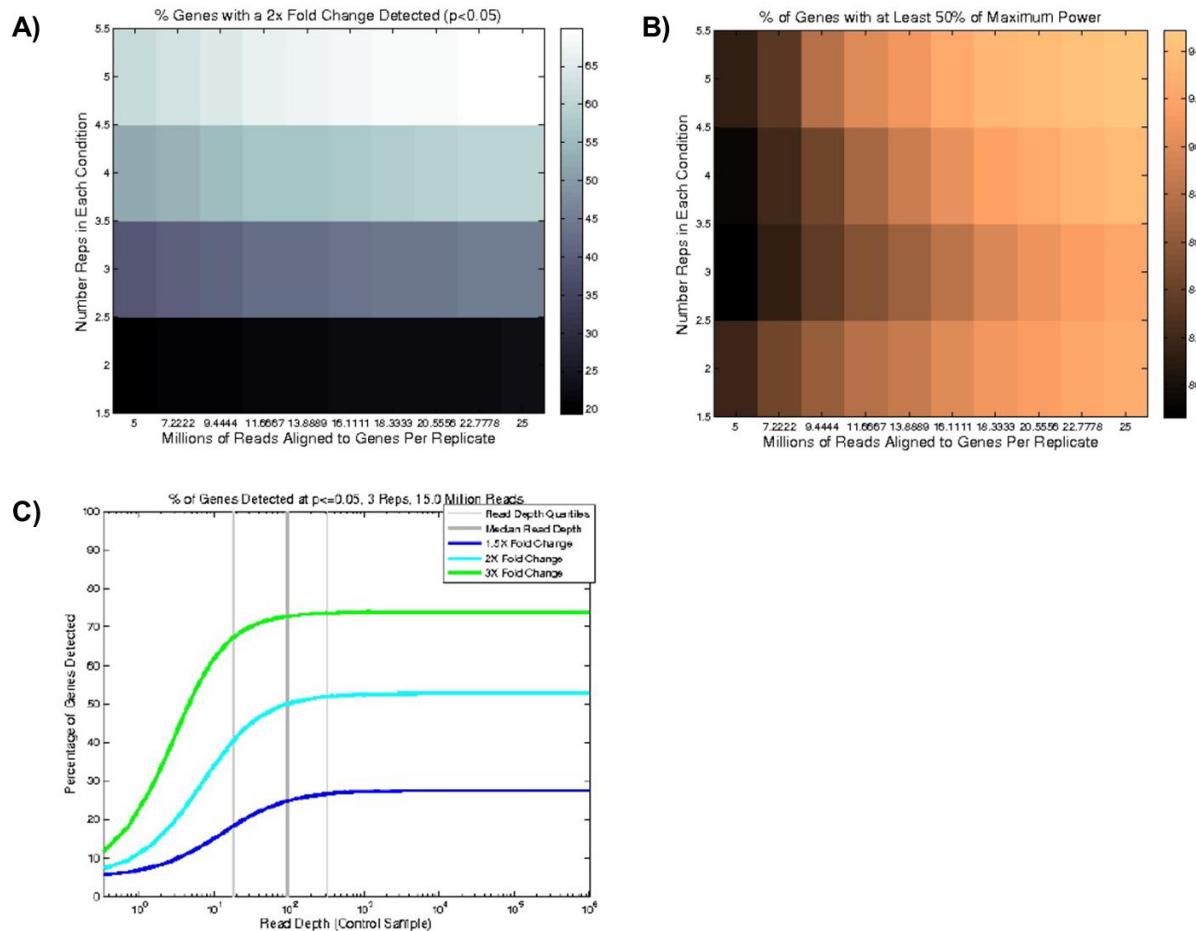
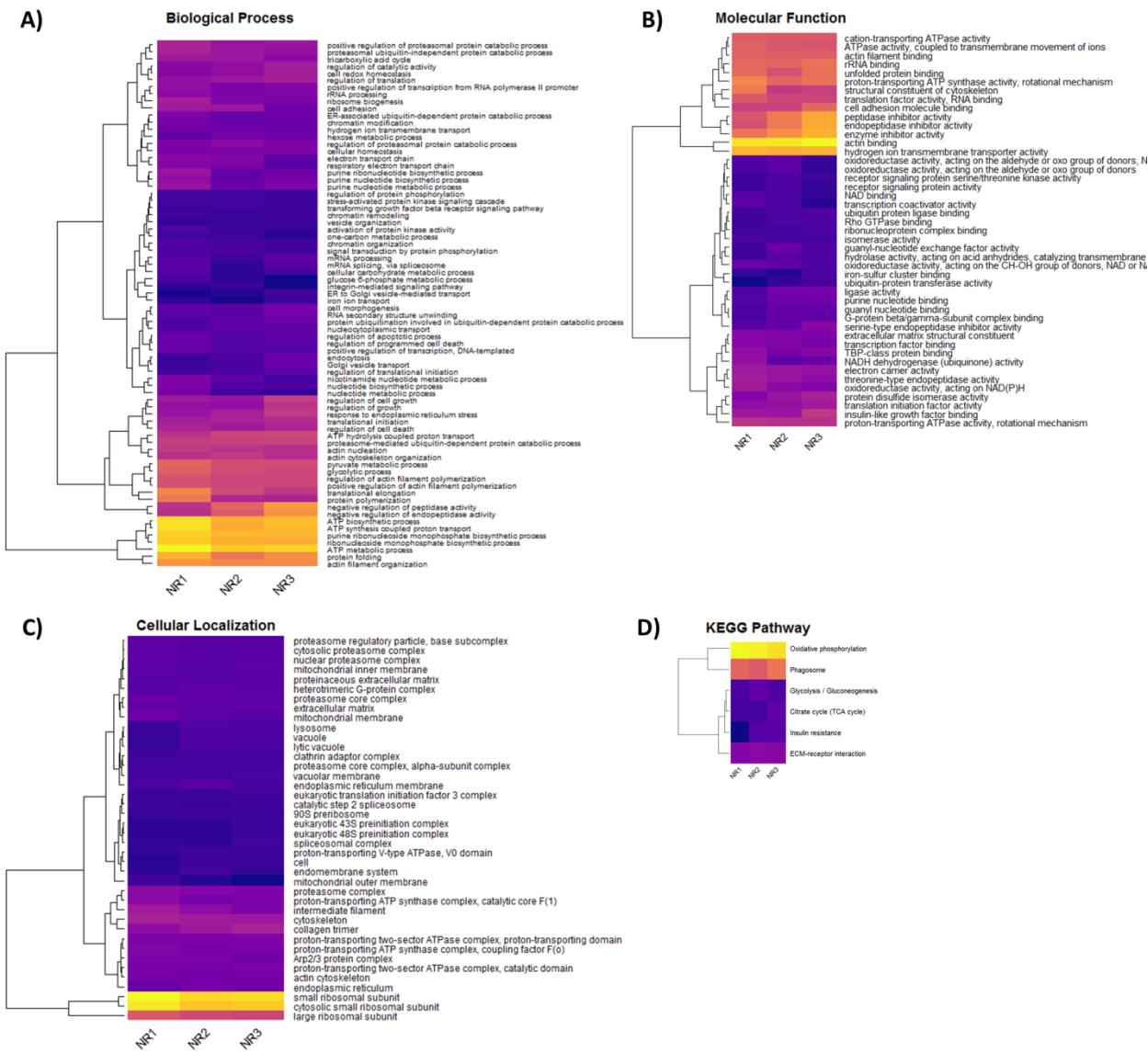


