

**Table S3**  
**Transgenerational Male Hippocampus Regulated Genes**

**Cell Cycle**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Myo1b	78	47	<b>0.60</b>	NM_053986	Myosin Ib
Ogn_predic	106	53	0.50	AA945955	osteoglycin (predicted)
<b>Pcdhgc3</b>	<b>181</b>	<b>103</b>	<b>0.57</b>	<b>BE097805</b>	<b>Protocadherin gamma subfamily C, 3</b>
Rdx	99	66	0.67	BE113016	Radixin
Sostdc1	237	20	<b>0.08</b>	AA892798	Sclerostin domain containing 1

**Development**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Chrdl1	103	67	<b>0.65</b>	AA819658	Chordin-like protein 1 precursor (Neuralin-1) (Ventrop
<b>Crim1_pre</b>	<b>128</b>	<b>221</b>	<b>1.72</b>	<b>B1289620</b>	<b>Cysteine-rich motor neuron 1 (predicted)</b>
Kl	284	14	<b>0.05</b>	BE102060	Klotho

**Golgi Apparatus**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Ap3m1	79	51	<b>0.65</b>	BF564312	Adaptor-related protein complex 3, mu 1 subunit

**Growth Factors and Cytokines**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Mdk	356	209	<b>0.59</b>	NM_030859	Midkine
<b>Tgfb2</b>	<b>90</b>	<b>54</b>	<b>0.60</b>	<b>BE117736</b>	<b>Transforming growth factor, beta 2</b>

**Immune Response**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
F5	124	14	<b>0.11</b>	AI717113	Coagulation factor 5 (mapped)

**Metabolism**

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Abhd14b	102	67	<b>0.66</b>	BF409560	Abhydrolase domain containing 14b
Acaa2	115	186	<b>1.62</b>	NM_130433	acetyl-Coenzyme A acyltransferase 2 (mitochondrial)
<b>Acs16</b>	<b>95</b>	<b>60</b>	<b>0.63</b>	<b>BE105421</b>	<b>acyl-CoA synthetase long-chain family member 6</b>
<b>Arg2</b>	<b>53</b>	<b>122</b>	<b>2.30</b>	<b>AI574994</b>	<b>Arginase 2</b>
Bcat1	855	468	<b>0.55</b>	NM_017253	Branched chain aminotransferase 1, cytosolic
<b>Ptgds</b>	<b>2848</b>	<b>1566</b>	<b>0.55</b>	<b>J04488</b>	<b>prostaglandin D2 synthase</b>
Comt	324	149	<b>0.46</b>	NM_012531	catechol-O-methyltransferase
Clic6	117	19	<b>0.16</b>	BI290737	Chloride intracellular channel 6
Cbs	108	186	<b>1.73</b>	NM_012522	Cystathionine beta synthase
Enpp2	1261	532	<b>0.42</b>	NM_057104	Ectonucleotide pyrophosphatase/phosphodiesterase 2
Fntb	155	97	<b>0.63</b>	M69056	Farnesyltransferase, CAAX box, beta
Qpctl_predi	57	87	<b>1.52</b>	AW521959	Glutamyl-peptide cyclotransferase-like (predicted)
Hsd17b7	82	51	<b>0.62</b>	NM_017235	Hydroxysteroid (17-beta) dehydrogenase 7
Pex11b	170	257	<b>1.52</b>	BG377340	Peroxisomal biogenesis factor 11b
Pggt1b	169	110	<b>0.65</b>	AA875190	protein geranylgeranyltransferase type I, beta subunit

Slc13a4	76	30	<b>0.40</b>	AI013778	solute carrier family 13 (sodium/sulfate symporters), r
Slc31a1	100	61	<b>0.61</b>	NM_133600	Solute carrier family 31 (copper transporters), membe

### Proteolysis

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
<i>Senp5_prec</i>	62	181	<b>2.92</b>	BE105606	<i>SUMO/sentrin specific protease 5 (predicted) /// simil</i>
<b>Wsb2</b>	<b>112</b>	<b>203</b>	<b>1.80</b>	<b>AA956464</b>	<b>WD SOCS-box protein 2</b>
<i>Rnf6_predi</i>	<b>42</b>	<b>108</b>	<b>2.60</b>	<b>BI296352</b>	<b>Ring finger protein (C3H2C3 type) 6 (predicted)</b>

