomaterials for the development of peripheral nerve guidance conduits

DOI: 10.1089/ten.teb.2011.0240
Tissue Engineering - Part B: Reviews, 2012, 18, 40-50.

#	Paper	IF	Citations
294	Neural stem cells enhance nerve regeneration after sciatic nerve injury in rats. **2012**, 46, 265-74		35
293	Neuronal alignment on asymmetric textured surfaces. **2012**, 101, 143701		23
292	The effect of intraluminal contact mediated guidance signals on axonal mismatch during peripheral nerve repair. **2012**, 33, 6660-71		56
291	Combination of fibrin-agarose hydrogels and adipose-derived mesenchymal stem cells for peripheral nerve regeneration. **2013**, 10, 026022		102
290	Micro-structural geometry of thin films intended for the inner lumen of nerve conduits affects nerve repair. **2013**, 24, 1639-47		33
289	Engineered neural tissue for peripheral nerve repair. **2013**, 34, 7335-43		153
288	Comparison and characterization of multiple biomaterial conduits for peripheral nerve repair. **2013**, 34, 8630-9		66
287	Directed differentiation and neurite extension of mouse embryonic stem cell on aligned poly(lactide) nanofibers functionalized with YIGSR peptide. **2013**, 34, 9089-95		114
286	Silk Hydrogels as Soft Substrates for Neural Tissue Engineering. *Advanced Functional Materials*, **2013**, 23, 5140-5149	15.6	132
285	Physiologically responsive, mechanically adaptive bio-nanocomposites for biomedical applications. *ACS Applied Materials & Interfaces*, **2013**, 5, 1517-26	9.5	102
284	Blood-derived biomaterials and platelet growth factors in regenerative medicine. **2013**, 27, 77-89		143
283	Enhanced femoral nerve regeneration after tubulization with a tyrosine-derived polycarbonate terpolymer: effects of protein adsorption and independence of conduit porosity. *Tissue Engineering - Part A*, **2014**, 20, 518-28	3.9	9
282	A statistical algorithm for assessing cellular alignment. *Journal of Biomedical Materials Research - Part A*, **2013**, 101, 884-91	5.4	3
281	Tissue engineering and peripheral nerve reconstruction: an overview. **2013**, 108, 35-57		17
280	Limitations of nerve repair of segmental defects using acellular conduits. **2013**, 119, 733-8		32
279	Epimedium extract promotes peripheral nerve regeneration in rats. **2013**, 2013, 954798		17
278	Preclinical evaluations of acellular biological conduits for peripheral nerve regeneration. **2013**, 4, 204173141348		1036

277	Carriers in cell-based therapies for neurological disorders. *International Journal of Molecular Sciences*, **2014**, 15, 10669-723	6.3	28
276	Crosslinking of micropatterned collagen-based nerve guides to modulate the expected half-life. *Journal of Biomedical Materials Research - Part A*, **2014**, 102, 4406-14	5.4	15
275	Micropatterned coumarin polyester thin films direct neurite orientation. *ACS Applied Materials & Interfaces*, **2014**, 6, 19655-67	9.5	15
274	Tissue engineering of the peripheral nervous system. **2014**, 14, 301-18		73
273	Semiconductive bionanocomposites of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) and MWCNTs for neural growth applications. **2014**, 52, 349-360		3
272	Connections matter: channeled hydrogels to improve vascularization. *Frontiers in Bioengineering and Biotechnology*, **2014**, 2, 52	5.8	26
271	Human dental pulp stem cells can differentiate into Schwann cells and promote and guide neurite outgrowth in an aligned tissue-engineered collagen construct in vitro. **2014**, 28, 1634-43		126
270	Hierarchically structured nerve guidance channels based on poly-3-hydroxybutyrate enhance oriented axonal outgrowth. *Acta Biomaterialia*, **2014**, 10, 2086-95	10.8	17
269	Curcumin-releasing mechanically adaptive intracortical implants improve the proximal neuronal density and blood-brain barrier stability. *Acta Biomaterialia*, **2014**, 10, 2209-22	10.8	91
268	Regulating Schwann cells growth by chitosan micropatterning for peripheral nerve regeneration in vitro. **2014**, 14, 1067-75		17
267	Regenerative effects of adipose-tissue-derived stem cells for treatment of peripheral nerve injuries. **2014**, 42, 697-701		27
266	Physiologically responsive, mechanically adaptive polymer optical fibers for optogenetics. **2014**, 39, 2872-5		15
265	Neural tissue engineering options for peripheral nerve regeneration. **2014**, 35, 6143-56		394
264	Side-to-side nerve bridges reduce muscle atrophy after peripheral nerve injury in a rodent model. **2014**, 187, 350-8		15
263	Stimulating the neurotrophic and angiogenic properties of human adipose-derived stem cells enhances nerve repair. **2014**, 23, 741-54		150
262	The behavior of neuronal cells on tendon-derived collagen sheets as potential substrates for nerve regeneration. **2014**, 35, 3551-7		25
261	Processing of Bombyx mori silk for biomedical applications. **2014**, 78-99		14
260	Porous chitosan scaffolds with surface micropatterning and inner porosity and their effects on Schwann cells. **2014**, 35, 8503-13		66

