Additional Table 1 Studies looking at the role of 5-HT in nervous system regeneration in regenerating species.

Treatment	Main activity	Other activities	Lesion type	Species	Model system	Neuronal type	Effect	Reference
Mutant *mg280*	Loss-of-function mutation of tph-1		Axotomy by laser surgery	*Caenorhabditis elegans*	*In vivo*	GABA releasing D-type neurons and touch sensory posterior lateral microtubule neurons	Inhibted axon regeneration	Alam et al. (2016)
Mutant *n4622*	Mutation of tph-1		Axotomy by laser surgery	*Caenorhabditis elegans*	*In vivo*	GABA releasing D-type neurons and touch sensory posterior lateral microtubule neurons	Inhibted axon regeneration	Alam et al. (2016)
Mutant *tm1325*	Mutation of 5-HT7		Axotomy by laser surgery	*Caenorhabditis elegans*	*In vivo*	GABA releasing D-type neurons and touch sensory posterior lateral microtubule neurons	Inhibted axon regeneration	Alam et al. (2016)
Mutant *tm1548*	Mutation of 5-HT7		Axotomy by laser surgery	*Caenorhabditis elegans*	*In vivo*	GABA releasing D-type neurons and touch sensory posterior lateral microtubule neurons	Inhibted axon regeneration	Alam et al. (2016)
5-HT	5-HT receptors agonist		Axotomy by laser surgery	*Caenorhabditis elegans*	*In vivo*	GABA releasing D-type neurons and touch sensory posterior lateral microtubule neurons	Promoted axon regeneration	Alam et al. (2016)
5-HT	5-HT receptors agonist		Crush injury	*Lymnaea stagnalis*	*In vitro*	Serotonergic cerebral giant cells	Inhibited neurite growth	Koert et al. (2001)
5-HT	5-HT receptors agonist		Axotomy	*Helisoma trivolis*	*Ex vivo*	B19 and C1 neurons	Inhibited neurite growth	Murrain et al. (1990)
5-HT	5-HT receptors agonist		Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994)
5-Hydroxytryptophan	5-HT precursor		Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994, 1996)
Imipramine	5-HT reuptake inhibitor		Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994)
Citalopram	5-HT reuptake inhibitor		Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994)
Buspirone	5-HT1A agonist	D2 receptor antagonist	Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994), Schmeer et al. (2001)
8-OH-DPAT	5-HT1A agonist	5-HT7 receptors agonist and 5-HT reuptake inhibitor	Optic nerve crush	*Carassius aurutus*	*Ex vivo*	Optic nerve	Inhibited neurite growth	Lima et al. (1994)
5-HT-hydrochloride	5-HT analogue		Complete spinal cord transection	*Danio rerio*	*In vivo*	Motor neurons	Promoted motor neuron regeneration	Barreiro-Iglesias et al. (2015)
5,7-Dihydroxytryptamine	Ablates serotonergic neurons/fibers		Complete spinal cord transection	*Danio rerio*	*In vivo*	Motor neurons	Inhibited motor neuron regeneration	Barreiro-Iglesias et al. (2015)

Table showing the treatments (genetic or pharmacological) used by different authors to manipulate the serotonergic system in the context of nervous system regeneration in regenerating species. Invertebrate species are highlighted in red. GABA: Gamma-aminobutyric acid; 5-HT: serotonin; 8-OH-DPAT: 8-hydroxy-2-(di-n-propylamino)tetralin; 5-HT1A: serotonin receptor 1A; 5-HT7: serotonin receptor 7; D2: dopamine receptor 2; tph: tryptophan hydroxylase.