

Supplementary Materials

Regeneration Rosetta: An interactive web application to explore regeneration-associated gene expression and chromatin accessibility

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1. **Table S1.** List of cholesterol metabolic genes from MGI database
2. **Table S2.** List of differentially expressed transcripts during optic nerve regeneration in zebrafish using the MGI cholesterol metabolic gene queries in the Regeneration Rosetta app
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4. **Table S4.** List of transcription factor encoding genes from spinal cord following spinal cord injury in lamprey over a course of 12 weeks

Ensembl ID	MGI Gene ID	Symbol	Name	GO term
ENSMUSG00000015243	MGI:99607	Abca1	ATP-binding cassette, sub-family A (ABC1), member 1	cholesterol metabolic process
ENSMUSG00000026944	MGI:99606	Abca2	ATP-binding cassette, sub-family A (ABC1), member 2	cholesterol metabolic process
ENSMUSG00000024030	MGI:107704	Abcg1	ATP binding cassette subfamily G member 1	cholesterol metabolic process
ENSMUSG00000026003	MGI:87866	Acadl	acyl-Coenzyme A dehydrogenase, long-chain	regulation of cholesterol metabolic process
ENSMUSG00000018574	MGI:895149	Acadvl	acyl-Coenzyme A dehydrogenase, very long chain	regulation of cholesterol metabolic process
ENSMUSG00000038641	MGI:284785	Ahr1d1	aldo-keto reductase family 1, member D1	cholesterol catabolic process
ENSMUSG00000028553	MGI:1353627	Angptl3	angiopoietin-like 3	cholesterol metabolic process
ENSMUSG00000031996	MGI:88047	Aplp2	amyloid beta (A4) precursor-like protein 2	cholesterol metabolic process
ENSMUSG00000032083	MGI:88049	Apoa1	apolipoprotein A-I	cholesterol biosynthetic process
ENSMUSG00000005681	MGI:88050	Apoa2	apolipoprotein A-II	cholesterol metabolic process
ENSMUSG00000032080	MGI:88051	Apoa4	apolipoprotein A-IV	cholesterol biosynthetic process
ENSMUSG00000032079	MGI:1913363	Apoa5	apolipoprotein A-V	cholesterol biosynthetic process
ENSMUSG00000023609	MGI:88052	ApoB	apolipoprotein B	cholesterol metabolic process
ENSMUSG00000042759	MGI:2176230	ApoB	apolipoprotein B receptor	cholesterol metabolic process
ENSMUSG00000040564	MGI:88053	ApoC1	apolipoprotein C-I	cholesterol metabolic process
ENSMUSG00000032081	MGI:88055	ApoC3	apolipoprotein C-III	cholesterol metabolic process
ENSMUSG00000002985	MGI:88057	ApoE	apolipoprotein E	cholesterol biosynthetic process
ENSMUSG00000047631	MGI:104539	ApoF	apolipoprotein F	cholesterol metabolic process
ENSMUSG00000022892	MGI:88059	App	amyloid beta (A4) precursor protein	cholesterol metabolic process
ENSMUSG00000031982	MGI:1916115	Arvl	ARV1 homolog, fatty acid homeostasis modulator	cholesterol metabolic process
ENSMUSG000000027187	MGI:88271	Cat	catalase	cholesterol metabolic process
ENSMUSG00000034957	MGI:99480	Cebpa	CCAAT/enhancer binding protein (C/EBP), alpha	cholesterol metabolic process
ENSMUSG00000026818	MGI:88374	Cel	carboxyl ester lipase	cholesterol catabolic process
ENSMUSG00000056973	MGI:2148202	Ces1d	carboxylesterase 1D	cholesterol biosynthetic process
ENSMUSG000000041301	MGI:88388	Cfr	cystic fibrosis transmembrane conductance regulator	cholesterol biosynthetic process
ENSMUSG00000050370	MGI:1333869	Ch25h	cholesterol 25-hydroxylase	cholesterol metabolic process
ENSMUSG00000032245	MGI:2159324	Cln6	ceroid-lipofuscinosis, neuronal 6	cholesterol metabolic process
ENSMUSG00000026317	MGI:1349447	Cln8	ceroid-lipofuscinosis, neuronal 8	cholesterol metabolic process
ENSMUSG00000026726	MGI:1932256	Cubn	cubilin (intrinsic factor-cobalamin receptor)	cholesterol metabolic process
ENSMUSG00000018042	MGI:148893	Cy5a3	cytochrome b5 reductase 3	cholesterol biosynthetic process
ENSMUSG00000028240	MGI:106091	Cyp7a1	cytochrome P450, family 7, subfamily a, polypeptide 1	cholesterol catabolic process
ENSMUSG00000039519	MGI:104978	Cyp7b1	cytochrome P450, family 7, subfamily b, polypeptide 1	cholesterol metabolic process
ENSMUSG00000032323	MGI:88582	Cyp11a1	cytochrome P450, family 11, subfamily a, polypeptide 1	cholesterol metabolic process
ENSMUSG00000075604	MGI:88583	Cyp11b1	cytochrome P450, family 11, subfamily b, polypeptide 1	cholesterol metabolic process
ENSMUSG00000022589	MGI:88584	Cyp11b2	cytochrome P450, family 11, subfamily b, polypeptide 2	cholesterol metabolic process
ENSMUSG00000026170	MGI:88594	Cyp27a1	cytochrome P450, family 27, subfamily a, polypeptide 1	cholesterol catabolic process
ENSMUSG00000023963	MGI:1927096	Cyp39a1	cytochrome P450, family 39, subfamily a, polypeptide 1	cholesterol catabolic process
ENSMUSG00000021259	MGI:1341877	Cyp46a1	cytochrome P450, family 46, subfamily a, polypeptide 1	cholesterol catabolic process