259	Preparation and characterization of collagen/silica composite scaffolds for peripheral nerve regeneration. **2014**, 21, 699-708		12
258	Proteins and Poly(Amino Acids). **2014**, 43-65		7
257	Interaction of Schwann cells with laminin encapsulated PLCL core-shell nanofibers for nerve tissue engineering. **2014**, 50, 30-38		63
256	Recent advances in nerve tissue engineering. **2014**, 37, 277-91		40
255	Quantifying cellular alignment on anisotropic biomaterial platforms. *Journal of Biomedical Materials Research - Part A*, **2014**, 102, 420-8	5.4	8
254	Development of Novel 3D Scaffolds With Embedded Core-Shell Nanoparticles for Nerve Regeneration. **2015**,		
253	3D Printed Anatomical Nerve Regeneration Pathways. *Advanced Functional Materials*, **2015**, 25, 6205-6217	13.6	188
252	A silk sericin/silicone nerve guidance conduit promotes regeneration of a transected sciatic nerve. **2015**, 4, 2195-205		52
251	The Effect of Electrospun Gelatin Fibers Alignment on Schwann Cell and Axon Behavior and Organization in the Perspective of Artificial Nerve Design. *International Journal of Molecular Sciences*, **2015**, 16, 12925-42	6.3	75
250	Fabrication and Characterization of Electrospun PCL-MgO-Keratin-Based Composite Nanofibers for Biomedical Applications. **2015**, 8, 4080-4095		58
249	Past, Present, and Future of Nerve Conduits in the Treatment of Peripheral Nerve Injury. **2015**, 2015, 237507		104
248	Clinical outcomes for Conduits and Scaffolds in peripheral nerve repair. **2015**, 3, 141-7		28
247	Silk-tropoelastin protein films for nerve guidance. *Acta Biomaterialia*, **2015**, 14, 1-10	10.8	38
246	Highly aligned nanocomposite scaffolds by electrospinning and electrospraying for neural tissue regeneration. **2015**, 11, 693-704		88
245	Photo-patterning PEG-based hydrogels for neuronal engineering. **2015**, 72, 473-483		16
244	Fabrication and characterization of polyacrylamide/silk fibroin hydrogels for peripheral nerve regeneration. **2015**, 26, 899-916		19
243	Trends in the design of nerve guidance channels in peripheral nerve tissue engineering. **2015**, 131, 87-104		184
242	Tissue-Engineered Peripheral Nerve Guide Fabrication Techniques. **2015**, 971-992		3

241	An alternative to nerve repair using an antioxidant compound: a histological study in rats. **2015**, 26, 5340		4
240	Olfactory-ensheathing cell transplantation for peripheral nerve repair: update on recent developments. **2014**, 200, 48-58		16
239	A New Preparation Method for Anisotropic Silk Fibroin Nerve Guidance Conduits and Its Evaluation In Vitro and in a Rat Sciatic Nerve Defect Model. **2015**, 21, 945-57		25
238	Surface modification of magnesium by functional polymer coatings for neural applications. **2015**, 335-353		7
237	Tailoring of chitosan scaffolds with heparin and □aminopropyltriethoxysilane for promoting peripheral nerve regeneration. **2015**, 134, 413-22		13
236	Applications of synthetic polymers in clinical medicine. **2015**, 1, 161-176		397
235	Decellularized grafts with axially aligned channels for peripheral nerve regeneration. **2015**, 41, 124-35		46
234	3D multi-channel bi-functionalized silk electrospun conduits for peripheral nerve regeneration. **2015**, 41, 43-55		135
233	Realisation and characterization of conductive hollow fibers for neuronal tissue engineering. **2015**, 103, 1107-19		15
232	Extracellular matrix-derived tissues for neurological applications. **2016**, 83-118		2
231	Using Stem Cells to Grow Artificial Tissue for Peripheral Nerve Repair. **2016**, 2016, 7502178		40
230	Approaches to Peripheral Nerve Repair: Generations of Biomaterial Conduits Yielding to Replacing Autologous Nerve Grafts in Craniomaxillofacial Surgery. **2016**, 2016, 3856262		97
229	Polymerizing Pyrrole Coated Poly (l-lactic acid-co-□caprolactone) (PLCL) Conductive Nanofibrous Conduit Combined with Electric Stimulation for Long-Range Peripheral Nerve Regeneration. **2016**, 9, 117		56
228	Natural Occurring Silks and Their Analogues as Materials for Nerve Conduits. *International Journal of Molecular Sciences*, **2016**, 17,	6.3	18
227	Differential Effects of Coating Materials on Viability and Migration of Schwann Cells. **2016**, 9,		7
226	Collagen Type I Conduits for the Regeneration of Nerve Defects. **2016**, 9,		16
225	Biomaterials and 3D Printing Techniques for Neural Tissue Regeneration. **2016**, 1-24		5
224	Differentiated adipose-derived stem cells act synergistically with RGD-modified surfaces to improve neurite outgrowth in a co-culture model. **2016**, 10, 647-55		22

