

**Supplementary Table 7. Molecular function analysis of differentially upregulated genes.**

GO.ID	Term	Ontology	Count	Pop.Hits	List.Total	Pop.Total	Fold.Enrichment	Pvalue	FDR	Enrichment.Score	GENES
GO:0009982	<a href="#">pseudouridine synthase activity</a>	Molecular function	2	13	75	23059	47.3005128205128	0.000795505510198261	0.38531794580142	3.09935680779564	<a href="#">PUS3/RPUSD1</a>
GO:0003676	<a href="#">nucleic acid binding</a>	Molecular function	18	2565	75	23059	2.15756725146199	0.00120436992980472	0.38531794580142	2.91924009630351	<a href="#">LMO2/MEIS2/PBX3/POU2F1/PPARA/PRM2/RBL2/YBX2/FOXP2/THAP7/ATOH8/310003H01RIK/PAPD7/SYCP2/PUS3/RPUSD1/UPF3B/ZFP318</a>
GO:0003677	<a href="#">DNA binding</a>	Molecular function	14	1753	75	23059	2.45541737972999	0.0014063581896423	0.38531794580142	2.85190405344603	<a href="#">LMO2/FOXP2/MEIS2/PBX3/POU2F1/PPARA/PRM2/RBL2/YBX2/THAP7/ATOH8/310003H01RIK/PAPD7/SYCP2</a>
GO:0005184	<a href="#">neuropeptide hormone activity</a>	Molecular function	2	19	75	23059	32.3635087719298	0.00172209137788344	0.38531794580142	2.76394380766887	<a href="#">ADCYAP1/NPFF</a>
GO:0016866	<a href="#">intramolecular transferase activity</a>	Molecular function	2	26	75	23059	23.6052564102564	0.00322515045282349	0.577301931055405	2.4914500207785	<a href="#">PUS3/RPUSD1</a>
GO:0005488	<a href="#">binding</a>	Molecular function	47	10871	75	23059	1.32925275197007	0.00486462153874537	0.715362370301239	2.31295094162954	<a href="#">DNAAJ1/MRAS/TBCE2M/RAB32/STEAP3/CDK13/MYH7/HK3/SMO2B/ENBP1/TGFB2/LMO2/PBX3/POU2F1/PPARA/RBL2/ACTN4/SRGAP3/HOOK3/SYCP2/FOXP2/CAAML4/EPDR1/RASGRP4/NPFF/YBX2/ZFP318/THAP7/MEIS2/PRM2/ATOH8/310003H01RIK/PAPD7/RUS3/RPUSD1/UPF3B/ADCYAP1/EFNA1/CCL12/HPD/SMPD4/ICGALT/ZFP147/ZFP870/SH3PX2B/NCKIPSD/SEMA6B</a>
GO:0000981	<a href="#">sequence-specific DNA binding RNA polymerase II transcription factor activity</a>	Molecular function	4	218	75	23059	5.64134556574924	0.00559501295207673	0.715362370301239	2.2521989037721	<a href="#">POU2F1/FOXP2/PPARA/LMO2</a>
GO:0043565	<a href="#">sequence-specific DNA binding</a>	Molecular function	6	614	75	23059	3.00442996742671	0.0148611281628646	1	1.82794822043351	<a href="#">LMO2/MEIS2/PBX3/POU2F1/PPARA/FOXP2</a>
GO:0046982	<a href="#">protein heterodimerization activity</a>	Molecular function	4	328	75	23059	3.74943089430894	0.0221875317045424	1	1.65389100902177	<a href="#">TGFB2/PPARA/MYH7/SYCP2</a>
GO:0004620	<a href="#">phospholipase activity</a>	Molecular function	2	74	75	23059	8.30954954954955	0.0242458903967505	1	1.61536186239214	<a href="#">PLD3/SMPD4</a>
GO:0001664	<a href="#">G-protein coupled receptor binding</a>	Molecular function	3	198	75	23059	4.65838383838384	0.0268095251201364	1	1.57171087865162	<a href="#">CCL12/ADCYAP1/NPFF</a>
GO:0008081	<a href="#">phosphoric diester hydrolase activity</a>	Molecular function	2	81	75	23059	7.59144032921811	0.0286648443790873	1	1.54265041165966	<a href="#">PLD3/SMPD4</a>
GO:0031624	<a href="#">ubiquitin conjugating enzyme binding</a>	Molecular function	1	10	75	23059	30.7453333333333	0.0320594808111341	1	1.49404351512864	<a href="#">PPARA</a>
GO:0044390	<a href="#">small protein conjugating enzyme binding</a>	Molecular function	1	10	75	23059	30.7453333333333	0.0320594808111341	1	1.49404351512864	<a href="#">PPARA</a>
GO:0016298	<a href="#">lipase activity</a>	Molecular function	2	88	75	23059	6.98757575757576	0.0333793971845803	1	1.4765215107297	<a href="#">PLD3/SMPD4</a>
GO:0003700	<a href="#">sequence-specific DNA binding transcription factor activity</a>	Molecular function	6	743	75	23059	2.48279946164199	0.0338606554366183	1	1.47030463955988	<a href="#">LMO2/POU2F1/FOXP2/PPARA/MEIS2/PBX3</a>
GO:0001071	<a href="#">nucleic acid binding transcription factor activity</a>	Molecular function	6	745	75	23059	2.47613422818792	0.0342406694314622	1	1.46545775312023	<a href="#">LMO2/POU2F1/MEIS2/PBX3/PPARA/FOXP2</a>
GO:0001146	<a href="#">microfilament motor activity</a>	Molecular function	1	11	75	23059	27.950303030303	0.0352090985359451	1	1.453345094097	<a href="#">MYH7</a>
GO:0030742	<a href="#">GTP-dependent protein binding</a>	Molecular function	1	11	75	23059	27.950303030303	0.0352090985359451	1	1.453345094097	<a href="#">MRAS</a>
GO:0080025	<a href="#">phosphatidylinositol-3-O-phosphate binding</a>	Molecular function	1	11	75	23059	27.950303030303	0.0352090985359451	1	1.453345094097	<a href="#">SH3PX2B</a>
GO:0047485	<a href="#">protein N-terminus binding</a>	Molecular function	2	94	75	23059	6.54156028368794	0.0376441782491662	1	1.42430217881945	<a href="#">ACTN4/THAP7</a>
GO:0016411	<a href="#">acetyltransferase activity</a>	Molecular function	1	12	75	23059	25.6211111111111	0.0383486038123164	1	1.41625044312685	<a href="#">AGPAT4</a>