ENSMUSG00000001467	MGI:106040	Cyp51	cytochrome P450, family 51	cholesterol biosynthetic process
ENSMUSG00000030747	MGI:1915050	Dgat2	diacylglycerol O-acyltransferase 2	regulation of cholesterol metabolic process
ENSMUSG000000004815	MGI:102918	Dgkq	diacylglycerol kinase, theta	regulation of cholesterol metabolic process
ENSMUSG00000058454	MGI:1298378	Dhcr7	7-dehydrocholesterol reductase	cholesterol biosynthetic process
ENSMUSG00000034926	MGI:1922004	Dhcr24	24-dehydrocholesterol reductase	cholesterol biosynthetic process
ENSMUSG00000041544	MGI:2444403	Disp3	dispatched RND transporter family member 3	cholesterol metabolic process
ENSMUSG00000031168	MGI:107822	Ebp	phenylalkylamine Ca2+ antagonist (temopamil) binding protein	cholesterol metabolic process
ENSMUSG00000022040	MGI:99500	Eph2	epoxide hydrolase 2, cytoplasmic	regulation of cholesterol biosynthetic process
ENSMUSG00000025198	MGI:2387613	Erlin1	ER lipid raft associated 1	cholesterol metabolic process
ENSMUSG00000031483	MGI:2387215	Erlin2	ER lipid raft associated 2	cholesterol metabolic process
ENSMUSG00000021273	MGI:102706	Fdft1	farnesyl diphosphate farnesyl transferase 1	cholesterol biosynthetic process
ENSMUSG000000059743	MGI:104888	Fdps	farnesyl diphosphate synthetase	cholesterol biosynthetic process
ENSMUSG00000032051	MGI:103224	Fdx1	ferredoxin 1	cholesterol metabolic process
ENSMUSG00000018861	MGI:104724	Fdxr	ferredoxin reductase	cholesterol metabolic process
ENSMUSG00000024588	MGI:95513	Ferh	ferrochelatase	cholesterol metabolic process
ENSMUSG00000026585	MGI:95515	Fgf1	fibroblast growth factor 1	active regulation of cholesterol biosynthetic process
ENSMUSG00000031594	MGI:102795	Fgl1	fibrinogen-like protein 1	cholesterol metabolic process
ENSMUSG00000031400	MGI:105979	G6pdx	glucose-6-phosphate dehydrogenase X-linked	cholesterol biosynthetic process
ENSMUSG00000028048	MGI:95665	Gba	glucosidase, beta, acid	cholesterol metabolic process
ENSMUSG00000028467	MGI:2654325	Gba2	glucosidase beta 2	cholesterol metabolic process
ENSMUSG00000021148	MGI:3704398	Gm9745	predicted gene 9745	cholesterol biosynthetic process
ENSMUSG00000023439	MGI:95785	Gnb3	guanine nucleotide binding protein (G protein), beta 3	regulation of cholesterol metabolic process
ENSMUSG00000024088	MGI:99256	Hdlbp	high density lipoprotein (HDL) binding protein	cholesterol metabolic process
ENSMUSG00000021670	MGI:96159	Hmgcr	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	cholesterol biosynthetic process
ENSMUSG00000039390	MGI:107592	Hmgcs1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	cholesterol biosynthetic process
ENSMUSG00000027875	MGI:101939	Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2	cholesterol biosynthetic process
ENSMUSG00000029556	MGI:98504	Hnf1a	HNF1A homeobox A	cholesterol metabolic process
ENSMUSG00000040289	MGI:2141879	Hsd3b7	3-hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase	cholesterol catabolic process
ENSMUSG00000026675	MGI:1330808	Hsd17b7	hydroxysteroid (17-beta) dehydrogenase 7	cholesterol biosynthetic process
ENSMUSG00000033520	MGI:2444315	Id2	isopentenyl-diphosphate delta isomerase 2	cholesterol biosynthetic process
ENSMUSG00000020869	MGI:98596	Irf4	interferon inducible factor 4	cholesterol metabolic process
ENSMUSG00000045294	MGI:1916289	Insig1	insulin induced gene 1	cholesterol biosynthetic process
ENSMUSG00000003721	MGI:1902049	Insig2	insulin induced gene 2	cholesterol biosynthetic process
ENSMUSG00000004880	MGI:2138281	Lbr	lamin B receptor	cholesterol biosynthetic process
ENSMUSG00000035237	MGI:96755	Lcat	lecithin cholesterol acyltransferase	cholesterol metabolic process
ENSMUSG00000032193	MGI:96765	Ldlr	low density lipoprotein receptor	cholesterol metabolic process
ENSMUSG00000037295	MGI:2140175	Ldlrap1	low density lipoprotein receptor adaptor protein 1	cholesterol metabolic process
ENSMUSG00000059201	MGI:104663	Lep	leptin	cholesterol metabolic process
ENSMUSG00000057722	MGI:104983	Lep	leptin receptor	cholesterol metabolic process
ENSMUSG00000023022	MGI:1920992	Lima1	LIM domain and actin binding 1	cholesterol metabolic process
ENSMUSG00000032207	MGI:96216	Lipc	lipase, hepatic	cholesterol metabolic process
ENSMUSG00000003123	MGI:96790	Lipe	lipase, hormone sensitive	cholesterol metabolic process
ENSMUSG00000022729	MGI:1923733	Lmf1	lipase maturation factor 1	regulation of cholesterol metabolic process
ENSMUSG00000040429	MGI:96828	Lrp1	low density lipoprotein receptor-related protein 1	cholesterol metabolic process
ENSMUSG00000024913	MGI:1278315	Lrp5	low density lipoprotein receptor-related protein 5	cholesterol metabolic process
ENSMUSG00000033105	MGI:1336155	Lss	lanosterol synthase	cholesterol biosynthetic process