### Receptors & Binding Proteins

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
Folr1	131	40	<b>0.31</b>	AI233882	Folate receptor 1 (adult)
Gmeb2	131	74	<b>0.57</b>	AF205779	Glucocorticoid modulatory element binding protein 2
Hrh3	151	237	<b>1.58</b>	NM_053506	Histamine receptor H3
<b>Igfbp2</b>	<b>266</b>	<b>118</b>	<b>0.44</b>	<b>NM_013122</b>	<b>Insulin-like growth factor binding protein 2</b>
<i>lfngr2_pred</i>	94	63	<b>0.67</b>	AI602715	Interferon gamma receptor 2 (predicted)
<b>Stxbp1</b>	<b>207</b>	<b>128</b>	<b>0.62</b>	<b>U06069</b>	<b>Syntaxin binding protein 1</b>
Ttr	4426	103	<b>0.02</b>	NM_012681	Transthyretin
Leprot	76	50	<b>0.66</b>	NM_020099	leptin receptor overlapping transcript

### Signaling

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
<b>Agtpbp1_p</b>	<b>199</b>	<b>125</b>	<b>0.63</b>	<b>BF553179</b>	<b>ATP/GTP binding protein 1 (predicted)</b>
<i>Akap5</i>	113	59	<b>0.52</b>	NM_133515	<i>A kinase (PRKA) anchor protein 5</i>
<b>Camk2a</b>	<b>300</b>	<b>865</b>	<b>2.88</b>	<b>BM384558</b>	<b>calcium/calmodulin-dependent protein kinase II al</b>
Cib2	127	78	<b>0.62</b>	BF403998	Calcium and integrin binding family member 2
<b>Cit</b>	<b>106</b>	<b>171</b>	<b>1.61</b>	<b>AA957183</b>	<b>Citron;citron kinase</b>
<i>Hspa12a_p</i>	490	765	<b>1.56</b>	BG670210	Heat shock 70kDa protein 12A (predicted)
<i>Nek1_predi</i>	98	49	<b>0.50</b>	AI406369	NIMA (never in mitosis gene a)-related expressed kin.
<i>Pde9a</i>	80	157	<b>1.97</b>	BF399743	Phosphodiesterase 9A
<i>Pfkm</i>	472	312	<b>0.66</b>	BI291434	Phosphofructokinase, muscle
<b>Plek2_prec</b>	<b>190</b>	<b>72</b>	<b>0.38</b>	<b>AI102821</b>	<b>pleckstrin 2 (predicted)</b>
<b>Plekhh1_pi</b>	<b>90</b>	<b>34</b>	<b>0.38</b>	<b>BI275435</b>	<b>pleckstrin homology domain containing, family H</b>
<i>Rab3b</i>	131	197	<b>1.51</b>	NM_031091	RAB3B, member RAS oncogene family
RGD15616:	117	68	<b>0.58</b>	AA859909	Similar to TBC1 domain family, member 5 (predicted)

### Transcription

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Synt	Raw	Raw	Ratio		
<b>Dnaja4</b>	<b>97</b>	<b>65</b>	<b>0.67</b>	<b>BF565278</b>	<b>DnaJ (Hsp40) homolog, subfamily A, member 4</b>
<i>Fos</i>	97	58	<b>0.60</b>	BF415939	FBJ murine osteosarcoma viral oncogene homolog
<i>Ndr1_prec</i>	86	55	<b>0.64</b>	BE120446	N-myc downstream regulated gene 1
<b>Nfix</b>	<b>2495</b>	<b>1610</b>	<b>0.65</b>	<b>AI555855</b>	<b>Nuclear Factor I/X</b>
<i>Nrip3_pred</i>	<b>342</b>	<b>209</b>	<b>0.61</b>	<b>BI288541</b>	<b>Nuclear receptor interacting protein 3 (predicted)</b>
<i>Rnf187_pre</i>	<b>131</b>	<b>85</b>	<b>0.65</b>	<b>AI502527</b>	<b>Ring finger protein 187 (predicted)</b>
<b>LOC685374</b>	<b>156</b>	<b>101</b>	<b>0.64</b>	<b>BG671371</b>	<b>Similar to ankyrin repeat domain 13c</b>
<i>Smc5l1_pre</i>	77	46	<b>0.60</b>	BF419367	SMC5 structural maintenance of chromosomes 5-like