## Supporting Information for “A microRNA-mRNA Expression Network during Oral Siphon Regeneration in Ciona”

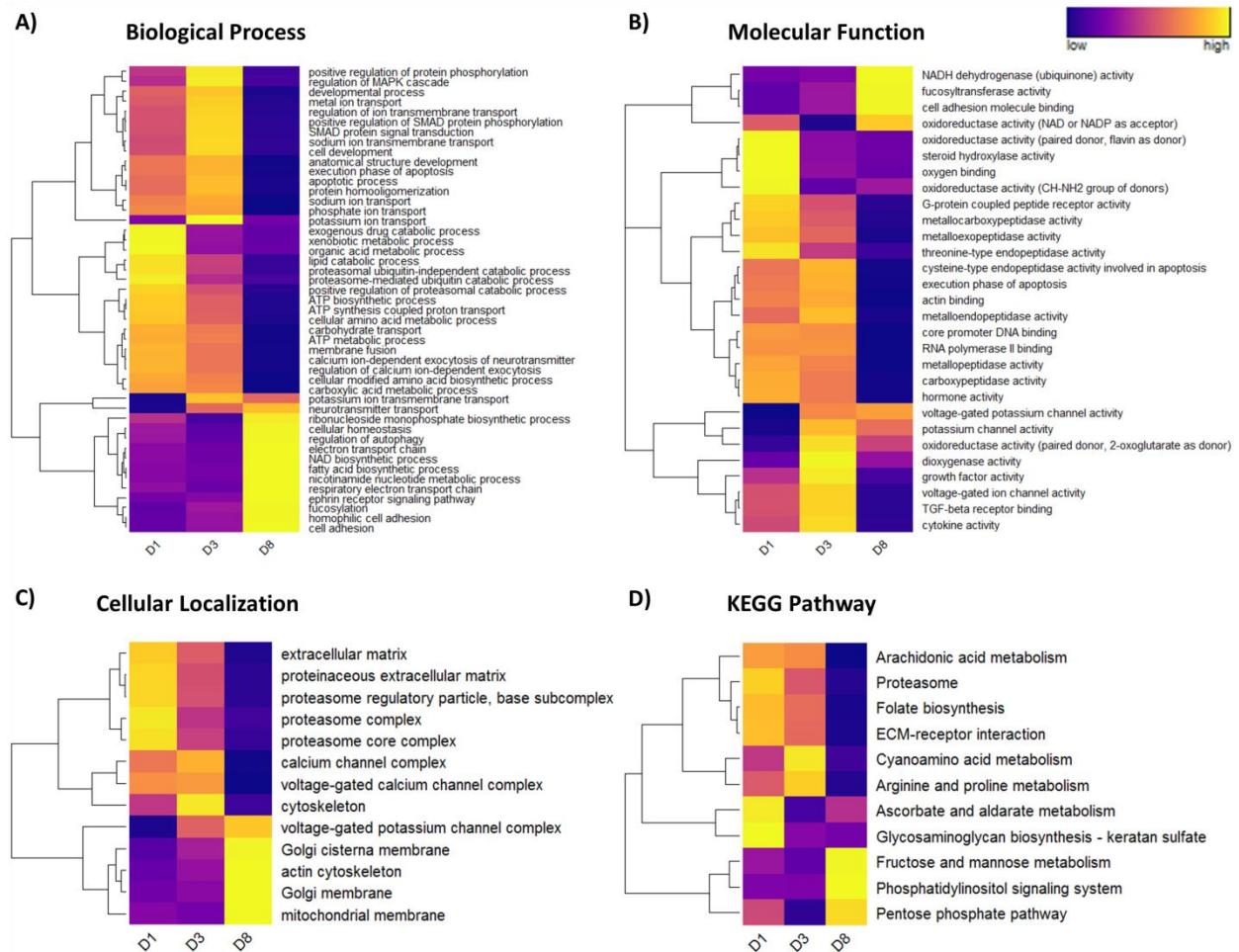
Elijah J. Spina, Elmer Guzman, Hongjun Zhou, Kenneth S. Kosik, and William C. Smith



**Fig. S1. Pilot Study and Power Analysis of Non-Regenerating Oral Siphons.** (A) Power of different experimental designs. Power is measured by the percentage of transcripts having a true 2X fold change detected at  $p \leq 0.05$  using a t-test. (B) Measurement bias of different experimental designs. Maximum power is defined as the percentage of transcripts that could be detected if continuous sampling was performed. Then, measurement bias is defined as the percentage of transcripts sampled with at least 50% of the maximum power. (C) Expected true positive rates for our chosen experimental design. Curves indicate percent of differentially expressed transcripts expected to be detected at different levels of fold-change.



**Fig. S2. Z-scores of Enriched ( $Z \geq 1.96$ ) Functional Categories in Non-Regenerating Oral Siphons.** Z-scores plotted here as heatmaps were calculated using expression values normalized by transcript length and sequencing depth (RPKM). Dendograms to the left of each heatmap indicate the results of hierarchical clustering the categories. Stages are listed below each column of the heatmaps while categories are listed to the right. (A) GO Biological Process. (B) GO Molecular Function. (C) GO Cellular Localization. (D) KEGG Pathways.



**Fig. S3. Z-scores of Enriched ( $Z \geq 1.96$ ) Functional Categories Relative to Non-Regenerating Oral Siphons.** Z-scores plotted here as heatmaps were calculated relative to non-regenerating (NR) oral siphon samples then standardized relative to the mean & standard deviation across stages. Dendrograms to the left of each heatmap indicate the results of hierarchical clustering the categories. Stages are listed below each column of the heatmaps while categories are listed to the right. (A) GO Biological Process. (B) GO Molecular Function. (C) GO Cellular Localization. (D) KEGG Pathways.

**Table S1. mRNA Alignment Statistics.** Alignment metrics are indicated in the first column. Each subsequent column represents one biological replicate sample. There are three replicates for each stage. Each sample is indicated by the stage symbol followed by a dash then the replicate number. Stage symbols are: NR = Non-regenerating, D0 = zero days post-amputation (dpa), D1 = one dpa, D3 = three dpa, D8 = eight dpa.

	<b>NR-1</b>	<b>NR-2</b>	<b>NR-3</b>	<b>D0-1</b>	<b>D0-2</b>	<b>D0-3</b>	<b>D1-1</b>	<b>D1-2</b>	<b>D1-3</b>	<b>D3-1</b>	<b>D3-2</b>	<b>D3-3</b>	<b>D8-1</b>	<b>D8-2</b>	<b>D8-3</b>
<b>Reads</b>	13036680	26048685	10107734	14707066	18649484	15964357	14334056	17302978	18405471	7081310	13860083	13753071	13303927	17968744	13076712
<b>Non Primary</b>	958540	1950057	737770	853845	729117	740310	855498	787854	1117746	121837	560209	676350	766385	681277	558519
<b>Non-unique</b>	3956018	7294169	4316581	3973598	5973678	5559482	5680532	6179078	5482153	3500352	6855210	6101267	6578039	9854070	5993090
<b>Unique</b>	8122122	16804459	5053383	9879623	11946689	9664565	7798026	10336046	11805572	3459121	6444664	6975454	5959503	7433397	6525103
<b>Plus</b>	4067620	8854160	2612935	4791899	5787943	4577185	3938708	5160326	6006877	1759025	3286526	3306156	3001168	3726230	3182975
<b>Minus</b>	4054502	7950299	2440448	5087724	6158746	5087380	3859318	5175720	5798695	1700096	3158138	3669298	2958335	3707167	3342128
<b>Non-splice</b>	6257177	12295110	3922418	7151978	8014248	6969439	5557248	7172939	8415632	2563042	4458957	5079744	4288119	5168147	4787742
<b>Splice</b>	1864945	4509349	1130965	2727645	3932441	2695126	2240778	3163107	3389940	896079	1985707	1895710	1671384	2265250	1737361
<b>% Aligned</b>	0.926474	0.925138	0.927009	0.941943	0.960904	0.953627	0.940317	0.954467	0.939271	0.982795	0.959581	0.950822	0.942394	0.962085	0.957289
<b>% Unique</b>	0.672465	0.69732	0.539317	0.713164	0.666654	0.634822	0.57855	0.625853	0.682888	0.497038	0.484566	0.533425	0.475333	0.429988	0.52125

**Table S2. Concurrence of Differentially Expressed mRNAs Between Two Programs relative to Day 0.** Results from EdgeR are shown after retaining only transcripts identified as differentially expressed by both EdgeR and DESeq2. Transcripts are indicated in the first column. Subsequent columns show the estimated  $\log_2$  fold-change (logFC) for each stage (D1 = one dpa, D3 = three dpa, D8 = eight dpa), the mean  $\log_2$  counts-per-million (CPM) reads for each transcript across all samples, the log-odds ratio (LR), p-value and the false discovery rate (FDR).