223	Three-dimensional bioprinting speeds up smart regenerative medicine. **2016**, 3, 331-344		11
222	Effect of Artificial Nerve Conduit Vascularization on Peripheral Nerve in a Necrotic Bed. **2016**, 4, e665		19
221	Human olfactory stem cells for injured facial nerve reconstruction in a rat model. **2016**, 38 Suppl 1, E2011-20		10
220	Preparation of Poly(lactic acid) Flat Sheet Membranes by Liquid Induced Phase Separation. **2016**, 368, 128-135		2
219	How Far Have We Come in the Field of Nerve Regeneration After Trigeminal Nerve Injury?. **2016**, 3, 309-313		14
218	In Vivo Peripheral Nerve Repair Using Tendon-Derived Nerve Guidance Conduits. **2016**, 2, 937-945		10
217	Methods for Implant Acceptance and Wound Healing: Material Selection and Implant Location Modulate Macrophage and Fibroblast Phenotypes. **2016**, 5, 2575-2594		45
216	Dual-component collagenous peptide/reactive oligomer hydrogels as potential nerve guidance materials - from characterization to functionalization. *Biomaterials Science*, **2016**, 4, 1605-1621	7.4	9
215	Extracellular matrix biomimicry for the creation of investigational and therapeutic devices. **2016**, 8, 5-22		13
214	Use of electrospinning to construct biomaterials for peripheral nerve regeneration. **2016**, 27, 761-768		14
213	Recent Strategies in Tissue Engineering for Guided Peripheral Nerve Regeneration. **2016**, 16, 472-81		67
212	Effects of surface functional groups on proliferation and biofunction of Schwann cells. **2016**, 30, 1494-504		10
211	Chitosan-based hydrogel implants enriched with calcium ions intended for peripheral nervous tissue regeneration. **2016**, 136, 764-71		47
210	Neural Reanimation Advances and New Technologies. **2016**, 24, 71-84		14
209	Bicomponent electrospun scaffolds to design extracellular matrix tissue analogs. **2016**, 13, 83-102		43
208	Alignment of the Fibrin Network Within an Autologous Plasma Clot. **2016**, 22, 30-7		8
207	NECL1 coated PLGA as favorable conduits for repair of injured peripheral nerve. **2017**, 70, 1132-1140		13
206	Development of Novel 3-D Printed Scaffolds With Core-Shell Nanoparticles for Nerve Regeneration. **2017**, 64, 408-418		52

205	Schwann cells and neurite outgrowth from embryonic dorsal root ganglions are highly mechanosensitive. **2017**, 13, 493-501		23
204	Analysis of human acellular nerve allograft reconstruction of 64 injured nerves in the hand and upper extremity: a 3‐year follow-up study. **2017**, 11, 2314-2322		17
203	Noncovalent Bonding of RGD and YIGSR to an Electrospun Poly(ε‐Caprolactone) Conduit through Peptide Self-Assembly to Synergistically Promote Sciatic Nerve Regeneration in Rats. **2017**, 6, 1600860		46
202	Novel flexible nerve conduits made of water-based biodegradable polyurethane for peripheral nerve regeneration. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 1383-1392	5.4	35
201	Role of Biomaterials as Scaffolding in Cell Therapy for Stroke. **2017**, 87-99		3
200	Development of biomimetic micro-patterned device incorporated with neurotrophic gradient and supportive Schwann cells for the applications in neural tissue engineering. **2017**, 9, 015024		20
199	Biocompatibility and neurotoxicity of magnesium alloys potentially used for neural repairs. **2017**, 78, 1155-1163		28
198	A facile one-step strategy for development of a double network fibrous scaffold for nerve tissue engineering. **2017**, 9, 025008		31
197	Semi-synthetic hydrogel composition and stiffness regulate neuronal morphogenesis. **2017**, 523, 545-555		21
196	Biomaterials and cells for neural tissue engineering: Current choices. **2017**, 77, 1302-1315		109
195	Design and optimization of a biodegradable porous zein conduit using microtubes as a guide for rat sciatic nerve defect repair. **2017**, 131, 145-159		39
194	Design and Engineering of Neural Tissues. **2017**, 603-654		1
193	. **2017**,		
192	Chitosan nerve conduits seeded with autologous bone marrow mononuclear cells for 30 mm goat peroneal nerve defect. **2017**, 7, 44002		21
191	Sustained Local Release of NGF from a Chitosan-Sericin Composite Scaffold for Treating Chronic Nerve Compression. *ACS Applied Materials & Interfaces*, **2017**, 9, 3432-3444	9.5	36
190	Biodegradable poly-ε-caprolactone microcarriers for efficient production of human mesenchymal stromal cells and secreted cytokines in batch and fed-batch bioreactors. **2017**, 19, 419-432		43
189	Engineered neural tissue with Schwann cell differentiated human dental pulp stem cells: potential for peripheral nerve repair?. **2017**, 11, 3362-3372		66
188	A Physicochemically Optimized and Neuroconductive Biphasic Nerve Guidance Conduit for Peripheral Nerve Repair. **2017**, 6, 1700954		35

187	The neurotrophic effects of different human dental mesenchymal stem cells. **2017**, 7, 12605		67
186	Sciatic nerve regeneration by transplantation of menstrual blood-derived stem cells. **2017**, 44, 407-412		17
185	Polymeric scaffolds for three-dimensional culture of nerve cells: a model of peripheral nerve regeneration. **2017**, 7, 391-415		13
184	Peripheral Nerve Injury: Current Challenges, Conventional Treatment Approaches, and New Trends in Biomaterials-Based Regenerative Strategies. **2017**, 3, 3098-3122		37
183	Homo- and heteropolymer self-assembly of recombinant trichocytic keratins. **2017**, 107, e23037		8
182	Recent medical techniques for peripheral nerve repair: Clinico-physiological advantages of artificial nerve guidance conduits. **2017**, 7, 148-154		4
181	Morphological control and properties of poly(lactic acid) hollow fibers for biomedical applications. **2017**, 134, 45494		8
180	Human endothelial cells secrete neurotropic factors to direct axonal growth of peripheral nerves. **2017**, 7, 4092		33
179	Tough and conductive hybrid graphene-PVA: Alginate fibrous scaffolds for engineering neural construct. **2017**, 111, 752-763		135
178	Electroactive nanostructured scaffold produced by controlled deposition of PPy on electrospun PCL fibres. **2017**, 43, 1235-1251		28
177	Biotechnological Management of Skin Burn Injuries: Challenges and Perspectives in Wound Healing and Sensory Recovery. *Tissue Engineering - Part B: Reviews*, **2017**, 23, 59-82	7.9	28
176	Investigation of cell adhesion in chitosan membranes for peripheral nerve regeneration. **2017**, 71, 1122-1134		30
175	Prospects of peripheral nerve tissue engineering using nerve guide conduits based on silk fibroin protein and other biopolymers. **2017**, 62, 367-391		43
174	Gelatin/nanoceria nanocomposite fibers as antioxidant scaffolds for neuronal regeneration. **2017**, 1861, 386-395		54
173	Nerve Guidance by a Decellularized Fibroblast Extracellular Matrix. *Matrix Biology*, **2017**, 60-61, 176-189	11.4	33
172	Medical Textiles as Substrates for Tissue Engineering. **2017**, 363-421		4
171	Peripheral Nerve Injury and Current Treatment Strategies. **2017**,		3
170	Scaffolds for Peripheral Nerve Regeneration, the Importance of In Vitro and In Vivo Studies for the Development of Cell-Based Therapies and Biomaterials: State of the Art. **2017**,		5