ENSMUSG00000021835	MGI:1927235	Mbtaps1	membrane-bound transcription factor peptidase, site 1	cholesterol metabolic process
ENSMUSG00000031760	MGI:97173	Mt3	metallothionein 3	cholesterol catabolic process
ENSMUSG00000028158	MGI:106926	Mttp	microsomal triglyceride transfer protein	cholesterol metabolic process
ENSMUSG00000006517	MGI:2179327	Mvd	mevalonate (diphospho) decarboxylase	cholesterol biosynthetic process
ENSMUSG00000041939	MGI:107624	Mvk	mevalonate kinase	cholesterol biosynthetic process
ENSMUSG00000038615	MGI:99421	Nfe2l1	nuclear factor, erythroid derived 2, like 1	cholesterol metabolic process
ENSMUSG00000024413	MGI:1097712	Npc1	NPC intracellular cholesterol transporter 1	cholesterol metabolic process
ENSMUSG00000020447	MGI:2685089	Npc1l1	NPC1 like intracellular cholesterol transporter 1	cholesterol biosynthetic process
ENSMUSG00000021242	MGI:1915213	Npc2	NPC intracellular cholesterol transporter 2	cholesterol metabolic process
ENSMUSG00000031349	MGI:1099438	Nsdhl	NAD(P) dependent steroid dehydrogenase-like	cholesterol biosynthetic process
ENSMUSG00000044254	MGI:2140260	Pcsk9	proprotein convertase subtilisin/kexin type 9	cholesterol metabolic process
ENSMUSG00000020553	MGI:107375	Pctp	phosphatidylcholine transfer protein	cholesterol metabolic process
ENSMUSG00000040374	MGI:107486	Pex2	peroxisomal biogenesis factor 2	regulation of cholesterol biosynthetic process
ENSMUSG000000018217	MGI:97631	Pmp22	peripheral myelin protein 22	cholesterol metabolic process
ENSMUSG00000027952	MGI:1915853	Pmvk	phosphomevalonate kinase	cholesterol biosynthetic process
ENSMUSG00000002588	MGI:103295	Pon1	paraoxonase 1	cholesterol metabolic process
ENSMUSG00000005514	MGI:97744	Por	P450 (cytochrome) oxidoreductase	active regulation of cholesterol biosynthetic process
ENSMUSG00000050697	MGI:104577	Pph2	polyunsaturated fatty acid induced postprandial hypercholesterolemia	cholesterol metabolic process
ENSMUSG00000028518	MGI:2145955	Prkaa1	protein kinase, AMP-activated, alpha 1 catalytic subunit	cholesterol biosynthetic process
ENSMUSG00000028518	MGI:1336173	Prkaa2	protein kinase, AMP-activated, alpha 2 catalytic subunit	cholesterol biosynthetic process
ENSMUSG00000074115	MGI:98221	Saa1	serum amyloid A 1	cholesterol metabolic process
ENSMUSG00000032018	MGI:1353611	Sc5d	sterol-C5-desaturase	cholesterol biosynthetic process via lathosterol
ENSMUSG00000032485	MGI:2135958	Scap	SREBF chaperone	cholesterol metabolic process
ENSMUSG00000037936	MGI:893578	Scarb1	scavenger receptor class B, member 1	cholesterol catabolic process
ENSMUSG00000028603	MGI:98254	Scq2	sterol carrier protein 2, liver	active regulation of cholesterol biosynthetic process
ENSMUSG0000003585	MGI:1915065	Sec14l2	SEC14-like lipid binding 2	active regulation of cholesterol biosynthetic process
ENSMUSG00000041567	MGI:1915304	Serpina12	(serine) peptidase inhibitor, clade A (alpha-1 antitrypsin, antitrypsin),	regulation of cholesterol metabolic process
ENSMUSG00000037049	MGI:98325	Smpd1	sphingomyelin phosphodiesterase 1, acid lysosomal	cholesterol metabolic process
ENSMUSG00000026600	MGI:104665	Soat1	sterol O-acyltransferase 1	cholesterol metabolic process
ENSMUSG00000023045	MGI:1332226	Soat2	sterol O-acyltransferase 2	cholesterol metabolic process
ENSMUSG00000022982	MGI:98351	Sod1	superoxide dismutase 1, soluble	active regulation of cholesterol biosynthetic process
ENSMUSG00000049313	MGI:1202296	Sor1	soritin-related receptor, LDLR class A repeats-containing	cholesterol metabolic process
ENSMUSG00000022351	MGI:109296	Sqle	squalene epoxidase	cholesterol metabolic process
ENSMUSG00000020338	MGI:107606	Srebf1	sterol regulatory element binding transcription factor 1	cholesterol metabolic process
ENSMUSG00000022463	MGI:107585	Srebf2	sterol regulatory element binding factor 2	cholesterol metabolic process
ENSMUSG00000003271	MGI:1926342	Sult2b1	sulfotransferase family, cytosolic, 2B, member 1	cholesterol metabolic process
ENSMUSG000000021779	MGI:98743	Thrb	thyroid hormone receptor beta	regulation of cholesterol metabolic process
ENSMUSG00000024799	MGI:1920416	Tm7sf2	transmembrane 7 superfamily member 2	cholesterol biosynthetic process
ENSMUSG00000026700	MGI:104511	Tnfrsf4	tumor necrosis factor (ligand) superfamily, member 4	cholesterol metabolic process
ENSMUSG00000038172	MGI:1917113	Ttc39b	tetratricopeptide repeat domain 39B	regulation of cholesterol metabolic process
ENSMUSG00000024924	MGI:98935	Vldlr	very low density lipoprotein receptor	cholesterol metabolic process

Table S1. List of cholesterol metabolic genes from MGI database and their associated ensembl ID for user-provided gene set queries in the *Regeneration Rosetta* app.