### Translation

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Symbt	Raw	Raw	<b>Ratio</b>		
Rae1	78	44	<b>0.56</b>	BF419215	mRNA-associated protein mrnp 41 (Rae1 protein hom
LOC498425	190	111	<b>0.58</b>	AW527413	Similar to U2 small nuclear ribonucleoprotein auxiliary

### Miscellaneous & Unknown

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Symbt	Raw	Raw	<b>Ratio</b>		
<b>LOC68137</b>	<b>61</b>	<b>224</b>	<b>3.66</b>	<b>AA944136</b>	<b>hypothetical protein LOC681371</b>
Sema3c_pr	200	130	<b>0.65</b>	BM390322	sema domain, immunoglobulin domain (Ig), short bas
<b>RGD13119</b>	<b>277</b>	<b>530</b>	<b>1.92</b>	<b>BF563206</b>	<b>Similar to 6430514L14Rik protein (predicted)</b>
LOC500670	93	56	<b>0.60</b>	BM384427	Similar to B0511.12
<b>RGD15596</b>	<b>104</b>	<b>244</b>	<b>2.36</b>	<b>BE101933</b>	<b>similar to hypothetical protein FLJ25477 isoform :</b>
LOC309912	76	47	<b>0.62</b>	BM385683	Similar to NOGO-interacting mitochondrial protein (pr
<b>Tmem24</b>	<b>332</b>	<b>512</b>	<b>1.54</b>	<b>BG378195</b>	<b>Transmembrane protein 24</b>
Tmem38a_	105	65	<b>0.62</b>	BF410357	Transmembrane protein 38a (predicted)
Vps4a	89	55	<b>0.61</b>	BF388609	Vacuolar protein sorting 4a (yeast)

### EST's

Sample	F3-Cont	F3-Vinc	Vin/Con	Genbank	Gene Title
Gene Symbt	Raw	Raw	<b>Ratio</b>		
---	574	366	0.64	AI028809	Similar to cDNA sequence BC006662 (predicted)
<b>LOC36262</b>	<b>211</b>	<b>127</b>	<b>0.60</b>	<b>BE096504</b>	<b>Similar to chromosome 1 open reading frame 63</b>
RGD13102	262	175	<b>0.67</b>	AI137602	similar to chromosome 7 open reading frame 19; CAF
RGD13084	349	556	<b>1.59</b>	AW521378	Similar to RIKEN cDNA B130016O10 gene (predicted)
---	<b>632</b>	<b>295</b>	<b>0.47</b>	<b>AI179665</b>	<b>Transcribed locus</b>
---	82	54	<b>0.66</b>	AI044117	Transcribed locus
---	300	460	<b>1.53</b>	AA858791	Transcribed locus
---	<b>96</b>	<b>56</b>	<b>0.59</b>	<b>BF403869</b>	<b>Transcribed locus</b>
---	691	1326	<b>1.92</b>	<i>AW142765</i>	<i>Transcribed locus</i>
<b>RGD13100</b>	<b>7</b>	<b>135</b>	<b>19.42</b>	<b>AI172311</b>	<b>Transcribed locus</b>
---	79	133	<b>1.69</b>	AI146055	Transcribed locus
---	<b>323</b>	<b>603</b>	<b>1.87</b>	<b>AI112113</b>	<b>Transcribed locus</b>
---	89	138	<b>1.56</b>	BM385137	Transcribed locus
---	<b>145</b>	<b>360</b>	<b>2.49</b>	<b>AI103530</b>	<b>Transcribed locus</b>
---	112	60	<b>0.54</b>	BF386949	Transcribed locus
---	<b>138</b>	<b>217</b>	<b>1.58</b>	<b>AA925807</b>	<b>Transcribed locus</b>
---	76	114	<b>1.51</b>	<i>AA926072</i>	<i>Transcribed locus</i>
---	87	57	<b>0.65</b>	BE117189	Transcribed locus
---	139	68	<b>0.49</b>	BF403401	Transcribed locus, moderately similar to XP_580018.
RGD13098	125	75	<b>0.60</b>	BI288367	Transcribed locus, strongly similar to XP_001065048.

**Note - The bolded genes are similar between male and female gene sets.**

**The italic genes are similar within the same sex between amygdala and hippocampus.**