169	Prerequisites for Mesenchymal Stem Cell Transplantation in Spinal Cord Injury. **2017**,		0
168	Nerve guidance conduit with a hybrid structure of a PLGA microfibrous bundle wrapped in a micro/nanostructured membrane. **2017**, 12, 421-432		29
167	Biomaterial Cues to Direct a Pro-regenerative Phenotype in Macrophages and Schwann Cells. **2018**, 376, 172-187		10
166	Fabrication and evaluation of a nerve guidance conduit capable of Ca ion release to accelerate axon extension in peripheral nerve regeneration. *Journal of Biomedical Materials Research - Part A*, **2018**, 106, 2181-2189	5.4	14
165	Analysis of regeneration- and myelination-associated proteins in human neuroma in continuity and discontinuity. **2018**, 160, 1269-1281		1
164	Conductive Polymer-Based Functional Structures for Neural Therapeutic Applications. **2018**, 243-267		3
163	Advances in Controlling Differentiation of Adult Stem Cells for Peripheral Nerve Regeneration. **2018**, 7, e1701046		18
162	An allogeneic Soff the shelfStherapeutic strategy for peripheral nerve tissue engineering using clinical grade human neural stem cells. **2018**, 8, 2951		37
161	Anisotropic architecture and electrical stimulation enhance neuron cell behaviour on a tough graphene embedded PVA: alginate fibrous scaffold.. **2018**, 8, 6381-6389		29
160	Partially oxidized polyvinyl alcohol conduitfor peripheral nerve regeneration. **2018**, 8, 604		17
159	Micropatterned poly(d,l-lactide-co-caprolactone) films entrapped with gelatin for promoting the alignment and directional migration of Schwann cells. **2018**, 6, 1226-1237		13
158	Photocrosslinkable Gelatin/Tropoelastin Hydrogel Adhesives for Peripheral Nerve Repair. *Tissue Engineering - Part A*, **2018**, 24, 1393-1405	3.9	51
157	3D printing strategies for peripheral nerve regeneration. **2018**, 10, 032001		54
156	Advances in 3D Bioprinting for Neural Tissue Engineering. **2018**, 2, 1700213		50
155	An integrated theoretical-experimental approach to accelerate translational tissue engineering. **2018**, 12, e53-e59		12
154	Chitosan conduits filled with simvastatin/Pluronic F-127 hydrogel promote peripheral nerve regeneration in rats. **2018**, 106, 787-799		33
153	Polyurethane/Gelatin Nanofibrils Neural Guidance Conduit Containing Platelet-Rich Plasma and Melatonin for Transplantation of Schwann Cells. **2018**, 38, 703-713		23
152	The Use and Delivery of Stem Cells in Nerve Regeneration: Preclinical Evidence and Regulatory Considerations. **2018**, 80, 448-456		5

151	Fabrication and characterization of electrospun laminin-functionalized silk fibroin/poly(ethylene oxide) nanofibrous scaffolds for peripheral nerve regeneration. **2018**, 106, 1595-1604		40
150	Biodegradable Nerve Guidance Conduit with Microporous and Micropatterned Poly(lactic-co-glycolic acid)-Accelerated Sciatic Nerve Regeneration. **2018**, 18, e1800290		18
149	Mass-Production and Characterizations of Polyvinyl Alcohol/Sodium Alginate/Graphene Porous Nanofiber Membranes Using Needleless Dynamic Linear Electrospinning. **2018**, 10,		17
148	A Simple Dynamic Strategy to Deliver Stem Cells to Decellularized Nerve Allografts. **2018**, 142, 402-413		21
147	A three-layered hollow tubular scaffold as an enhancement of nerve regeneration potential. *Biomedical Materials (Bristol)*, **2018**, 13, 065005	3.5	7
146	Nanopatterned Scaffolds for Neural Tissue Engineering and Regenerative Medicine. **2018**, 1078, 421-443		10
145	Bridging the gap in peripheral nerve repair with 3D printed and bioprinted conduits. **2018**, 186, 44-63		54
144	Micropatterned biodegradable polyesters clicked with CQAASIKVAV promote cell alignment, directional migration, and neurite outgrowth. *Acta Biomaterialia*, **2018**, 74, 143-155	10.8	26
143	Rat vibrissa dermal papilla cells promote healing of spinal cord injury following transplantation. **2018**, 15, 3929-3939		1
142	An investigation on the correlation between the mechanical property change and the alterations in composition and microstructure of a porcine vascular tissue underwent trypsin-based decellularization treatment. **2018**, 86, 199-207		12
141	Nanofiber-Based Multi-Tubular Conduits with a Honeycomb Structure for Potential Application in Peripheral Nerve Repair. **2018**, 18, e1800090		17
140	Painful Terminal Neuroma Prevention by Capping PRGD/PDLLA Conduit in Rat Sciatic Nerves. *Advanced Science*, **2018**, 5, 1700876	13.6	15
139	Schwann cell durotaxis can be guided by physiologically relevant stiffness gradients. **2018**, 22, 14		23
138	Electrohydrodynamic Jet 3D Printed Nerve Guide Conduits (NGCs) for Peripheral Nerve Injury Repair. **2018**, 10,		42
137	Instructive proteins for tissue regeneration. **2018**, 23-49		4
136	Bioinspired scaffolds for bone and neural tissue and interface engineering. **2018**, 51-74		4
135	3D bioprinting nerve. **2018**, 355-366		1
134	Development of an apoptosis-assisted decellularization method for maximal preservation of nerve tissue structure. *Acta Biomaterialia*, **2018**, 77, 116-126	10.8	22