Gene	D1	D3	D8	Log CPM	LR	P-value	FDR
ENSCINT00000016852	3.098325	1.937186	2.566742	4.563039	46.46672	4.51E-10	5.68E-06
ENSCINT00000035428	-3.22002	-1.22131	-2.46122	7.020975	40.75257	7.38E-09	3.23E-05
ENSCINT0000002977	-1.53013	-1.0677	-1.47379	6.224487	40.66175	7.71E-09	3.23E-05
ENSCINT00000032608	4.557647	3.535979	4.235177	6.21688	39.75887	1.20E-08	3.55E-05
ENSCINT0000002984	-1.50423	-1.08892	-1.44112	6.401095	39.42219	1.41E-08	3.55E-05
ENSCINT00000032868	2.262125	1.583548	1.93285	2.6019	38.59793	2.11E-08	4.27E-05
ENSCINT00000027705	1.731992	-0.15224	0.908088	4.09522	38.35721	2.37E-08	4.27E-05
ENSCINT00000007073	0.327442	0.854928	2.014151	2.34406	36.13358	7.02E-08	0.00011
ENSCINT00000024202	1.474018	1.225616	1.445381	5.833982	35.47177	9.68E-08	0.000135
ENSCINT00000033138	1.7482	1.311435	1.742597	3.809415	34.46096	1.58E-07	0.000164
ENSCINT00000026775	-1.28973	-1.21463	-1.13189	4.520945	34.35064	1.67E-07	0.000164
ENSCINT0000004456	1.512945	1.743033	1.778986	5.989089	34.32915	1.69E-07	0.000164
ENSCINT00000035694	2.309954	1.102321	1.762378	6.434744	34.32098	1.69E-07	0.000164
ENSCINT00000025592	3.017282	3.123425	3.245969	6.504631	34.00433	1.98E-07	0.000167
ENSCINT0000006259	3.332571	2.531958	3.310384	3.505102	33.99024	1.99E-07	0.000167
ENSCINT00000020167	2.17282	0.332545	1.490045	5.017545	33.50138	2.52E-07	0.000189
ENSCINT00000001716	2.312717	1.111006	1.758339	6.638359	33.47604	2.56E-07	0.000189
ENSCINT00000011899	-1.71796	-0.94441	-2.10835	3.457402	32.83697	3.49E-07	0.000244
ENSCINT00000032994	-2.69425	0.160872	-1.97007	3.979899	32.70196	3.72E-07	0.000246
ENSCINT00000025361	2.212304	1.594899	1.846057	4.300401	32.34783	4.42E-07	0.000278
ENSCINT00000028348	3.429129	2.462152	3.326549	3.785931	32.13288	4.91E-07	0.000294
ENSCINT00000026108	1.754231	1.061725	1.180144	3.182228	31.93871	5.39E-07	0.000307
ENSCINT00000035931	-0.28158	1.179899	1.595882	2.184825	31.85794	5.61E-07	0.000307
ENSCINT00000011757	-6.36496	-1.24684	-7.6126	9.727747	31.74412	5.93E-07	0.000311
ENSCINT00000008590	2.467382	1.569956	2.535151	6.708561	31.36196	7.13E-07	0.000359
ENSCINT00000032985	-0.86054	1.008773	-0.78458	3.356228	31.14362	7.93E-07	0.000384
ENSCINT00000032844	-0.53538	1.041566	-0.45743	5.045268	30.78601	9.43E-07	0.000439
ENSCINT00000035944	-1.38717	-1.07885	-1.70512	5.903841	30.6048	1.03E-06	0.000461
ENSCINT00000032350	1.785621	1.282163	1.676427	6.684467	30.53824	1.06E-06	0.000461
ENSCINT00000019098	3.559869	3.728223	5.405249	7.644471	29.71462	1.58E-06	0.000661
ENSCINT00000030148	-0.3081	4.535797	0.998483	0.813906	29.61528	1.66E-06	0.000661
ENSCINT00000027938	3.054621	3.005588	3.146558	4.915873	29.54031	1.72E-06	0.000661
ENSCINT00000036027	4.338352	3.269428	4.350666	7.32871	29.52909	1.73E-06	0.000661
ENSCINT00000031188	1.905082	1.590168	1.891427	5.606329	29.45779	1.79E-06	0.000664
ENSCINT00000022223	-1.49042	-0.91746	-1.82342	5.32221	29.30072	1.94E-06	0.000696
ENSCINT00000011487	-2.05306	-1.32499	-2.56398	7.981958	29.10234	2.13E-06	0.000745
ENSCINT00000032225	2.305297	1.612717	2.254848	4.523618	29.008	2.23E-06	0.000758
ENSCINT0000002481	2.19177	1.552399	2.314943	6.738536	28.90293	2.35E-06	0.000777
ENSCINT0000000568	-1.50212	-0.25641	-2.51532	6.335878	28.78391	2.49E-06	0.000802
ENSCINT00000028559	2.597754	2.352515	2.495206	4.040942	28.71667	2.57E-06	0.000808

ENSCINT00000003420	3.562484	3.726827	5.392754	7.796918	28.52496	2.82E-06	0.000845
ENSCINT00000025489	0.770184	1.443693	1.503457	5.487297	28.49499	2.86E-06	0.000845
ENSCINT00000033273	1.916998	1.028707	0.953415	3.458381	28.4736	2.89E-06	0.000845
ENSCINT00000033223	0.636257	1.753739	-0.12438	3.275393	28.2369	3.24E-06	0.000926
ENSCINT00000025362	1.951318	1.250685	1.582079	3.297809	27.95591	3.71E-06	0.001002
ENSCINT00000031265	2.989742	3.336663	3.300771	5.983266	27.93805	3.74E-06	0.001002
ENSCINT0000004784	2.275759	2.238537	2.466577	5.044132	27.78762	4.02E-06	0.001055
ENSCINT00000013223	1.852826	0.756334	1.732808	4.144229	27.52185	4.58E-06	0.001175
ENSCINT00000024974	-1.48981	-0.89557	-1.43528	4.697763	27.27595	5.15E-06	0.001265
ENSCINT00000013341	3.758532	3.522847	3.186755	2.681757	27.24511	5.23E-06	0.001265
ENSCINT00000032086	0.721692	-0.01242	1.038339	5.501273	26.97714	5.95E-06	0.001413
ENSCINT00000026055	1.852519	1.077507	1.567328	4.766345	26.84658	6.34E-06	0.001477
ENSCINT00000035303	2.353525	1.833407	2.131559	6.94355	26.62773	7.05E-06	0.0016
ENSCINT00000008989	1.872759	1.571683	2.227709	3.117162	26.59862	7.15E-06	0.0016
ENSCINT00000024522	-1.46791	-0.57752	-0.63521	5.609243	26.56846	7.25E-06	0.0016
ENSCINT00000028150	-2.49933	-0.30613	-0.55287	1.952476	26.45812	7.65E-06	0.001658
ENSCINT00000030610	1.024364	1.553978	0.409597	3.394669	26.31288	8.20E-06	0.001737
ENSCINT00000036569	-2.2097	-1.24172	-1.90682	4.971763	26.29201	8.28E-06	0.001737
ENSCINT00000032652	1.977173	1.221444	0.795163	4.687042	26.25809	8.42E-06	0.001737
ENSCINT00000000054	1.395189	0.911731	1.078716	5.495732	26.1318	8.95E-06	0.001816
ENSCINT00000033595	1.880168	1.288566	1.386992	3.66374	25.99658	9.55E-06	0.001907
ENSCINT00000014006	-1.27431	-1.04256	-1.71716	5.775915	25.9273	9.88E-06	0.001941
ENSCINT00000026214	2.028277	1.422108	1.651265	7.230824	25.8628	1.02E-05	0.001962
ENSCINT00000014412	1.51661	1.226968	1.78477	6.033267	25.84125	1.03E-05	0.001962
ENSCINT00000036350	1.606366	0.708197	1.395413	6.248858	25.49822	1.21E-05	0.002247
ENSCINT00000026747	-1.22634	-0.83818	-1.14972	3.734346	25.26226	1.36E-05	0.002481
ENSCINT00000035153	1.878089	1.61227	1.915729	6.052242	25.20252	1.40E-05	0.002517
ENSCINT00000030493	1.880723	1.339447	1.82329	5.890483	25.0873	1.48E-05	0.002592
ENSCINT0000003632	-1.04793	-0.22791	-1.02722	5.139684	25.08275	1.48E-05	0.002592
ENSCINT00000027151	1.453924	0.682049	1.770972	4.751986	24.79404	1.70E-05	0.002898
ENSCINT00000026302	-1.58108	-1.24707	-1.34202	3.126248	24.73829	1.75E-05	0.002926
ENSCINT00000035594	1.299936	1.311219	0.600321	4.578336	24.71861	1.77E-05	0.002926
ENSCINT00000017186	1.540691	0.979251	1.575683	5.587028	24.509	1.96E-05	0.003195
ENSCINT00000033079	2.628704	3.080833	2.944594	4.871562	24.45475	2.01E-05	0.003237
ENSCINT00000019180	-1.26813	-0.83277	-2.37976	6.432859	24.41501	2.05E-05	0.003258
ENSCINT00000019977	-1.6813	-1.12302	-1.99148	8.0157	24.36215	2.10E-05	0.0033
ENSCINT0000003802	2.284735	1.542614	2.341006	7.0765	24.287	2.18E-05	0.003379
ENSCINT0000003531	1.654603	1.465221	2.099448	2.608603	24.18119	2.29E-05	0.003512
ENSCINT00000028739	1.935536	1.926145	2.013343	2.574675	24.10486	2.38E-05	0.003558
ENSCINT00000014408	-0.8781	0.263452	-1.27932	7.501916	24.10435	2.38E-05	0.003558
ENSCINT00000015921	-1.18216	-0.1243	-1.92346	9.029778	24.04414	2.45E-05	0.003607