Zebrafish Ensembl	Cluster	Zebrafish gene	LRT_val	2dpi-Odipi_val	4dpi-Odipi_val	7dpi-Odipi_val	12dpi-Odipi_val	2dpi-Odipi_LFC	4dpi-Odipi_LFC	7dpi-Odipi_LFC	12dpi-Odipi_LFC
ENSDART000001	Growth toward the midline	gba	0.00060684	1.11E-05	0.055674455	0.928325691	0.690320273	0.473554928	0.246228233	-0.028007284	-0.118288896
ENSDART000001	Growth toward the midline	smpp1	0.002176351	0.000166524	0.430723334	0.942817089	0.699523141	0.404585024	0.130204031	0.022544887	-0.113079466
ENSDART000001	Growth toward the midline	npc2	0.002939613	0.001556765	0.384822365	0.914551548	0.499923782	0.729567353	0.287798394	-0.063690935	-0.310097689
ENSDART000001	Growth toward the midline	acadv	0.002156175	0.009322914	0.034493954	0.905158839	0.730001037	0.315070362	0.266918423	-0.034640916	-0.111553388
ENSDART000001	Growth toward the midline	npc2	0.000902446	7.69E-08	0.058427541	0.406017406	0.994465692	1.578129482	0.684715762	0.389649636	0.031719264
ENSDART000001	Growth toward the midline	abca1a	0.015574429	0.133882254	0.458914664	0.033282403	0.710864259	0.214033988	0.130340273	0.268396538	-0.115766571
ENSDART000001	Growth toward the midline	acadv	0.015328252	0.01692389	0.016316201	0.298424368	0.979874802	0.315023187	0.311610409	0.17259027	-0.0260318
ENSDART000001	Growth toward the midline	nfe2l1a	0.007828891	0.017944516	0.011533123	0.247377553	0.845818106	0.652859432	0.675562602	0.38648833	-0.18398816
ENSDART000001	Growth toward the midline	NPC2 (1 of mar	0.001006824	4.68E-07	0.001644856	0.069931219	0.99079012	3.182180208	2.136779184	1.408480393	0.09501531
ENSDART000001	Growth toward the midline	abca1b	0.004394152	0.001218945	0.089741646	0.655177301	0.745138148	0.962705135	0.587027009	0.239926413	-0.279230387
ENSDART000001	Growth toward the midline	hdlbpa	0.002972631	0.000342284	0.017176287	0.099987389	0.94653875	0.44689202	0.322223522	0.244841165	-0.050194137
ENSDART000001	Growth toward the midline	lepr	0.000171958	2.96E-08	1.39E-07	1.05E-05	0.000856073	0.762949533	0.720319043	0.625239528	0.526452567
ENSDART000001	Growth toward the midline	lepr	0.000168321	5.12E-12	2.43E-11	1.74E-07	0.000959999	1.173965688	1.129708824	0.920018098	0.6672678
ENSDART000001	Growth toward the midline	lepa	0.00013528	6.60E-11	3.13E-12	3.73E-10	0.000724181	4.559547685	4.778234325	4.366752593	2.765663683
ENSDART000001	Growth toward the midline	hsd17b7	0.043380755	0.044142616	0.00678376	0.087130748	0.336803167	2.880332402	3.535090877	2.510243514	2.078786507
ENSDART000001	Growth toward the midline	acadv	0.058646754	0.025410864	0.014154149	0.262740666	0.773370237	0.465985818	0.491501242	0.281421395	0.167335906
ENSDART000001	Growth toward the midline	feh	0.018995329	0.991120972	0.028094033	0.66827511	0.988897809	0.007306354	0.381217581	-0.12547162	-0.024452403
ENSDART000001	Growth toward the midline	si:ch211-93f2.1	0.040057894	0.694031347	0.782937688	0.396603565	0.049871554	-0.158550393	0.117683559	-0.256320731	-0.510696237
ENSDART000001	Growth toward the midline	cat	0.008672693	0.356612354	0.003458029	0.865218019	0.721963852	0.249947463	0.551180864	0.073389354	-0.27327225
ENSDART000001	Growth toward the midline	lrp1aa	0.02739836	0.993779498	0.970779906	0.337822232	0.013674414	0.006114382	-0.023577911	-0.261635578	-0.555062861
ENSDART000001	Midline crossing target selection	lima1a	0.014437179	0.074429082	0.000294565	0.007243269	0.674291587	0.350368785	0.588496789	0.46589541	0.178939257
ENSDART000001	Midline crossing target selection	nfe2l1b	0.013323448	0.199387901	0.001411736	0.007386091	0.268361164	0.688085235	1.301360444	1.138008541	0.729999096