133	Tunable Enzymatically Cross-Linked Silk Fibroin Tubular Conduits for Guided Tissue Regeneration. **2018**, 7, e1800186		25
132	Poly(glycerol-sebacate)/poly(caprolactone)/graphene nanocomposites for nerve tissue engineering. **2018**, 33, 529-542		17
131	The influence of cross-sectional morphology on the compressive resistance of polymeric nerve conduits. **2018**, 148, 93-100		12
130	In vitro efficacy of a gene-activated nerve guidance conduit incorporating non-viral PEI-pDNA nanoparticles carrying genes encoding for NGF, GDNF and c-Jun. *Acta Biomaterialia*, **2018**, 75, 115-128	10.8	29
129	The advances in nerve tissue engineering: From fabrication of nerve conduit to in vivo nerve regeneration assays. **2019**, 13, 2077-2100		18
128	SilkBridge□a novel biomimetic and biocompatible silk-based nerve conduit. *Biomaterials Science*, **2019**, 7, 4112-4130	7.4	20
127	A biomaterials approach to Schwann cell development in neural tissue engineering. *Journal of Biomedical Materials Research - Part A*, **2019**, 107, 2425-2446	5.4	11
126	Mechanical changes of peripheral nerve tissue microenvironment and their structural basis during development. **2019**, 3, 036107		18
125	Magnetic Composite Biomaterials for Neural Regeneration. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 179	5.8	15
124	Micropatterned nanolayers immobilized with nerve growth factor for neurite formation of PC12 cells. **2019**, 14, 7683-7694		7
123	3D-Printed PCL/PPy Conductive Scaffolds as Three-Dimensional Porous Nerve Guide Conduits (NGCs) for Peripheral Nerve Injury Repair. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 266	5.8	58
122	Sericin Nerve Guidance Conduit Delivering Therapeutically Repurposed Clobetasol for Functional and Structural Regeneration of Transected Peripheral Nerves. **2019**, 5, 1426-1439		9
121	Synthesis and characterization of rGO-graft-poly(trimethylene carbonate) for nerve regeneration conduits. *Biomedical Materials (Bristol)*, **2019**, 14, 034101	3.5	6
120	Scaffold for facial nerve reconstruction. **2019**, 95-121		1
119	Optogenetic neuronal stimulation promotes axon outgrowth and myelination of motor neurons in a three-dimensional motor neuron-Schwann cell coculture model on a microfluidic biochip. **2019**, 116, 2425-2438		19
118	Iodine-Enhanced Micro-CT Imaging of Soft Tissue on the Example of Peripheral Nerve Regeneration. **2019**, 2019, 7483745		25
117	Fabrication of Biopolymer-Based Organs and Tissues Using 3D Bioprinting. **2019**, 43-62		2
116	Severe Peripheral Nerve Injury. **2019**, 213-225		

115	Bioinspired scaffold induced regeneration of neural tissue. **2019**, 114, 98-108		15
114	Novel approaches using mesenchymal stem cells for curing peripheral nerve injuries. **2019**, 221, 99-108		22
113	Strategic design of peptide-decorated aligned nanofibers impregnated with triiodothyronine for neural regeneration. **2019**, 13, 753-770		6
112	Bioscaffold-Induced Brain Tissue Regeneration. **2019**, 13, 1156		22
111	Enhanced performance of chitosan/keratin membranes with potential application in peripheral nerve repair. *Biomaterials Science*, **2019**, 7, 5451-5466	7.4	18
110	A novel polycaprolactone/carbon nanofiber composite as a conductive neural guidance channel: an in vitro and in vivo study. **2019**, 8, 239-248		20
109	Poly(ε-Caprolactone) Nanofiber Wrap Improves Nerve Regeneration and Functional Outcomes after Delayed Nerve Repair. **2019**, 144, 48e-57e		7
108	Modern Trends for Peripheral Nerve Repair and Regeneration: Beyond the Hollow Nerve Guidance Conduit. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 337	5.8	88
107	Peripheral nerve injury, scarring, and recovery. **2019**, 60, 3-9		55
106	Polypyrrole-coated poly(l-lactic acid-co-ε-caprolactone)/silk fibroin nanofibrous nerve guidance conduit induced nerve regeneration in rat. **2019**, 94, 190-199		50
105	In vitro and in vivo studies of electroactive reduced graphene oxide-modified nanofiber scaffolds for peripheral nerve regeneration. *Acta Biomaterialia*, **2019**, 84, 98-113	10.8	99
104	Nanofiber arrangement regulates peripheral nerve regeneration through differential modulation of macrophage phenotypes. *Acta Biomaterialia*, **2019**, 83, 291-301	10.8	65
103	A novel GelMA-pHEMA hydrogel nerve guide for the treatment of peripheral nerve damages. **2019**, 121, 699-706		29
102	Electrohydrodynamic jet 3D-printed PCL/PAA conductive scaffolds with tunable biodegradability as nerve guide conduits (NGCs) for peripheral nerve injury repair. **2019**, 162, 171-184		54
101	Review: Bioengineering approach for the repair and regeneration of peripheral nerve. *Bioactive Materials*, **2019**, 4, 107-113	16.7	27
100	Novel spiral structured nerve guidance conduits with multichannels and inner longitudinally aligned nanofibers for peripheral nerve regeneration. **2019**, 107, 1410-1419		11
99	Polyglycolic acid-collagen tube combined with collagen-binding basic fibroblast growth factor accelerates gait recovery in a rat sciatic nerve critical-size defect model. **2020**, 108, 326-332		9
98	Synthesis of an electrospun PHA/RGO/Au scaffold for peripheral nerve regeneration: an in vitro study. **2020**, 10, 687-694		4