ENSCINT00000026146	1.708729	1.024801	0.960141	4.078188	24.02666	2.47E-05	0.003607
ENSCINT00000019790	-1.35198	-0.81971	-1.04304	4.47655	23.65833	2.94E-05	0.004172
ENSCINT00000016537	-1.15233	-0.59347	-1.90731	5.261657	23.65245	2.95E-05	0.004172
ENSCINT00000007608	-0.8188	1.266185	-1.40594	3.77316	23.60267	3.02E-05	0.004226
ENSCINT00000026781	2.126312	2.857093	2.49941	2.230104	23.52044	3.15E-05	0.004332
ENSCINT00000030474	2.633322	1.555422	2.481196	3.036695	23.47739	3.21E-05	0.004332
ENSCINT00000014954	0.59938	1.384436	1.155239	5.007486	23.45115	3.25E-05	0.004332
ENSCINT00000033632	-0.66405	0.617989	-0.49441	3.629328	23.43849	3.27E-05	0.004332
ENSCINT00000034741	-0.82072	0.711306	-1.46228	4.155282	23.35469	3.41E-05	0.004463
ENSCINT00000034412	1.204013	0.03391	0.174057	4.080249	23.14652	3.76E-05	0.004844
ENSCINT00000032867	-1.57153	0.226418	-0.24336	2.905456	23.14102	3.77E-05	0.004844
ENSCINT00000034646	0.943009	-0.13803	0.813668	4.121404	22.96988	4.10E-05	0.005141
ENSCINT00000017459	2.845555	2.293428	2.970008	3.926828	22.95417	4.13E-05	0.005141
ENSCINT00000018897	-1.03046	-0.66948	-1.68872	6.223468	22.88748	4.26E-05	0.005256
ENSCINT00000031597	2.110332	2.26267	1.897063	5.360081	22.6928	4.68E-05	0.005715
ENSCINT00000015837	1.428457	1.019796	1.594715	6.861986	22.51865	5.09E-05	0.006153
ENSCINT00000031769	-0.3514	1.159585	-0.57168	8.421046	22.44809	5.26E-05	0.006304
ENSCINT00000029107	-0.97639	0.141701	-1.84955	7.122314	22.39106	5.41E-05	0.006418
ENSCINT00000036347	-0.17579	1.573782	2.180908	2.574863	22.35321	5.51E-05	0.006445
ENSCINT00000030882	-1.99138	-0.6003	-1.94243	5.642182	22.34338	5.53E-05	0.006445
ENSCINT00000035546	-1.06794	-0.51645	-1.44097	5.183871	22.17655	5.99E-05	0.006917
ENSCINT00000015866	-1.68144	-0.94476	-1.04493	6.167284	22.12632	6.14E-05	0.007019
ENSCINT00000030348	2.548801	1.458251	2.977134	2.373254	22.10806	6.19E-05	0.007019
ENSCINT0000002897	1.402095	0.754612	1.248309	7.101335	21.96245	6.64E-05	0.007459
ENSCINT00000032583	-1.73443	-1.09495	-1.68132	4.365313	21.93037	6.74E-05	0.007499
ENSCINT00000034609	1.827809	0.454761	1.171696	5.189039	21.89777	6.85E-05	0.007499
ENSCINT00000027606	-1.6392	-0.06996	-2.59095	5.844567	21.89622	6.86E-05	0.007499
ENSCINT00000023044	-0.95917	-0.60367	-1.64735	6.081949	21.8083	7.15E-05	0.007677
ENSCINT00000029051	1.494676	0.664327	1.270528	4.261694	21.78083	7.25E-05	0.007677
ENSCINT00000033422	1.038958	1.266556	1.854636	5.080862	21.77638	7.26E-05	0.007677
ENSCINT00000021573	-1.45784	-1.67054	-2.95152	2.942052	21.75519	7.33E-05	0.007677
ENSCINT00000032176	-1.50772	-1.49476	-1.968	7.707606	21.74881	7.36E-05	0.007677
ENSCINT00000005981	-1.342	-1.10509	-1.09751	5.142449	21.74109	7.38E-05	0.007677
ENSCINT00000021540	1.62201	0.641764	1.573684	3.005147	21.67397	7.63E-05	0.007818
ENSCINT00000031929	-1.29725	-0.76907	-1.02882	4.710438	21.66629	7.65E-05	0.007818
ENSCINT00000035165	1.676075	0.473725	1.212376	6.093736	21.65184	7.71E-05	0.007818
ENSCINT00000026583	-1.8464	-1.01721	-2.30772	6.415947	21.58159	7.97E-05	0.008021
ENSCINT00000018262	1.346291	1.139975	1.667191	4.805085	21.51924	8.21E-05	0.008198
ENSCINT00000006770	-0.80847	-0.60223	-1.34262	5.853285	21.38488	8.76E-05	0.008674
ENSCINT00000035966	-1.01791	-1.06917	-1.41617	2.725601	21.15996	9.75E-05	0.00953
ENSCINT00000023490	-1.58469	-1.29439	-2.48329	2.919561	21.14377	9.83E-05	0.00953