ENSDART000001	Midline crossing target selection	insig1	0.008603534	0.964439289	0.001225581	0.028894275	0.878598548	-0.03765091	0.839125818	0.622258944	0.165134159
ENSDART000001	Midline crossing target selection	dncr24	0.030292962	0.059415464	0.022855025	0.005780851	0.0576435	2.392110544	2.697063662	3.11984675	2.653468904
ENSDART000001	Midline crossing target selection	dncr24	0.024993104	0.36552003	0.99650965	0.048662488	0.947964979	-0.273134055	-0.003097208	0.45273437	0.079225052
ENSDART000001	Midline crossing target selection	hmgs1	0.000409858	0.764108136	0.133189833	2.92E-09	0.000131252	0.250779539	2.106714123	1.525845318	0.073389354
ENSDART000001	Midline crossing target selection	hmgs1	0.006978095	0.937890417	0.779964462	0.000788936	0.08784359	-0.061825835	0.154559892	0.893983325	0.609306628
ENSDART000001	Midline crossing target selection	hmgs1	0.005285356	0.513462124	0.883704561	0.0276471	0.027858225	-0.174557714	0.058201434	0.38988663	0.431312576
ENSDART000001	Midline crossing target selection	hsd17b7	0.001028061	0.018553036	0.193448	0.009655684	0.821048076	-0.488876774	0.314769091	0.517151777	0.148788215
ENSDART000001	Midline crossing target selection	sreb1	0.003411856	0.993271251	0.04180132	3.17E-05	0.09439079	-0.007030288	0.441941306	0.773565631	0.436893785
ENSDART000001	Midline crossing target selection	ldlrb	0.001252059	0.990591906	0.013899649	7.32E-07	0.170571211	-0.013482381	0.739364147	1.30137615	0.56832803
ENSDART000001	Midline crossing target selection	mnda	0.005340573	0.910233515	0.013059122	0.001717471	0.364812696	0.177821409	1.524901044	1.830059782	0.927790622
ENSDART000001	Midline crossing target selection	nsdhl	0.073090188	0.384843025	0.02327355	0.01839508	0.176504925	1.591273733	3.017393364	3.100136405	2.442907405
ENSDART000001	Midline crossing target selection	sqlea	0.000140513	0.39714233	3.20E-07	9.24E-12	1.23E-06	0.510664466	1.875874264	2.415595993	1.866281513
ENSDART000001	Midline crossing target selection	cyp51	0.0002611	0.979247733	9.84E-06	5.63E-09	0.023589747	0.018772193	0.850105191	1.080881624	0.554137375
ENSDART000001	Midline crossing target selection	scsd	0.009204947	0.841975729	0.036626452	0.003204598	0.345217784	-0.1256071	0.619273704	0.802648489	0.437253012
ENSDART000001	Midline crossing target selection	tm7sf2	0.008621509	0.881675472	0.007445135	0.000381185	0.409104478	0.1050645	0.758038931	0.952561873	0.4137868
ENSDART000001	Midline crossing target selection	mnda	0.003470173	0.986325295	0.000831764	0.001919902	0.29235693	-0.034972011	1.767545823	1.673143467	0.929274175
ENSDART000001	Midline crossing target selection	insig1	0.003330818	0.835503343	0.008946432	0.000357987	0.608557059	-0.148803263	0.843708665	1.082868772	0.366540247
ENSDART000001	Midline crossing target selection	ldl1	0.030676359	0.764048984	0.028249076	0.004200979	0.715415577	0.080932725	0.304370095	0.372734682	0.127047939
ENSDART000001	Brain reinnervation	sr1	0.038574021	0.498388186	0.041236995	0.649213893	0.785459062	-0.129978292	-0.268802979	-0.097227509	0.102143372
ENSDART000001	Brain reinnervation	sl:dkcy-71h2.2	0.004477335	0.002244442	2.81E-05	0.017235395	0.559735938	-0.547517928	-0.696070326	-0.446988451	-0.222080286
ENSDART000001	Brain reinnervation	gnb3b	0.084853017	0.047590012	0.068454739	0.58693258	0.95234761	-0.446677088	-0.413500571	-0.183093758	-0.072200588
ENSDART000001	Brain reinnervation	scarb1	0.022037698	0.032429793	0.253527644	0.929493191	0.988391815	-3.646800721	-2.308559886	0.370802474	0.243200954
ENSDART000001	Brain reinnervation	fdft1	0.007609288	0.08047735	0.010309603	0.886937095	0.832588895	-0.467410589	-0.45021858	0.05785823	-0.125768039