97	3D Printed Neural Regeneration Devices. *Advanced Functional Materials*, **2020**, 30, 1906237	15.6	34
96	Current Status of Therapeutic Approaches against Peripheral Nerve Injuries: A Detailed Story from Injury to Recovery. **2020**, 16, 116-134		47
95	Mechanical Response of Neural Cells to Physiologically Relevant Stiffness Gradients. **2020**, 9, e1901036		24
94	Functional polymeric nerve guidance conduits and drug delivery strategies for peripheral nerve repair and regeneration. *Journal of Controlled Release*, **2020**, 317, 78-95	11.7	29
93	Nerve grafts in head and neck reconstruction. *Current Opinion in Otolaryngology and Head and Neck Surgery*, **2020**, 28, 346-351	2	2
92	Additive Manufacturing of Nerve Guidance Conduits for Regeneration of Injured Peripheral Nerves. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 590596	5.8	5
91	CNT/Sericin Conductive Nerve Guidance Conduit Promotes Functional Recovery of Transected Peripheral Nerve Injury in a Rat Model. *ACS Applied Materials & Interfaces*, **2020**, 12, 36860-36872	9.5	25
90	Biomaterials and Cellular Systems at the Forefront of Peripheral Nerve Regeneration. **2020**,		0
89	Comparison of the Efficacy of Optogenetic Stimulation of Glia versus Neurons in Myelination. *ACS Chemical Neuroscience*, **2020**, 11, 4280-4288	5.7	2
88	Natural-Based Biomaterials for Peripheral Nerve Injury Repair. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 554257	5.8	22
87	Preclinical Validation of SilkBridge for Peripheral Nerve Regeneration. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 835	5.8	10
86	Grafts of human adipose-derived stem cells into a biodegradable poly (acid lactic) conduit enhances sciatic nerve regeneration. *Brain Research*, **2020**, 1747, 147026	3.7	2
85	Electrically Conductive Hydrogel Nerve Guidance Conduits for Peripheral Nerve Regeneration. *Advanced Functional Materials*, **2020**, 30, 2003759	15.6	37
84	Augmented peripheral nerve regeneration through elastic nerve guidance conduits prepared using a porous PLCL membrane with a 3D printed collagen hydrogel. *Biomaterials Science*, **2020**, 8, 6261-6271	7.4	19
83	Perspectives on 3D Bioprinting of Peripheral Nerve Conduits. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	10
82	A comparative study of materials assembled from recombinant K31 and K81 and extracted human hair keratins. *Biomedical Materials (Bristol)*, **2020**, 15, 065006	3.5	1
81	Peripheral nervous system responses to biomaterials. **2020**, 555-572		
80	4D-Printed Dynamic Materials in Biomedical Applications: Chemistry, Challenges, and Their Future Perspectives in the Clinical Sector. *Journal of Medicinal Chemistry*, **2020**, 63, 8003-8024	8.3	47