ENSCINT00000024102	-0.51299	1.200259	-0.33122	3.222734	21.13147	9.89E-05	0.00953
ENSCINT00000014508	2.424984	2.44592	3.347098	4.588865	21.12339	9.92E-05	0.00953
ENSCINT00000033573	1.880273	1.399154	1.664271	4.519183	21.08683	0.000101	0.009624
ENSCINT00000011492	1.301991	1.288303	1.903647	3.967857	21.06722	0.000102	0.009642
ENSCINT00000037150	-1.3551	-0.6877	-1.37201	4.155905	21.03527	0.000104	0.009717
ENSCINT0000003246	-1.88405	-0.98538	-1.57729	5.588495	20.99508	0.000106	0.009832
ENSCINT00000020067	-1.94314	-1.48598	-2.12918	6.062966	20.97717	0.000106	0.009844
ENSCINT00000033135	2.490077	1.878289	2.48235	5.438765	20.95103	0.000108	0.009895
ENSCINT00000035350	-1.19525	-0.73441	-1.08726	4.802563	20.88986	0.000111	0.010062
ENSCINT00000019588	-0.93234	-0.2213	-1.81912	7.161376	20.88583	0.000111	0.010062
ENSCINT00000036413	1.256396	2.005865	1.917103	7.555305	20.77812	0.000117	0.010474
ENSCINT00000037147	1.618273	1.476749	1.646818	1.999325	20.772	0.000117	0.010474
ENSCINT00000028768	2.43727	2.830234	3.244211	1.214934	20.73452	0.00012	0.010588
ENSCINT00000036828	0.269046	2.98285	1.07999	0.442566	20.66042	0.000124	0.01084
ENSCINT00000007024	-1.11589	-0.98167	-1.39036	6.380049	20.65604	0.000124	0.01084
ENSCINT00000010862	2.172854	1.791882	1.674204	7.495368	20.59464	0.000128	0.011068
ENSCINT00000018141	1.589484	1.120402	2.369942	4.452461	20.58355	0.000128	0.011068
ENSCINT00000012021	-1.02839	-0.19128	-2.31158	5.330901	20.52316	0.000132	0.011315
ENSCINT00000029222	-0.8309	-0.67938	-1.70134	3.250884	20.49803	0.000134	0.01133
ENSCINT00000023546	1.685425	1.459312	1.672494	3.366844	20.47795	0.000135	0.01133
ENSCINT00000034280	1.933934	1.600525	2.063839	6.803917	20.42018	0.000139	0.01157
ENSCINT00000013119	-1.7649	-1.13599	-2.12581	8.184818	20.39249	0.000141	0.011647
ENSCINT00000032988	-1.5464	-0.70509	-1.89	4.96977	20.37222	0.000142	0.011684
ENSCINT00000023028	1.847412	1.427829	1.699159	3.095845	20.30671	0.000147	0.011807
ENSCINT00000035141	0.42601	2.240434	2.749661	1.444743	20.29729	0.000147	0.011807
ENSCINT00000010442	-1.14094	0.187256	-1.23458	6.672694	20.29608	0.000147	0.011807
ENSCINT0000000708	1.806198	1.320377	1.6982	4.29465	20.24783	0.000151	0.012006
ENSCINT00000037260	4.036479	0.737766	3.764286	1.108775	20.21124	0.000153	0.012141
ENSCINT00000007645	0.960047	0.406747	1.35713	4.106965	20.16915	0.000157	0.012235
ENSCINT00000003840	-0.50788	0.242541	-1.25624	6.245288	20.16895	0.000157	0.012235
ENSCINT00000022115	2.796538	2.052252	2.853218	3.326468	20.07628	0.000164	0.012627
ENSCINT00000000095	-0.94852	-0.85692	-1.07528	4.857012	20.06409	0.000165	0.012627
ENSCINT00000011603	1.441458	0.875331	1.338376	6.635576	20.03681	0.000167	0.012715
ENSCINT00000030512	1.858929	1.190003	2.035351	6.906521	19.96688	0.000172	0.013055
ENSCINT00000022097	-0.87266	-1.06565	-1.25262	5.426487	19.95622	0.000173	0.013055
ENSCINT00000026050	-1.21694	-0.83919	-1.37333	3.303373	19.90425	0.000178	0.013304
ENSCINT00000017324	0.788123	-0.39718	0.822352	7.837974	19.85649	0.000182	0.013524
ENSCINT00000035419	-1.01094	-0.87682	-0.21149	5.346584	19.84501	0.000183	0.013524
ENSCINT00000033419	-1.42958	-0.18352	-1.28467	2.880211	19.75831	0.00019	0.013951
ENSCINT00000014406	-0.78461	0.52097	-1.04012	8.083646	19.71414	0.000195	0.014136
ENSCINT00000030616	-0.58379	-0.23779	-1.2022	4.926494	19.70349	0.000196	0.014136

ENSCINT00000026237	-1.66355	-1.03356	-1.12379	6.102603	19.68916	0.000197	0.014151
ENSCINT00000026510	-0.3815	-1.55021	-1.3728	5.581832	19.6382	0.000202	0.014417
ENSCINT00000011017	0.992856	1.241105	1.302014	4.751662	19.61393	0.000204	0.014502
ENSCINT00000032809	2.136538	1.472002	2.165598	2.273211	19.50658	0.000215	0.014981
ENSCINT00000024573	-0.22809	0.634049	1.021972	4.540176	19.49695	0.000216	0.014981
ENSCINT00000014727	-1.15388	-0.91662	-1.05892	4.437844	19.48734	0.000217	0.014981
ENSCINT00000033441	0.702089	2.041806	2.614889	1.628717	19.43178	0.000223	0.015199
ENSCINT00000012563	-1.06766	-0.53258	-1.05038	6.270015	19.42768	0.000223	0.015199
ENSCINT00000011466	0.205543	1.201934	0.249328	5.27035	19.42269	0.000224	0.015199
ENSCINT00000035711	-0.65971	3.96077	1.781399	-0.85441	19.39955	0.000226	0.015274
ENSCINT00000030560	-0.25014	-0.60657	0.564694	5.276593	19.36394	0.00023	0.015382
ENSCINT00000035526	1.148724	1.648545	1.81382	3.918975	19.23812	0.000244	0.016002
ENSCINT00000034599	-0.60042	2.392886	0.54276	0.634363	19.23678	0.000244	0.016002
ENSCINT00000017159	1.517057	1.233438	1.685588	7.15656	19.20361	0.000248	0.016172
ENSCINT00000012374	0.406242	1.199332	1.607309	3.795559	19.10618	0.00026	0.016802
ENSCINT00000034946	1.462483	0.497555	1.084357	7.551393	19.10183	0.00026	0.016802
ENSCINT00000030377	0.2984	2.318307	-1.14541	-0.47046	19.08712	0.000262	0.016833
ENSCINT00000030216	-1.14705	-0.61098	-1.51509	3.826263	18.84827	0.000294	0.01867
ENSCINT00000008836	-0.83621	-0.76004	-1.27827	6.440179	18.82874	0.000297	0.01875
ENSCINT00000031563	-1.1371	-0.60401	-1.32364	5.697027	18.75348	0.000307	0.01915
ENSCINT00000002707	1.879027	1.051374	1.643747	8.495753	18.75288	0.000308	0.01915
ENSCINT00000015829	-1.47365	-1.4383	-1.81888	7.741569	18.69832	0.000316	0.019557
ENSCINT00000009260	-0.79015	-0.90684	-1.04533	4.675848	18.58697	0.000333	0.020237
ENSCINT00000007710	0.944562	0.209932	0.833729	6.164744	18.58539	0.000333	0.020237
ENSCINT00000019109	-1.67995	-1.2994	-1.91244	6.970733	18.55537	0.000338	0.020402
ENSCINT00000031891	-1.01583	-0.62954	-1.40337	6.274261	18.52148	0.000343	0.020564
ENSCINT00000031438	-2.15656	-0.93647	-0.95388	2.214881	18.497	0.000347	0.020706
ENSCINT00000023829	-1.42662	-0.69912	-1.53927	6.799656	18.38175	0.000367	0.021667
ENSCINT00000030380	0.670521	2.163038	2.761923	1.783421	18.31472	0.000379	0.022058
ENSCINT00000034097	-1.28013	-0.51256	-1.07639	6.169759	18.29437	0.000382	0.022117
ENSCINT00000031399	1.304125	2.388119	1.810823	1.892024	18.26872	0.000387	0.022338
ENSCINT00000007133	-0.93008	-0.70762	-1.31866	3.687896	18.20357	0.000399	0.022746
ENSCINT00000007938	-1.08791	0.144359	-1.05668	8.332393	18.19458	0.000401	0.022746
ENSCINT00000009107	-0.59773	-0.74216	-1.23733	5.926732	18.1924	0.000401	0.022746
ENSCINT00000002830	-1.03627	-0.63064	-0.96203	5.607682	18.16489	0.000407	0.022942
ENSCINT00000035368	-1.78333	-0.61675	-1.44221	2.313764	18.11228	0.000417	0.023313
ENSCINT00000015400	1.114144	0.461821	1.402466	3.454253	18.09742	0.00042	0.023375
ENSCINT00000015426	-1.83488	-0.40451	-2.28688	9.181042	18.0154	0.000437	0.02409
ENSCINT00000030439	-1.03924	-1.11877	-0.8353	4.88893	17.98258	0.000444	0.024362
ENSCINT00000013593	1.362078	0.541082	1.050579	4.61297	17.9403	0.000452	0.02464
ENSCINT00000007799	1.360733	0.65885	1.296124	7.173495	17.91233	0.000459	0.024756