GO:0032266	<a href="#">phosphatidylinositol-3-phosphate binding</a>	Molecular function	1	12	75	23059	25.6211111111111	0.0383486038123164	1	1.41625044312685	<a href="#">SH3PX2B</a>
GO:0005515	<a href="#">protein binding</a>	Molecular function	26	5788	75	23059	1.38109652153882	0.0408163821712519	1	1.38916549233658	<a href="#">DNAJA1//LMO2</a> <a href="#">/NPF1//1GB2</a> <a href="#">/ACTN4//MYH7</a> <a href="#">/ADCYAP1</a> <a href="#">/ENFAD//CCL12</a> <a href="#">/HOOK3//FOXK2</a> <a href="#">/ENBP1</a> <a href="#">/NCKIPSD</a> <a href="#">/HK3//PPARA</a> <a href="#">/SEM6B</a> <a href="#">/CDK13//MRAS</a> <a href="#">/SH3PX2B</a> <a href="#">/SYCP2//THAP7</a> <a href="#">/PBX3//POU2F1</a> <a href="#">/RBL2//UBE2W</a> <a href="#">/SRGA2</a>
GO:0070742	<a href="#">C2H2 zinc finger domain binding</a>	Molecular function	1	13	75	23059	23.6502564102564	0.0414780286708258	1	1.38218189253678	<a href="#">THAP7</a>
GO:0046872	<a href="#">metal ion binding</a>	Molecular function	17	3385	75	23059	1.54407877892664	0.0420350631819068	1	1.37638829546859	<a href="#">FOXK2//ACTN4</a> <a href="#">/CALML4</a> <a href="#">/EPDR1</a> <a href="#">/RASGRP4</a> <a href="#">/STEAP3//LMO2</a> <a href="#">/PPARA//ZFP18</a> <a href="#">/HPD//DNAJA1</a> <a href="#">/THAP7//SMPD4</a> <a href="#">/CIGAL11</a> <a href="#">/DAPD7//ZFP14</a> <a href="#">/ZFP870</a>
GO:0003729	<a href="#">mRNA binding</a>	Molecular function	2	100	75	23059	6.14906666666667	0.04210568919958	1	1.37565921957873	<a href="#">YBX2//LIPF3B</a>
GO:0001882	<a href="#">nucleoside binding</a>	Molecular function	1	14	75	23059	21.9609523809524	0.0445974050419833	1	1.35069041054199	<a href="#">ACTN4</a>
GO:0043169	<a href="#">cation binding</a>	Molecular function	17	3426	75	23059	1.52560031134462	0.0463581263583398	1	1.33387412509579	<a href="#">FOXK2//ACTN4</a> <a href="#">/CALML4</a> <a href="#">/EPDR1</a> <a href="#">/RASGRP4</a> <a href="#">/HPD//DNAJA1</a> <a href="#">/LMO2//PPARA</a> <a href="#">/ZFP18//STEAP3</a> <a href="#">/THAP7//SMPD4</a> <a href="#">/CIGAL11</a> <a href="#">/DAPD7//ZFP14</a> <a href="#">/ZFP870</a>
GO:0043167	<a href="#">ion binding</a>	Molecular function	17	3438	75	23059	1.52027535388792	0.0476827650856735	1	1.32163856814553	<a href="#">FOXK2//ACTN4</a> <a href="#">/CALML4</a> <a href="#">/EPDR1</a> <a href="#">/RASGRP4</a> <a href="#">/HPD//DNAJA1</a> <a href="#">/LMO2//PPARA</a> <a href="#">/ZFP18//STEAP3</a> <a href="#">/THAP7//SMPD4</a> <a href="#">/CIGAL11</a> <a href="#">/DAPD7//ZFP14</a> <a href="#">/ZFP870</a>
GO:0050750	<a href="#">low-density lipoprotein particle receptor binding</a>	Molecular function	1	15	75	23059	20.4968888888889	0.0477067647565355	1	1.32142003420664	<a href="#">DNAJA1</a>