79	Facial Nerve Repair by Muscle-Vein Conduit in Rats: Functional Recovery and Muscle Reinnervation. *Tissue Engineering - Part A*, **2021**, 27, 351-361	3.9	1
78	Efficacy of Large Groove Texture on Rat Sciatic Nerve Regeneration In Vivo Using Polyacrylonitrile Nerve Conduits. *Annals of Biomedical Engineering*, **2021**, 49, 394-406	4.7	7
77	Engineering Oriented Scaffolds for Directing Neuronal Regeneration. **2021**, 125-152		
76	Peg-Enhanced Behavioral Recovery After Sciatic Nerve Transection and Either Suturing Or Sleeve Conduit Deployment in Rats. *Journal of Investigative Surgery*, **2021**, 34, 524-533	1.2	4
75	Enhanced efficiency of nonviral direct neuronal reprogramming on topographical patterns. *Biomaterials Science*, **2021**, 9, 5175-5191	7.4	4
74	Designing hybrid nanofibers based on keratin-poly (vinyl alcohol) and poly (Ɛ-caprolactone) for application as wound dressing. *Journal of Industrial Textiles*, 152808372198897	1.6	8
73	Dynamic Environmental Physical Cues Activate Mechanosensitive Responses in the Repair Schwann Cell Phenotype. *Cells*, **2021**, 10,	7.9	0
72	Claudin 14/15 play important roles in early wallerian degeneration after rat sciatic nerve injury. *Chinese Journal of Traumatology - English Edition*, **2021**, 24, 374-382	2.3	
71	Facial Nerve Repair: Bioengineering Approaches in Preclinical Models. *Tissue Engineering - Part B: Reviews*, **2021**,	7.9	0
70	Biomaterials for Repairing Gaps After Peripheral Nerve Injury. *Science of Advanced Materials*, **2021**, 13, 530-536	2.3	
69	Biomaterials for Neural Tissue Engineering. *Frontiers in Nanotechnology*, **2021**, 3,	5.5	12
68	Nerve conduit based on HAP/PDLLA/PRGD for peripheral nerve regeneration with sustained release of valproic acid. *Cell Biology International*, **2021**, 45, 1733-1742	4.5	0
67	Magnetic Assembly of a Multifunctional Guidance Conduit for Peripheral Nerve Repair. *Advanced Functional Materials*, **2021**, 31, 2010837	15.6	9
66	3D-printed nerve guidance conduits multi-functionalized with canine multipotent mesenchymal stromal cells promote neuroregeneration after sciatic nerve injury in rats. *Stem Cell Research and Therapy*, **2021**, 12, 303	8.3	12
65	Nanophase surface arrays on poly (lactic-co-glycolic acid) upregulate neural cell functions. *Journal of Biomedical Materials Research - Part A*, **2022**, 110, 64-75	5.4	0
64	Cryogel biomaterials for neuroscience applications. *Neurochemistry International*, **2021**, 147, 105012	4.4	12
63	Graphene-based hybrid materials as promising scaffolds for peripheral nerve regeneration. *Neurochemistry International*, **2021**, 147, 105005	4.4	2
62	Engineered neural tissue made using clinical-grade human neural stem cells supports regeneration in a long gap peripheral nerve injury model. *Acta Biomaterialia*, **2021**, 135, 203-213	10.8	4

61	Repurposing Small Molecules to Target PPAR-as New Therapies for Peripheral Nerve Injuries. *Biomolecules*, **2021**, 11,	5.9	1
60	Multifunctional GelMA platforms with nanomaterials for advanced tissue therapeutics. *Bioactive Materials*, **2022**, 8, 267-295	16.7	30
59	Material advancement in tissue-engineered nerve conduit. *Nanotechnology Reviews*, **2021**, 10, 488-503	6.3	4
58	Polymeric biomaterials for nerve regeneration: fabrication and implantation of a biodegradable nerve guide. *Methods in Molecular Biology*, **2014**, 1162, 139-48	1.4	9
57	Chapter 12:Mechanically Adaptive Nanocomposites Inspired by Sea Cucumbers. *RSC Polymer Chemistry Series*, **2016**, 402-428	1.3	2
56	Protocol for a phase I trial of a novel synthetic polymer nerve conduit PolynerveSin participants with sensory digital nerve injury (UMANC). *F1000Research*, **2019**, 8, 959	3.6	4
55	Regeneration of the nerves in the aerial cavity with an artificial nerve conduit --reconstruction of chorda tympani nerve gaps-. *PLoS ONE*, **2014**, 9, e92258	3.7	14
54	Complementary effects of two growth factors in multifunctionalized silk nanofibers for nerve reconstruction. *PLoS ONE*, **2014**, 9, e109770	3.7	50
53	Chitosan as a Biomaterial: Influence of Degree of Deacetylation on Its Physiochemical, Material and Biological Properties. *PLoS ONE*, **2015**, 10, e0135153	3.7	82
52	Pre-clinical evaluation of advanced nerve guide conduits using a novel 3D testing model. *International Journal of Bioprinting*, **2018**, 4, 123	6.2	12
51	Recent advances and developments in neural repair and regeneration for hand surgery. *The Open Orthopaedics Journal*, **2012**, 6, 103-7	0.3	21
50	The progress of biomaterials in peripheral nerve repair and regeneration. *Journal of Neurorestoratology*, **2020**, 8, 252-269	3.3	9
49	Synthetic polymer scaffolds for soft tissue engineering. *Physiological Research*, **2018**, 67, S335-S348	2.1	39
48	Extracellular matrix components in peripheral nerve repair: how to affect neural cellular response and nerve regeneration?. *Neural Regeneration Research*, **2014**, 9, 1943-8	4.5	62
47	Sleeve bridging of the rhesus monkey ulnar nerve with muscular branches of the pronator teres: multiple amplification of axonal regeneration. *Neural Regeneration Research*, **2015**, 10, 53-9	4.5	3
46	The role of exosomes in peripheral nerve regeneration. *Neural Regeneration Research*, **2015**, 10, 743-7	4.5	36
45	Femoral nerve regeneration and its accuracy under different injury mechanisms. *Neural Regeneration Research*, **2015**, 10, 1669-73	4.5	5
44	Validation of a novel animal model for sciatic nerve repair with an adipose-derived stem cell loaded fibrin conduit. *Neural Regeneration Research*, **2018**, 13, 854-861	4.5	21