ENSCINT00000025302	-1.34302	-0.93516	-1.25686	4.084346	17.90189	0.000461	0.024772
ENSCINT00000035652	1.159335	0.426684	1.046279	3.546009	17.85664	0.000471	0.024988
ENSCINT00000012587	2.268867	1.676089	2.167155	9.811438	17.85259	0.000472	0.024988
ENSCINT00000033254	2.435564	1.645713	2.737266	1.882748	17.84316	0.000474	0.024988
ENSCINT00000016646	-1.44234	-0.89171	-1.16823	3.920578	17.78538	0.000487	0.025526
ENSCINT0000008248	1.263465	0.629972	0.984248	3.715625	17.71898	0.000503	0.026126
ENSCINT00000021972	1.204312	0.690657	2.135922	2.302804	17.7076	0.000505	0.026159
ENSCINT00000036255	1.606733	1.28778	1.465397	7.230524	17.6071	0.00053	0.027324
ENSCINT00000036109	-1.43273	-1.56692	-1.45097	2.073842	17.50906	0.000555	0.02831
ENSCINT00000013369	-1.21375	-1.06448	-0.78386	3.180608	17.42466	0.000578	0.029196
ENSCINT00000024647	-0.67587	-0.38089	-1.26045	5.860513	17.25588	0.000626	0.031005
ENSCINT00000010557	1.721324	1.957581	2.657829	8.815755	17.18312	0.000648	0.031595
ENSCINT00000033284	-0.84007	-0.62179	-1.26088	5.778297	17.14078	0.000661	0.032111
ENSCINT00000026912	0.953367	0.099722	0.319551	6.029536	17.06016	0.000687	0.032979
ENSCINT00000020911	-1.14308	-0.79989	-0.79303	5.653056	16.9951	0.000708	0.033881
ENSCINT00000015475	1.793453	1.288797	1.778298	8.694303	16.97947	0.000714	0.034004
ENSCINT00000022294	-1.16622	-0.93811	-1.20889	3.404193	16.95715	0.000721	0.034235
ENSCINT00000019728	1.025421	0.309665	0.596331	4.855044	16.89611	0.000742	0.034791
ENSCINT00000026049	-1.03897	-0.66854	-1.25922	3.156365	16.8915	0.000744	0.034791
ENSCINT00000030392	-1.91602	-0.53935	0.07458	1.64221	16.72436	0.000805	0.036833
ENSCINT00000030300	0.514693	0.92814	0.883444	4.445491	16.70885	0.000811	0.03691
ENSCINT00000036269	-1.0751	-0.72339	-1.38126	2.410628	16.70466	0.000813	0.03691
ENSCINT00000012097	-0.23593	0.356981	-0.71218	5.805129	16.69083	0.000818	0.037018
ENSCINT00000022871	1.756125	1.066405	1.484252	7.239002	16.61265	0.000849	0.038139
ENSCINT0000000221	1.757283	1.06578	1.484273	7.237701	16.59546	0.000856	0.038313
ENSCINT00000013976	1.41175	1.106735	0.431925	8.175381	16.58351	0.000861	0.038378
ENSCINT00000002440	1.184075	0.505598	1.082442	6.95043	16.57688	0.000863	0.038378
ENSCINT00000033773	1.757365	1.06652	1.477606	7.245335	16.50852	0.000892	0.039002
ENSCINT00000036096	0.625128	0.526093	1.410228	2.590031	16.41012	0.000934	0.040329
ENSCINT0000006610	-0.63883	-0.56977	-1.20451	5.400503	16.40019	0.000939	0.040329
ENSCINT00000036965	-0.82918	-0.63258	-1.12796	4.310149	16.39504	0.000941	0.040329
ENSCINT00000030479	0.983794	0.919293	1.383575	2.453036	16.39137	0.000943	0.040329
ENSCINT00000014723	-1.14652	-0.95347	-1.18338	3.424976	16.2416	0.001012	0.042284
ENSCINT00000023320	-1.57781	-0.66803	-1.84516	9.16051	16.24142	0.001012	0.042284
ENSCINT00000016152	-0.91094	-0.01438	-1.27018	8.475995	16.21921	0.001022	0.042572
ENSCINT00000017961	1.757618	1.230161	1.955623	8.546694	16.213	0.001025	0.042572
ENSCINT00000036964	2.123384	1.333847	2.089298	1.461417	16.0842	0.00109	0.044345
ENSCINT00000012802	-0.64633	-0.35791	-1.31389	2.658133	16.06299	0.001101	0.044345
ENSCINT00000036234	-1.3361	-0.84091	-1.38963	7.308478	16.06026	0.001102	0.044345
ENSCINT00000019435	-0.93934	-0.50839	-0.76884	5.462676	16.02827	0.001119	0.044826
ENSCINT0000007510	0.615664	1.027976	1.280805	3.990421	15.99091	0.001139	0.045335
ENSCINT00000024535	1.113495	0.483477	0.887441	5.747373	15.97185	0.001149	0.045445
ENSCINT0000002493	1.108389	0.351535	1.033921	3.646435	15.8552	0.001214	0.046995
ENSCINT00000037001	0.588361	0.618853	1.008867	5.160179	15.80646	0.001242	0.047503
ENSCINT00000013284	1.072886	0.69822	1.282738	3.015824	15.74978	0.001276	0.048247

**Table S3. Concurrence of Differentially Expressed microRNAs Between Two Programs Relative to Day 0.**

Results from EdgeR are shown after retaining only transcripts identified as differentially expressed by both EdgeR and DESeq2. Transcripts are indicated in the first column. Subsequent columns show the estimated  $\log_2$  fold-change (logFC) for each stage (D1 = one dpa, D3 = three dpa, D8 = eight dpa), the mean  $\log_2$  counts-per-million (CPM) reads for each transcript across all samples, the log-odds ratio (LR), p-value and the false discovery rate (FDR).

miRNA	D1	D3	D8	Log CPM	LR	P-value	FDR
miR-4009c-3p	-0.33418	-2.09444	-2.52661	5.728668	48.61951	1.57E-10	4.39E-08
12_9033	-2.77335	3.075175	2.830244	2.912204	40.4201	8.68E-09	1.21E-06
miR-9-5p	6.949359	8.075647	7.575542	2.696617	29.0792	2.16E-06	0.0002
miR-29-3p	-1.28718	-2.52153	-2.26111	4.034371	27.0092	5.86E-06	0.000409
HT000106.1_40026	-1.49943	-2.6622	-4.57517	2.659776	22.53336	5.05E-05	0.002819
miR-3598-5p	-0.27293	-1.36534	-1.92305	16.23311	21.75303	7.34E-05	0.003414
miR-219-5p	2.186326	3.027384	3.099589	6.114606	20.46434	0.000136	0.00542
3_16731	-0.93918	-1.82723	-3.27397	3.00145	19.1393	0.000256	0.008923
7_23696	0.239673	-3.11952	-1.84066	1.849137	18.45138	0.000355	0.011003
miR-200-3p	-0.17735	-0.94925	-1.85287	9.98947	16.5221	0.000886	0.024722
miR-133-3p	0.664604	1.540163	1.564872	13.12434	15.73898	0.001283	0.032532
miR-4065-5p	-0.17257	-0.08662	-1.4625	6.926986	15.03078	0.001791	0.041326
HT000888.1_32283	-0.47259	-1.22849	0.616814	4.307231	14.86968	0.001931	0.041326
miR-33	-0.68271	-2.45744	-2.58391	1.761717	14.71853	0.002074	0.041326

**Table S4. Most Significantly Differentially Expressed Transcripts at 3 days post-amputation Compared to a Previous Study.**

Supplementary Table 2 modified from Hamada et al. (2015) contains the 30 most significantly differentially expressed genes at 3 days post amputation relative to non-regenerating oral siphons detected by microarray. Two columns have been added to right of the previous columns. The first indicates the Ensembl transcript identifier best matching the corresponding KH gene model used in the previous study. The second column contains a “Y” if the Ensembl transcript was significantly differentially expressed relative to zero days post amputation in the current study.