ENSDART000001	Brain reinnervation	sreb1	0.004619636	0.002979303	0.086540633	0.641240699	0.988391815	-0.417658309	-0.274360919	0.114636817	0.022214824
ENSDART000001	Brain reinnervation	hmgs1	0.001487078	0.172515058	0.990728292	0.020916772	0.019457872	-0.282814218	-0.006298507	0.4014174	0.446278745
ENSDART000001	Brain reinnervation	appb	0.000152384	0.000159341	0.006239429	0.775755973	0.277169566	-0.473539223	-0.363304525	0.075744005	0.226987466
ENSDART000001	Brain reinnervation	soat2	0.016354858	0.000255322	0.132055603	0.461666394	0.84389986	-0.618559497	-0.31486995	-0.194806138	-0.125519338
ENSDART000001	Brain reinnervation	gnb3a	0.000657061	4.75E-09	0.001745536	0.036362031	0.000171819	-0.611271729	-0.360057677	-0.265096652	-0.439594606
ENSDART000001	Brain reinnervation	sec14l8	0.069422406	0.017565987	0.035207725	0.548529037	0.236825006	-0.359432343	-0.324487355	-0.138175947	-0.2576341
ENSDART000001	Downregulated during regenera	cln6b	0.003337702	0.001075392	0.116786127	3.48E-06	0.292758327	-0.363769389	-0.208045101	-0.481848131	-0.19203643
ENSDART000001	Downregulated during regenera	cyp27a7	0.044240808	0.014660346	0.020052881	0.006566642	0.202181822	-0.742372496	-0.705345887	-0.793489907	-0.543448957
ENSDART000001	Downregulated during regenera	thrb	0.063522199	0.498401525	0.011858621	0.029905089	0.641189377	-0.205328436	-0.495702017	-0.443190893	-0.211013858
ENSDART000001	Downregulated during regenera	thrb	0.0223553	0.324180982	0.002664973	0.004383897	0.716261895	-0.193382381	-0.415286369	-0.400030228	-0.136855946
ENSDART000001	Downregulated during regenera	ldlrab1b	0.018733933	0.973866391	0.052104373	0.01071703	0.980915101	-0.019793679	-0.383158495	-0.468203159	-0.036502488
ENSDART000001	Downregulated during regenera	gnb3b	0.060534574	0.569323444	0.133658566	0.010230328	0.849977196	-0.185553204	-0.343974986	-0.508555347	-0.13419791
ENSDART000001	Downregulated during regenera	sod1	0.030292962	0.152465986	0.23990086	0.002035646	0.014580321	-0.248477917	-0.212122084	-0.427881094	-0.390078569
ENSDART000001	Downregulated during regenera	pon2	0.003003196	0.995047727	0.98783272	0.003415892	0.049780891	0.005358778	-0.010211923	-0.591626082	-0.490299784
ENSDART000001	Downregulated during regenera	apoeb	0.046312317	0.884739777	0.268210448	0.014771435	0.080531125	-0.08755429	-0.343001804	-0.600108968	-0.53348823
ENSDART000001	Downregulated during regenera	erlin2	0.045086702	0.999179255	0.435223795	0.007394961	0.862611454	-0.000462383	-0.183644452	-0.434826094	-0.105981059
ENSDART000001	Downregulated during regenera	cln6a	0.026319966	0.744548765	0.958508113	0.033766616	0.848896483	0.07921086	-0.018544414	-0.27320282	-0.083540486

Table S2. List of differentially expressed transcripts during optic nerve regeneration in zebrafish using the MGI cholesterol metabolic gene queries in the Regeneration Rosetta app. The result table includes the zebrafish ensembl ID, DE genes based on Only DE (padj<5%, Wald tests vs Odpi) for each regenerating timepoints 2, 4, 7, 12 dpi.

Brain Official Gene Symbol	Lamprey Gene ID	DNA Binding Domain
TFAP2B	PMZ_0018996-RA	AP-2
AKNA	PMZ_0011406-RA	AT hook
ASH1L	PMZ_0005066-RA	AT hook
SGSM2	PMZ_0017332-RA	BED ZF
ZBED1	PMZ_0016473-RA	BED ZF
AHR	PMZ_0009169-RA	bHLH
ARNTL	PMZ_0022526-RA	bHLH
BHLHE40	PMZ_0015665-RA	bHLH
CLOCK	PMZ_0006274-RA	bHLH
MLXIP	PMZ_0011574-RA	bHLH
MLXIPL	PMZ_0011572-RA	bHLH
NCOA3	PMZ_0005855-RA	bHLH
NEUROD1	PMZ_0005582-RA	bHLH
PTF1A	PMZ_0023241-RA	bHLH
SCX	PMZ_0011122-RA	bHLH
TWIST1	PMZ_0008383-RA	bHLH
TWIST2	PMZ_0004583-RA	bHLH
ATF3	PMZ_0005968-RA	bZIP
CEBPA	PMZ_0019312-RA	bZIP
CREM	PMZ_0012457-RA	bZIP