43	Comparison of morphological and functional outcomes of mouse sciatic nerve repair with three biodegradable polymer conduits containing poly(lactic acid). *Neural Regeneration Research*, **2018**, 13, 1811-1819	4.5	5
42	Tissue engineering for the repair of peripheral nerve injury. *Neural Regeneration Research*, **2019**, 14, 51-58	4.5	37
41	Current progress in use of adipose derived stem cells in peripheral nerve regeneration. *World Journal of Stem Cells*, **2015**, 7, 51-64	5.6	50
40	Implantable nerve guidance conduits: Material combinations, multi-functional strategies and advanced engineering innovations.. *Bioactive Materials*, **2022**, 11, 57-76	16.7	4
39	Bioactive 3D Scaffolds for the Delivery of NGF and BDNF to Improve Nerve Regeneration. *Frontiers in Materials*, **2021**, 8,	4	2
38	Cells Transplantation for the Repair of Peripheral Nerve Injuries. **2017**, 409-435		
37	Alternative Strategies for Nerve Reconstruction. **2017**, 79-96		5
36	Comparison of conduit and autograft efficiency in repairing femoral nerve injury in New Zealand rabbits. *Medical Journal of the Islamic Republic of Iran*, **2018**, 32, 99	1.1	
35	Perspective Nerve Conduits for Stimulation of Regeneration of Damaged Peripheral Nerves. *Vestnik Rossiiskoi Akademii Meditsinskikh Nauk*, **2018**, 73, 388-400	0.4	
34	Biomaterials and Scaffolds for Repair of the Peripheral Nervous System. **2020**, 1-35		0
33	In Situ Fabrication of Nerve Growth Factor Encapsulated Chitosan Nanoparticles in Oxidized Bacterial Nanocellulose for Rat Sciatic Nerve Regeneration. *Biomacromolecules*, **2021**,	6.9	6
32	Safety and efficacy of an injectable nerve-specific hydrogel in a rodent crush injury model. *Muscle and Nerve*, **2021**, 65, 247	3.4	
31	Injured Nerve Regeneration using Cell-Based Therapies: Current Challenges. *Acta Naturae*, **2015**, 7, 38-47	2.1	6
30	A shock to the (nervous) system: Bioelectricity within peripheral nerve tissue engineering. *Tissue Engineering - Part B: Reviews*, **2021**,	7.9	0
29	Multi-Factorial Nerve Guidance Conduit Engineering Improves Outcomes in Inflammation, Angiogenesis and Large Defect Nerve Repair.. *Matrix Biology*, **2022**, 106, 34-34	11.4	2
28	A multifunctional ATP-generating system by reduced graphene oxide-based scaffold repairs neuronal injury by improving mitochondrial function and restoring bioelectricity conduction.. *Materials Today Bio*, **2022**, 13, 100211	9.9	3
27	Mathematical Modeling for Nerve Repair Research. *Reference Series in Biomedical Engineering*, **2021**, 1-53		
26	3D Printed Personalized Nerve Guide Conduits for Precision Repair of Peripheral Nerve Defects.. *Advanced Science*, **2022**, e2103875	13.6	9

25	A Route to Translate a Silk-Based Medical Device from Lab to Clinic: The Silk Biomaterials Srl Experience.. *Insects*, **2022**, 13,	2.8	0
24	Red blood cell-like magnetic particles and magnetic field promoted neuronal outgrowth by activating Netrin-1/DCC signaling pathway in vitro and in vivo. *Composites Part B: Engineering*, **2022**, 237, 109789	10	0
23	Graphene foam/hydrogel scaffolds for regeneration of peripheral nerve using ADSCs in a diabetic mouse model. *Nano Research*, **2022**, 15, 3434-3445	10	1
22	Image_1.TIF. **2020**,		
21	Image_2.TIF. **2020**,		
20	Table_1.DOCX. **2020**,		
19	Table_1.DOCX. **2019**,		
18	Novel Tissue-Engineered Multimodular Hyaluronic Acid-Polylactic Acid Conduits for the Regeneration of Sciatic Nerve Defect. *Biomedicines*, **2022**, 10, 963	4.8	1
17	Application and Prospects of Hydrogel Additive Manufacturing. *Gels*, **2022**, 8, 297	4.2	2
16	Mathematical Modeling for Nerve Repair Research. *Reference Series in Biomedical Engineering*, **2022** , 189-241		1
15	Biomaterials and Scaffolds for Repair of the Peripheral Nervous System. *Reference Series in Biomedical Engineering*, **2022**, 245-279		0
14	Influence of Touch-Spun Nanofiber Diameter on Contact Guidance during Peripheral Nerve Repair. *Biomacromolecules*,	6.9	1
13	Submicron Topographically Patterned 3D Substrates Enhance Directional Axon Outgrowth of Dorsal Root Ganglia Cultured Ex Vivo. **2022**, 12, 1059		0
12	PCL NGCs integrated with urolithin-A-loaded hydrogels for nerve regeneration.		0
11	Piezoelectric conduit combined with multi-channel conductive scaffold for peripheral nerve regeneration. **2023**, 452, 139424		0
10	Surface-Modified Polypyrrole-Coated PLCL and PLGA Nerve Guide Conduits Fabricated by 3D Printing and Electrospinning.		1
9	The application of collagen in the repair of peripheral nerve defect. 10,		0
8	Nerve regeneration conduit from inverted human umbilical cord vessel in the treatment of proper palmar digital nerve sections. **2022**,		0

7	The success of biomaterial-based tissue engineering strategies for peripheral nerve regeneration. 10,	0
6	A perspective on the wet spinning process and its advancements in biomedical sciences. **2022**, 111681	0
5	Research hotspots and trends for axon regeneration (2000–2021): a bibliometric study and systematic review. **2022**, 42,	0
4	Biopolymer-based composites for tissue engineering applications: A basis for future opportunities. **2023**, 258, 110701	0
3	Aligned Polyhydroxyalkanoate Blend Electrospun Fibers as Intraluminal Guidance Scaffolds for Peripheral Nerve Repair. **2023**, 9, 1472-1485	0
2	Longitudinally aligned inner-patterned silk fibroin conduits for peripheral nerve regeneration.	0
1	Natural polysaccharides and their derivatives as potential medical materials and drug delivery systems for the treatment of peripheral nerve injuries. **2023**, 120934	0