Probe ID	Fold Change (Ratio)	Gene Model	HS Best Hit ID	Gene Name	Ensembl ID	Significant
CIYS2041	76.5	SPKH.C11.10039.v1.D	NP_064448.1	barH-like 1 homeobox protein	ENSCINT00000029737	
CIYS17996	44.4	KH.C5.345.v1.A.SL1-1	NP_079065.2	transmembrane protein 180	ENSCINT00000023271	
CIYS691	31.6	SPKH.L87.10003.v1.D	NP_057330.2	17-beta-hydroxysteroid dehydrogenase 14	ENSCINT00000024253	
CIYS18457	25.6	KH.C5.524.v2.A.nonSL7-1	NP_067052.2	netrin 4 precursor	ENSCINT00000015201	
CIYS1815	23.4	KH.C10.417.v1.A.SL1-1	NP_003216.1	trefoil factor 1 precursor	ENSCINT00000032198	Y
CIYS18332	18.2	Fis_citb014p06_20	NP_899195.1	protein SEC13 homolog isoform 1	ENSCINT00000005198	
CIYS19632	16.3	Chromosome 5: 625,279- 626,193 reverse strand.	KH:HT000010.1	Uncharacterized protein [Source:UniProtKB/TrEMBL;Acc:H2XMW7]	ENSCINT00000035801	
CIYS15440	14.3	Fis_cicl013b17_20	XM_002131970		ENSCINT00000033860	
CIYS6125	14.2	KH.C3.316.v3.R.ND1-1	NP_009043.1	thrombospondin 3 precursor	ENSCINT00000017560	
CIYS12078	13	KH.C9.21.v2.A.SL3-2			ENSCINT00000016952	
CIYS12519	12.5	KH.C14.177.v3.B.SL5-1	NP_002878.2	arginyl-tRNA synthetase, cytoplasmic	ENSCINT00000015003	
CIYS19591	12.1	KH.C1.122.v1.R.ND1-1			ENSCINT00000003964	
CIYS2437	11.8	SPKH.C7.10126.v4.D	NP_056344.2	DBH-like monooxygenase protein 1 isoform 2	ENSCINT00000033602	
CIYS3070	11.8	KH.C10.417.v1.A.SL1-1	NP_003216.1	trefoil factor 1 precursor	ENSCINT00000034671	
CIYS14823	11.5	KH.L100.2.v2.A.SL1-1	NP_078918.3	polypeptide N-acetylgalactosaminyltransferase 12	ENSCINT00000037096	Y
CIYS9653	10.8	TC146939			N/A	
CIYS18259	10.4	KH.C12.235.v2.A.SL2-1		1500 AA double-pass TM protein	ENSCINT00000003412	
CIYS12181	10	KH.C8.253.v1.A.ND1-1		Integrin alpha-2	ENSCINT00000024577	
CIYS16388	9.8	Fis_cieg019m07_20	NP_000311.2	quinoid dihydropteridine reductase	ENSCINT00000019999	Y
CIYS18283	9.2	KH.S597.1.v2.B.ND4-1	NP_002254.2	kinesin-like protein KIFC1	ENSCINT00000001181	
CIYS2033	9.1	KH.C7.123.v1.A.SL1-1	NP_060087.3	notch1 preproprotein	ENSCINT00000022796	Y
CIYS15068	9.1	KH.L6.1.v2.A.ND2-1	NP_001035257.1	beta-1,3-N-acetylglucosaminyltransferase lunatic fringe isoform a preproprotein	ENSCINT00000018757	

CIYS11893	8.9	NA			N/A	
CIYS19123	8.8	KH.C1.249.v1.A.ND1-1	NP_060774.2	proline-rich protein 11	ENSCINT00000013708	
CIYS12958	8.7	KH.C4.504.v1.A.nonSL3-1	NP_973732.1	forkhead box protein M1 isoform 3	ENSCINT00000017891	
CIYS2001	8.6	SPKH.C3.10151.v2.D	NP_002996.2	selectin P precursor	N/A	
CIYS3649	8.2	SPKH.L96.10023.v1.E			N/A	
CIYS8857	8.1	KH.L41.4.v1.A.ND1-1	NP_060656.2	DUF - hypothetical protein LOC55732	ENSCINT00000001400	
CIYS9266	7.5	KH.C1.1083.v1.A.SL1-1	NP_004429.1	ephrin receptor EphA4 precursor	ENSCINT00000025459	Y
CIYS13813	7.4	TC146713	NP_004781.2	solute carrier family 22 member 6 isoform a	ENSCINT00000027773	

**Table S5. Transcript Names and Primer Sequences Used in this Study.** All transcript names used in the primary text are listed here with the corresponding Ensembl transcript identifier, a description of the transcript and primer sequences used for qRT-PCR validation, if applicable.

Name	Description	ID	Forward Primer	Reverse Primer
Caspase-2-like	Caspase-2-like	ENSCINT00000002830	ATGACGTGCTTGCATTGTT	CGACCCACCTCAGTAAGCAT
FIBCD1a	Fibrinogen C domain containing 1	ENSCINT00000003420	GAAACCGAACTGGTCGAAAG	CCGGATACAGCAAGTGCATA
Rev-erb	Rev-erb	ENSCINT00000004784	GTCGAATCCCAAAGAACGAG	GTGTTCTTGACCGTTGA
TNFR-associated	TNF receptor-associated factor 3-like	ENSCINT00000005981	ATGGGCTATGTTGGATGGAA	CAATCTGCTGCTCAAATCCA
Tolloid	Tolloid	ENSCINT00000007799	GTAAAGAAGCCGGGTGTGAG	CTGTTGTATGCGAGGCAGAA
HSP70	Heat shock protein 70	ENSCINT00000011757	TGATAAACGAACCCACAGCA	ATCCAACTCGACAGCAGCTT
HB3	Non-symbiotic hemoglobin 3	ENSCINT00000013341	TGAGTAACGTTGGACTTGCT	CCCAAGCTTGCTTACTGGT
Tomoregulin	Tomoregulin-1-like	ENSCINT00000016852	TGCTTGGATGAAGTTGATGG	CATGCGACTGTAACGATTCC
Prospero	Prospero homeobox protein	ENSCINT00000018262	GCACCTCAGCATTACCCAAT	TTGGTCACGACGTCAAGAAA
FIBCD1b	Fibrinogen C domain containing 1	ENSCINT00000019098	GAAACCGAACTGGTCGAAAG	CCGGATACAGCAAGTGCATA
DIAP2	Drosophila Inhibitor of Apoptosis 2	ENSCINT00000020067	TTGCAAGCACCCATATACGA	GATGTGGATGGTTGGAGT
bZIP	CCAAT/Enhancer Binding Protein	ENSCINT00000023320	CGCTCGTACTCAAGCAACAG	ACAACATCATGGACGGATT
TLR2	Toll-like receptor 2	ENSCINT00000024647	CAGTGATTCCGATGATGTGG	GGTGCTTGGATGGCAGTAAT
TNFR	Tumor Necrosis Factor Receptor	ENSCINT00000026302	GAAGATGCGTCCCATGCTAT	GAATGCCATGGACATCACAG
NEK11-like	NIMA related kinase 11-like	ENSCINT00000026775	GAATATTGTGAGGGCGGAGA	ACAACACCAAGGGACCAAAG
Matrillin	VWF domain containing protein	ENSCINT00000027938	CGTAAAGGAATGGGTGAAGC	TGAATGACATCCGGCAAGTA
Laminin subunit beta 2	EGF domain containing protein	ENSCINT00000031265	TTTCTTCTTGGCGATGCTT	TCAGCGCTTCTTCACGTA
IGF-like	Insulin-like 3 protein	ENSCINT00000031399	CTGGAACGAAGTGCAAAGGT	TATTGCCATGCAGGTAACGA
DBX1-A	Hlx Homeobox protein DBX1-A	ENSCINT00000033135	TCAGTCCAACCTATGCACCA	AGGGTAAGATGGGTGTGACG
Hsp90	Heat shock protein 90	ENSCINT00000035165	TAGCCGCCACACATGTTAAA	GCAGCAAGAGCTGCATCAT