FOS	PMZ_0001200-RA	bZIP
FOSL2	PMZ_0023077-RA	bZIP
JUN	PMZ_0015901-RA	bZIP
MAFB	PMZ_0014543-RA	bZIP
NFE2	PMZ_0014947-RA	bZIP
NFIL3	PMZ_0019135-RA	bZIP
DZIP1	PMZ_0013304-RA	C2H2 ZF
EEA1	PMZ_0012072-RA	C2H2 ZF
IKZF5	PMZ_0001000-RA	C2H2 ZF
KLF1	PMZ_0020730-RA	C2H2 ZF
KLF10	PMZ_0012571-RA	C2H2 ZF
KLF15	PMZ_0002919-RA	C2H2 ZF
KLF7	PMZ_0008885-RA	C2H2 ZF
OSR2	PMZ_0006091-RA	C2H2 ZF
PEG3	PMZ_0002813-RA	C2H2 ZF
PRDM1	PMZ_0020972-RA	C2H2 ZF
PRDM5	PMZ_0005403-RA	C2H2 ZF
PRDM8	PMZ_0005757-RA	C2H2 ZF
REST	PMZ_0007778-RA	C2H2 ZF
SALL3	PMZ_0012241-RA	C2H2 ZF
ZBTB42	PMZ_0017837-RA	C2H2 ZF
ZNF135	PMZ_0019928-RA	C2H2 ZF
ZNF217	PMZ_0000126-RA	C2H2 ZF
ZNF219	PMZ_0000147-RA	C2H2 ZF
ZNF22	PMZ_0011057-RA	C2H2 ZF
ZNF239	PMZ_0018206-RA	C2H2 ZF
ZNF676	PMZ_0019476-RA	C2H2 ZF
ZNF704	PMZ_0017942-RA	C2H2 ZF
ZNF841	PMZ_0002784-RA	C2H2 ZF
ZEB2	PMZ_0017801-RA	C2H2 ZF; Homeodomain
TRERF1	PMZ_0003066-RA	C2H2 ZF; Myb/SANT
RBPJL	PMZ_0019954-RA	CSL
KDM2A	PMZ_0023537-RA	CxxC
KDM2B	PMZ_0005926-RA	CxxC
EHF	PMZ_0011596-RA	Ets

ETS1	PMZ_0023551-RA	Ets
ETV7	PMZ_0019267-RA	Ets
FOXB2	PMZ_0010602-RA	Forkhead
FOXG1	PMZ_0000494-RA	Forkhead
FOXK1	PMZ_0012299-RA	Forkhead
FOXK2	PMZ_0009477-RA	Forkhead
FOXL2	PMZ_0010037-RA	Forkhead
GATA2	PMZ_0008156-RA	GATA
GCM2	PMZ_0010350-RA	GCM
SOX10	PMZ_0020526-RA	HMG/Sox
SRY	PMZ_0006678-RA	HMG/Sox
ADNP	PMZ_0015678-RA	Homeodomain
DBX1	PMZ_0001656-RA	Homeodomain
DLX5	PMZ_0012874-RA	Homeodomain
HOXB6	PMZ_0019528-RA	Homeodomain
HOXB8	PMZ_0019779-RA	Homeodomain
HOXC9	PMZ_0002315-RA	Homeodomain
HOXD8	PMZ_0006066-RA	Homeodomain
HOXD9	PMZ_0001980-RA	Homeodomain
IRX3	PMZ_0019709-RA	Homeodomain
LHX1	PMZ_0018111-RA	Homeodomain
MKX	PMZ_0013726-RA	Homeodomain
NKX6-1	PMZ_0024089-RA	Homeodomain
OTX2	PMZ_0000784-RA	Homeodomain
PHOX2B	PMZ_0023008-RA	Homeodomain
SIX1	PMZ_0022507-RA	Homeodomain
SIX3	PMZ_0017270-RA	Homeodomain
SIX6	PMZ_0015477-RA	Homeodomain
TPRX1	PMZ_0023099-RA	Homeodomain
POU4F2	PMZ_0005302-RA	Homeodomain; POU
POU6F2	PMZ_0004395-RA	Homeodomain; POU
PIN1	PMZ_0005768-RA	MBD
MECP2	PMZ_0011998-RA	MBD; AT hook
ESR1	PMZ_0002173-RA	Nuclear receptor
HNF4A	PMZ_0002236-RA	Nuclear receptor
NR1D1	PMZ_0012318-RA	Nuclear receptor
NR1D2	PMZ_0018839-RA	Nuclear receptor
PPARA	PMZ_0011032-RA	Nuclear receptor
RORC	PMZ_0011373-RA	Nuclear receptor
PROX1	PMZ_0012095-RA	Prospero
NFATC3	PMZ_0011590-RA	Rel
REL	PMZ_0002455-RA	Rel
RUNX1	PMZ_0019080-RA	Runt
DEAF1	PMZ_0007366-RA	SAND
NFIA	PMZ_0005871-RA	SMAD
TBR1	PMZ_0005862-RA	T-box
TBX20	PMZ_0017953-RA	T-box
DR1	PMZ_0012187-RA	Unknown
LTF	PMZ_0007403-RA	Unknown
SON	PMZ_0022239-RA	Unknown

Table S3. List of transcription factor encoding genes from brain following spinal cord injury in lamprey over a course of 12 weeks (derived from Herman et al., 2018). This table includes the official gene symbol corresponding to lamprey gene ID for the transcription factors with known DNA binding domain for user-provided gene set queries in the *Regeneration Rosetta* app.

Spinal cord Official Gene Symbol	Lamprey Gene ID	DNA binding domain
TFAP2B	PMZ_0018996-RA	AP-2
ASH1L	PMZ_0005066-RA	AT hook
SETBP1	PMZ_0010700-RA	AT hook
ZBED1	PMZ_0016473-RA	BED ZF
ARNTL	PMZ_0022526-RA	bHLH
BHLHE41	PMZ_0006661-RA	bHLH
EPAS1	PMZ_0007089-RA	bHLH
MAX	PMZ_0008167-RA	bHLH
MITF	PMZ_0022356-RA	bHLH
MLXIP	PMZ_0011574-RA	bHLH
MLXIPL	PMZ_0011572-RA	bHLH
MSC	PMZ_0003667-RA	bHLH
MSGN1	PMZ_0006006-RA	bHLH
MYCN	PMZ_0004744-RA	bHLH
NCOA3	PMZ_0005855-RA	bHLH
NEUROD1	PMZ_0005582-RA	bHLH
NPAS3	PMZ_0007275-RA	bHLH
TFE3	PMZ_0015238-RA	bHLH
TWIST1	PMZ_0003348-RA	bHLH
TWIST2	PMZ_0004583-RA	bHLH
ATF3	PMZ_0021004-RA	bZIP
ATF7	PMZ_0023367-RA	bZIP
CEBPA	PMZ_0019312-RA	bZIP
