

Additional Table 1 | Summary of studies investigating hydrogels containing free or immobilized drugs for spinal cord repair

Reference	Hydrogel	Drug Carrier(s)	Drug(s)	Model	Route of Administration
Hydrogels containing free or immobilized drugs:					
Piantino et al., 2006	PLA/PEG	–	NT3	Rat transection	Intraparenchymal
Kang et al., 2009	HAMC	–	Erythropoietin	Rat compression	Intrathecal
Liu et al., 2016	Poloxamer thermogel	–	GM-1	Rat hemisection	Epidural and intraparenchymal
Conova et al., 2011	PNIPAAm-g-PEG; PNIPAAm-g-MC	–	BDNF	Rat aspiration lesion	Intraparenchymal
Thomas et al., 2015	gelatin and PEG	–	Lentivirus encoding Shh	Mouse hemisection	Intraparenchymal
Tian et al., 2005	HA	–	Nogo-66 receptor antibody; reversibly conjugated to HA	Rat brain slices (<i>ex vivo</i>)	–
Butterfield et al., 2011	PEG modified with chondroitin sulfate-binding peptides	–	NGF (via NGF-chondroitin sulfate complexes)	Primary neuron culture (<i>in vitro</i>)	–
Zhao et al., 2016	Poloxamer modified with heparin	–	NGF	PC12 culture (<i>in vitro</i>)	–
Zhao et al., 2017	Poloxamer modified with heparin	–	GDNF	Rat compression	Unclear
Xu et al., 2016	Poloxamer modified with heparin mixed with lyophilized acellular spinal cord	–	bFGF	Rat hemisection	Intraparenchymal
Xu et al., 2018	Poloxamer modified with heparin mixed with lyophilized acellular spinal cord	–	bFGF	Rat hemisection	Intraparenchymal
Taylor et al., 2004	Heparin/fibrin/bifunctional peptide linker	–	NT3	Dorsal root ganglion culture (<i>in vitro</i>)	–
Taylor et al., 2006	Heparin/fibrin/bifunctional peptide linker	–	NT3	Rat aspiration lesion	Intraparenchymal
Johnson et al., 2009	Heparin/fibrin/bidomain peptide	–	NT3	Rat hemisection; delayed repair	Intraparenchymal
Willerth et al., 2008	Heparin/fibrin/bidomain peptide	–	NT3, PDGF, Shh	Mouse embryoid bodies containing neural stem/progenitor cell culture (<i>in vitro</i>)	–
Johnson et al., 2010	Heparin/fibrin/bidomain peptide	–	PDGF, NT3 ENSPCs	Rat hemisection	Intraparenchymal
Han et al., 2009	Collagen	–	Collagen binding domain-BDNF fusion protein	Rat hemisection	Intraparenchymal
Pakulska et al., 2017	Methylcellulose conjugated with SH3 binding peptide	PLGA nanoparticles (SDF loaded only)	ChABC/SH3 fusion protein, SDF	Rat compression	Intrathecal