Collagen, type XIV, alpha 1	VWF domain containing protein	ENSCINT00000036027	CGATCGCTCACGTAACAAAC	TTCCTGCAGTGTAGGCTCT
EMX	EMX Homeobox	ENSCINT00000037147	CCACCAGGATTCCAACAAAC	TCAGCTCCAACCACGTAATG
IGFbp	MAC25-like	ENSCINT00000037260	TTCATTTGGTAGGTGCGTGA	TATTCACACGATGCGGAAGA
Villin-1	Villin-1	ENSCINT00000003800		
SFI1-like	SFI1-like	ENSCINT00000008827		
Sideroflexin-1-like	Sideroflexin-1-like	ENSCINT00000010013		
NEK7-like	NIMA related kinase 7-like	ENSCINT00000017101		
Ubiquilin-1	Ubiquilin-1	ENSCINT00000017880		
MYBB1A	MYB Binding 1A	ENSCINT00000018013		
LIMK1-like	LIM Kinase 1 Like	ENSCINT00000024269		
Myosin X	PH domain containing protein	ENSCINT00000033884		
Kinesin	Kinesin	ENSCINT00000035420		
LMNTD1	Lamin tail domain containing 1	ENSCINT00000036416		

**Table S6. Analysis of Variance (ANOVA) Results for qRT-PCR.** The columns indicate the type of gene product that was tested (either microRNA or mRNA); the name of the gene product; intermediate statistics used for ANOVA calculation (sum of squares, mean of squares, F value), p-value and the final column indicates level of significance ('\*\*\*' ≤ 0.001, '\*\*' ≤ 0.01, '\*' ≤ 0.05).

Type	Name	Df	Sum Sq	Mean Sq	F-value	P-value	Sig
mRNA	bZip	3	369.7	123.23	76.21	6.52E-09	***
mRNA	Caspase2	3	37.76	12.59	0.85	0.485	
mRNA	DIAP2	3	30.14	10.047	1.011	0.412	
mRNA	Hlx	3	76.36	25.453	4.955	0.0138	*
mRNA	HSP70	3	35.92	11.973	2.16	0.135	
mRNA	IGF-like	3	33.39	11.13	7.233	0.00363	**
mRNA	IGFbp	3	159.48	53.16	10.51	0.000699	***
mRNA	NEK11-like	3	47.02	15.674	4.067	0.0166	*
mRNA	Prospero	3	11.46	3.819	0.714	0.559	
mRNA	Rev-erb	3	66.35	22.116	9.767	0.00122	**
mRNA	TLR	3	53.01	17.67	2.714	0.0587	.
mRNA	TNFR	3	122.2	40.73	363	6.94E-09	***
mRNA	TNFR-assoc	3	6.24	2.08	0.299	0.825	
mRNA	Tolloid	3	177.5	59.18	6.677	0.00138	**
mRNA	Tomoregulin	3	157.4	52.48	13.32	2.55E-06	***
miRNA	miR-1-3p	3	0.0407	0.01355	0.166	0.918	
miRNA	miR-125-5p	3	0.057	0.01916	0.15	0.929	
miRNA	miR-126	3	1.401	0.4671	3.01	0.0445	
miRNA	miR-133c	3	0.0321	0.01069	0.67	0.577	
miRNA	miR-217	3	2.476	0.8255	2.209	0.108	
miRNA	miR-219	3	6.221	2.0737	658.3	6.51E-10	***
miRNA	miR-29	3	12.213	4.071	283.7	1.84E-08	***
miRNA	miR-31	3	1.195	0.3982	2.31	0.095	
miRNA	miR-3598-5p	3	0.602	0.2007	0.746	0.533	
miRNA	miR-4009c	3	0.9938	0.3313	81.52	2.45E-06	***
miRNA	miR-4030-5p	3	2.742	0.9141	1.133	0.351	
miRNA	miR-4036-5p	3	0.8846	0.29485	4.613	0.0138	*
miRNA	miR-4043-5p	3	2.174	0.7248	3.356	0.0323	*
miRNA	miR-4053-3p	3	0.6399	0.2133	3.224	0.037	*
miRNA	miR-4065-3p	3	0.3767	0.12558	140.7	2.92E-07	***
miRNA	miR-4065-5p	3	0.4692	0.1564	10.41	0.00389	**
miRNA	miR-9-5p	3	5.023	1.674	1.593	0.275	

**Table S7. microRNA Alignment Summary.** This is the summary output reported by miRDeep2 for all miRNA samples. The upper section summarizes the number of and confidence in novel microRNAs identified by miRDeep2 from our samples. The lower three sections detail the number of reads, sequences and putative homology for all microRNAs detected by miRDeep2.

[Click here to Download Table S7](#)

**Table S8. Transcript Mappings to Functional Categories.** The membership of each transcript in corresponding functional categories is listed here. The first column is the description of the functional category; the second column is the Ensembl transcript identifier of a transcript belonging to that category; the third column is the unique identifier for the category.

[Click here to Download Table S8](#)

**Table S9. Time series Z-scores.** The z-scores of each functional category during regeneration are listed here. Z-scores for each category were calculated from the mean  $-\log_2$  FDR estimated by DESeq2 and EdgeR for each transcript relative to one of the two chosen reference stages (D0 and NR). The first column designates the overarching type of classification for each category; the second column gives the description of the functional category; subsequent columns list z-scores for each comparison of stages. Each comparison is indicated by the reference stage symbol followed by a dash then the symbol for the relative stage of regeneration. Reference stage symbols are: NR = Non-regenerating, D0 = zero days post-amputation (dpa). Regeneration stage symbols are: D1 = one dpa, D3 = three dpa, D8 = eight dpa.

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**Table S10. Correlation Network.** microRNA-target interactions predicted by TargetScanS that are supported by Pearson correlation ( $\rho \leq -0.9$ ) of the mean  $\log_2$  fold-change estimated by EdgeR and DESeq2 at each stage relative to zero days post-amputation (D0). Each included microRNA-target pair is only listed once even if it had more than one predicted binding site for a given target. The first column designates the Ensembl transcript identifier; the second column designates the microRNA name; the third column indicates the correlation between expression levels.

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**Table S11. Network Clusters.** microRNA-target clusters predicted by the Moduland plugin for Cytoscape. The first column contains either the microRNA name or target transcript Ensembl identifier; the second column contains the name of the cluster corresponding to the node in column 1, which is the name of the node determined to be the most important node in that cluster.

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**Table S12. Network Cluster Functional Enrichments.** microRNA targets in a given network cluster that significantly overlap ( $FDR \leq 0.05$ ) with transcripts in a given functional category determined by a hypergeometric test are shown here. The first column designates the overarching type of classification for each category; the second column gives the description of the functional category; the third column gives the name of the network cluster; subsequent columns indicate the number of transcripts in the network cluster, number of transcripts in the functional category, number of transcripts overlapping between the two lists, p-value and false discovery rate (FDR) adjusted p-values. P-values are the probability of at least the specified number of transcripts overlapping between the two lists as determined by a hypergeometric test for enrichment.

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