CREM	PMZ_0012457-RA	bZIP
FOS	PMZ_0019104-RA	bZIP
FOSL2	PMZ_0023077-RA	bZIP
HLF	PMZ_0020258-RA	bZIP
JUN	PMZ_0015901-RA	bZIP
MAFB	PMZ_0014543-RA	bZIP
NFE2L2	PMZ_0009505-RA	bZIP
EEA1	PMZ_0012072-RA	C2H2 ZF
EGR1	PMZ_0018081-RA	C2H2 ZF
GLI2	PMZ_0003580-RA	C2H2 ZF
GLIS2	PMZ_0013642-RA	C2H2 ZF
IKZF4	PMZ_0007774-RA	C2H2 ZF
KLF1	PMZ_0020730-RA	C2H2 ZF
KLF7	PMZ_0013729-RA	C2H2 ZF
MAZ	PMZ_0009919-RA	C2H2 ZF
MYT1L	PMZ_0020295-RA	C2H2 ZF
OSR1	PMZ_0011713-RA	C2H2 ZF
OSR2	PMZ_0006091-RA	C2H2 ZF
PRDM8	PMZ_0005757-RA	C2H2 ZF
SALL3	PMZ_0012241-RA	C2H2 ZF
ZBTB16	PMZ_0004848-RA	C2H2 ZF
ZBTB42	PMZ_0017837-RA	C2H2 ZF
ZFAT	PMZ_0006891-RA	C2H2 ZF
ZNF16	PMZ_0012820-RA	C2H2 ZF
ZNF217	PMZ_0000126-RA	C2H2 ZF
ZNF219	PMZ_0000147-RA	C2H2 ZF
ZNF22	PMZ_0011057-RA	C2H2 ZF
ZNF267	PMZ_0016475-RA	C2H2 ZF
ZNF367	PMZ_0019541-RA	C2H2 ZF
ZNF385B	PMZ_0005569-RA	C2H2 ZF
ZNF385D	PMZ_0008540-RA	C2H2 ZF
ZNF596	PMZ_0019979-RA	C2H2 ZF
ZNF676	PMZ_0019476-RA	C2H2 ZF
ZNF704	PMZ_0019042-RA	C2H2 ZF
ZNF710	PMZ_0002701-RA	C2H2 ZF
ZNF841	PMZ_0002784-RA	C2H2 ZF
ZUFSP	PMZ_0014878-RA	C2H2 ZF
CAMTA1	PMZ_0016476-RA	CG-1
KDM2B	PMZ_0005926-RA	CxxC
E2F3	PMZ_0017731-RA	E2F
E2F7	PMZ_0007982-RA	E2F
EBF1	PMZ_0003202-RA	EBF1
EBF2	PMZ_0003201-RA	EBF1
EHF	PMZ_0011596-RA	Ets
ETV6	PMZ_0019268-RA	Ets

ETV7	PMZ_0019267-RA	Ets
FOXB2	PMZ_0010602-RA	Forkhead
FOXF2	PMZ_0003163-RA	Forkhead
FOXG1	PMZ_0000494-RA	Forkhead
GCM2	PMZ_0003269-RA	GCM
TFCP2	PMZ_0015026-RA	Grainyhead
SOX11	PMZ_0001911-RA	HMG/Sox
ADNP	PMZ_0015678-RA	Homeodomain
DLX1	PMZ_0021876-RA	Homeodomain
DLX5	PMZ_0012874-RA	Homeodomain
DMBX1	PMZ_0015945-RA	Homeodomain
EMX1	PMZ_0000550-RA	Homeodomain
HOXB6	PMZ_0019528-RA	Homeodomain
HOXB8	PMZ_0019779-RA	Homeodomain
HOXC9	PMZ_0002315-RA	Homeodomain
HOXD8	PMZ_0006066-RA	Homeodomain
HOXD9	PMZ_0001980-RA	Homeodomain
IRX2	PMZ_0020478-RA	Homeodomain
IRX3	PMZ_0019709-RA	Homeodomain
IRX5	PMZ_0012177-RA	Homeodomain
LHX1	PMZ_0018111-RA	Homeodomain
MEIS2	PMZ_0020921-RA	Homeodomain
MKX	PMZ_0013726-RA	Homeodomain
OTX2	PMZ_0000784-RA	Homeodomain
PHOX2B	PMZ_0023008-RA	Homeodomain
SIX1	PMZ_0022507-RA	Homeodomain
SIX3	PMZ_0017270-RA	Homeodomain
SIX4	PMZ_0014005-RA	Homeodomain
SIX6	PMZ_0015477-RA	Homeodomain
TPRX1	PMZ_0023099-RA	Homeodomain
POU4F2	PMZ_0005302-RA	Homeodomain; POU
POU6F2	PMZ_0004393-RA	Homeodomain; POU
MEF2A	PMZ_0017273-RA	MADS box
MBD2	PMZ_0013621-RA	MBD
PIN1	PMZ_0005768-RA	MBD
MECP2	PMZ_0011998-RA	MBD; AT hook
DMTF1	PMZ_0014946-RA	Myb/SANT
ESR1	PMZ_0002173-RA	Nuclear receptor
ESR2	PMZ_0001332-RA	Nuclear receptor
ESRRG	PMZ_0017464-RA	Nuclear receptor
HNF4A	PMZ_0002236-RA	Nuclear receptor
NR1D1	PMZ_0012318-RA	Nuclear receptor
NR1H4	PMZ_0006651-RA	Nuclear receptor
NR2F1	PMZ_0005031-RA	Nuclear receptor
PPARA	PMZ_0011032-RA	Nuclear receptor
RARA	PMZ_0010334-RA	Nuclear receptor
RARB	PMZ_0010333-RA	Nuclear receptor
PROX1	PMZ_0012095-RA	Prospero
REL	PMZ_0002455-RA	Rel
RUNX1	PMZ_0019080-RA	Runt
RUNX2	PMZ_0006895-RA	Runt
DEAF1	PMZ_0007365-RA	SAND
GMEB2	PMZ_0000511-RA	SAND
NFIA	PMZ_0005872-RA	SMAD
STAT4	PMZ_0013733-RA	STAT
TBR1	PMZ_0005862-RA	T-box
TBX18	PMZ_0022118-RA	T-box
TBX20	PMZ_0009881-RA	T-box
DR1	PMZ_0004286-RA	Unknown
LTF	PMZ_0007403-RA	Unknown
RBCK1	PMZ_0019160-RA	Unknown
SON	PMZ_0022239-RA	Unknown
TSC2D1	PMZ_0021850-RA	Unknown

Table S4. List of transcription factor encoding genes from spinal cord following spinal cord injury in lamprey over a course of 12 weeks (derived from Herman et al., 2018). This table includes the official gene symbol corresponding to lamprey gene ID for the transcription factors with known DNA binding domain for user-provided gene set queries in the *Regeneration Rosetta* app.