

Additional Table 2 | Summary of studies investigating hydrogels containing drug carriers for spinal cord repair

Reference	Hydrogel	Drug Carrier(s)	Drug(s)	Model	Route of Administration
Hydrogels encapsulating drug carriers:					
Pakulska et al., 2017	Methylcellulose conjugated with SH3 binding peptide	PLGA nanoparticles (SDF loaded only)	ChABC/SH3 fusion protein, SDF	Rat compression	Intrathecal
Shultz et al., 2017	Agarose	Drug precipitates	T3	Rat contusion	Epidural
Chvatal et al., 2008	Agarose	PLGA nanoparticles	Methylprednisolone	Rat contusion	Epidural
Karabey-Akyurek et al., 2017	Fibrin	PCL nanoparticles	Methylprednisolone	Rat contusion	Epidural
Rooney et al., 2011	oligo[(PEG) fumarate]	PLGA nanoparticles	dbcAMP	Rat transection	Intraparenchymal
Cox et al., 2015	Agarose	PLGA nanoparticles	Estrogen	Rat contusion	Epidural
Führmann et al., 2015	Click-crosslinked HA	PLGA nanoparticles	BDNF	Rat compression	Intrathecal
Elliott Donaghue and Shoichet, 2015	HAMC	PLGA nanoparticles	PDGF-AA	Rat neural stem/progenitor – cell culture (<i>in vitro</i>)	–
Stanwick et al., 2012a	HAMC	PLGA nanoparticles	NT3	Dorsal root ganglion culture – (<i>in vitro</i>)	–
Stanwick et al., 2012b	HAMC	PLGA nanoparticles	Anti-NogoA	ELISA-based bioactivity assay (<i>in vitro</i>)	–
Kang et al., 2013	HAMC	PLGA nanoparticles	bFGF	Rat compression	Intrathecal
Elliott Donaghue et al., 2015	HAMC	PLGA nanoparticles	NT3	Rat compression	Intrathecal
Elliott Donaghue et al., 2016	HAMC	PLGA nanoparticles	NT3, anti-NogoA	Rat compression	Intrathecal
Lee et al., 2010	Agarose	Lipid microtubes	Thermostabilized ChABC, NT3	Rat hemisection	Intraparenchymal
Jain et al., 2006	Agarose	Lipid microtubes	BDNF	Rat hemisection	Intraparenchymal
Jain et al., 2011	Agarose	Lipid microtubes	BDNF, constitutively active Rho-GTPases	Rat hemisection	Intraparenchymal
Wilems and Sakiyama-Elbert, 2015	Fibrin	Lipid microtubes (ChABC), PLGA microspheres (NEP1-40)	ChABC, NEP1-40	Rat hemisection	Intraparenchymal
Ghosh et al., 2018	Agarose	Polyelectrolyte complexes	BDNF	Rat contusion	Intrathecal
Wang et al., 2017	Agarose	Minocycline/dextran sulfate/metal ion complexes	Minocycline	Rat contusion	Intrathecal
Wang et al., 2018	Poloxamer modified with heparin	Liposomes (Docetaxel and BDNF)	Docetaxel, BDNF, acidic fibroblast growth factor	Rat contusion	Intraparenchymal
Nguyen et al., 2017	Collagen hydrogel containing heparin	Nucleic acid-loaded micellular nanoparticles incorporated into aligned electrospun fibers	NT3, miR-222	Rat hemisection	Intraparenchymal