

Additional file 1

Identification of germ cell-specific genes in mammalian meiotic prophase

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Table S1 - Top-100 predicted spermatocyte genes

Rank	Mouse gene symbols
1	<i>Zfp541</i>
2	<i>Stk33</i>
3	<i>1700006A11Rik</i>
4	<i>Syngn4</i>
5	<i>5330409N07Rik</i>
6	<i>Prps11l</i>
7	<i>Gpr160</i>
8	<i>1700123I01Rik</i>
9	<i>LOC100047259</i>
10	<i>Prss50</i>
11	<i>Mdh1b</i>
12	<i>Cmtm2a</i>
13	<i>Lypd4</i>
14	<i>Ttc30a2</i>
15	<i>Spesp1</i>
16	<i>Morc2b</i>
17	<i>1700066D14Rik</i>
18	<i>Zmynd10</i>
19	<i>BC051142</i>
20	<i>Pacrg</i>
21	<i>Dynlrb2</i>
22	<i>1700006J14Rik</i>
23	<i>9330102E08Rik</i>
24	<i>1700003M02Rik</i>
25	<i>1700013G23Rik</i>
26	<i>Gm3925</i>
27	<i>Dmrtc2</i>
28	<i>Acs16</i>
29	<i>1700074P13Rik</i>
30	<i>2900006K08Rik</i>
31	<i>Adam5</i>
32	<i>Glipr112</i>
33	<i>4930519N06Rik</i>
34	<i>Tekt1</i>
35	<i>Gtf2a1l</i>
36	<i>1700097M23Rik</i>
37	<i>Ccdc158</i>
38	<i>Gm10345</i>
39	<i>1700029P11Rik</i>
40	<i>Spink2</i>
41	<i>Msh4</i>
42	<i>1700010I14Rik</i>
43	<i>4930549O18Rik</i>

44 *Eid3*
45 *Slc41a2*
46 *Boll*
47 *Tcam1*
48 *4930556A12Rik*
49 *Inca1*
50 *1700012B09Rik*
51 *4930405N21Rik*
52 *Cetn4*
53 *Gsto2*
54 *Lrrc34*
55 *AW552889*
56 *4930444F02Rik*
57 *Ptpn20*
58 *Mlc1*
59 *1700027A23Rik*
60 *Hdgfl1*
61 *Ccnb3*
62 *Pet2*
63 *4930463O16Rik*
64 *Nme5*
65 *Cep72*
66 *4930511M11Rik*
67 *Cetn1*
68 *Drd4*
69 *Bhmt*
70 *1700028J19Rik*
71 *Efhc1*
72 *1700040L02Rik*
73 *Tll8*
74 *Ccdc18*
75 *Sfrs14*
76 *4922502D21Rik*
77 *1700016M24Rik*
78 *Ncrna00086*
79 *Actn3*
80 *Lrrc50*
81 *Lrp8*
82 *Anxa9*
83 *Tmem87a*
84 *Phyhipl*
85 *Ttc26*
86 *Ero11b*
87 *Fbxo15*
88 *Pou6f1*
89 *Arap2*

90 *Corin*
91 *Gm884*
92 *Hsf2bp*
93 *Rimklb*
94 *Cep290*
95 *Spo11*
96 *Zfp385b*
97 *1700007L15Rik*
98 *Pfn4*
99 *Asrgl1*
100 *4633401B06Rik*

Table S2 - Top-100 predicted oocyte genes

Rank	Mouse gene symbols
1	<i>Pde6d</i>
2	<i>Rab18</i>
3	<i>Ccdc79</i>
4	<i>Phf16</i>
5	<i>Btbd10</i>
6	<i>LOC100047893</i>
7	<i>Tm9sf2</i>
8	<i>Nupl1</i>
9	<i>Stx12</i>
10	<i>Mpp5</i>
11	<i>Igf1</i>
12	<i>Rab11a</i>
13	<i>Uimc1</i>
14	<i>Pank3</i>
15	<i>AW549877</i>
16	<i>Smc3</i>
17	<i>Gpat2</i>
18	<i>Pdk3</i>
19	<i>Irs1</i>
20	<i>D6Mm5e</i>
21	<i>Ciao1</i>
22	<i>Csrp1</i>
23	<i>Usp9x</i>
24	<i>Rraga</i>
25	<i>Osbp12</i>
26	<i>Sun1</i>
27	<i>Ythdc1</i>
28	<i>BC005537</i>
29	<i>Cstf2</i>
30	<i>Cmpk1</i>
31	<i>Eif2b3</i>
32	<i>Bclaf1</i>
33	<i>Thumpd1</i>
34	<i>Asf1b</i>
35	<i>Rchy1</i>
36	<i>Dnm1l</i>
37	<i>Tpr</i>
38	<i>Jagn1</i>
39	<i>Pkd2</i>
40	<i>LOC100043982</i>
41	<i>Krcc1</i>
42	<i>Vamp3</i>
43	<i>M6pr</i>

44 *Copb1*
45 *Sec22b*
46 *Ptbp2*
47 *Sec61a1*
48 *Rab28*
49 *Spop*
50 *Ccnblip1*
51 *Man1a*
52 *Nit2*
53 *Rasa1*
54 *Zfp187*
55 *Ctsb*
56 *Ngly1*
57 *Mobkl1b*
58 *Fgfr2*
59 *Atxn10*
60 *Nrbp1*
61 *Bnip3*
62 *Sec61a2*
63 *Fam18b*
64 *Fbxo21*
65 *Vcl*
66 *6330409N04Rik*
67 *Papolg*
68 *Matr3*
69 *Esf1*
70 *Hsd17b12*
71 *Cpne1*
72 *Fam126a*
73 *Tmed2*
74 *Igfbp5*
75 *Zfp445*
76 *Nop58*
77 *Uba6*
78 *1200016B10Rik*
79 *Eif4e*
80 *Tax1bp3*
81 *Capn7*
82 *Gm1564*
83 *Rspo1*
84 *Tgfbr1*
85 *Notch2*
86 *Alb*
87 *Uba3*
88 *Hectd1*
89 *6330503K22Rik*

90 *Taf6*
91 *Rhox13*
92 *Fam120a*
93 *Med4*
94 *Rad17*
95 *Tex14*
96 *Usp34*
97 *Bnc1*
98 *Parg*
99 *Clns1a*
100 *Psm1*

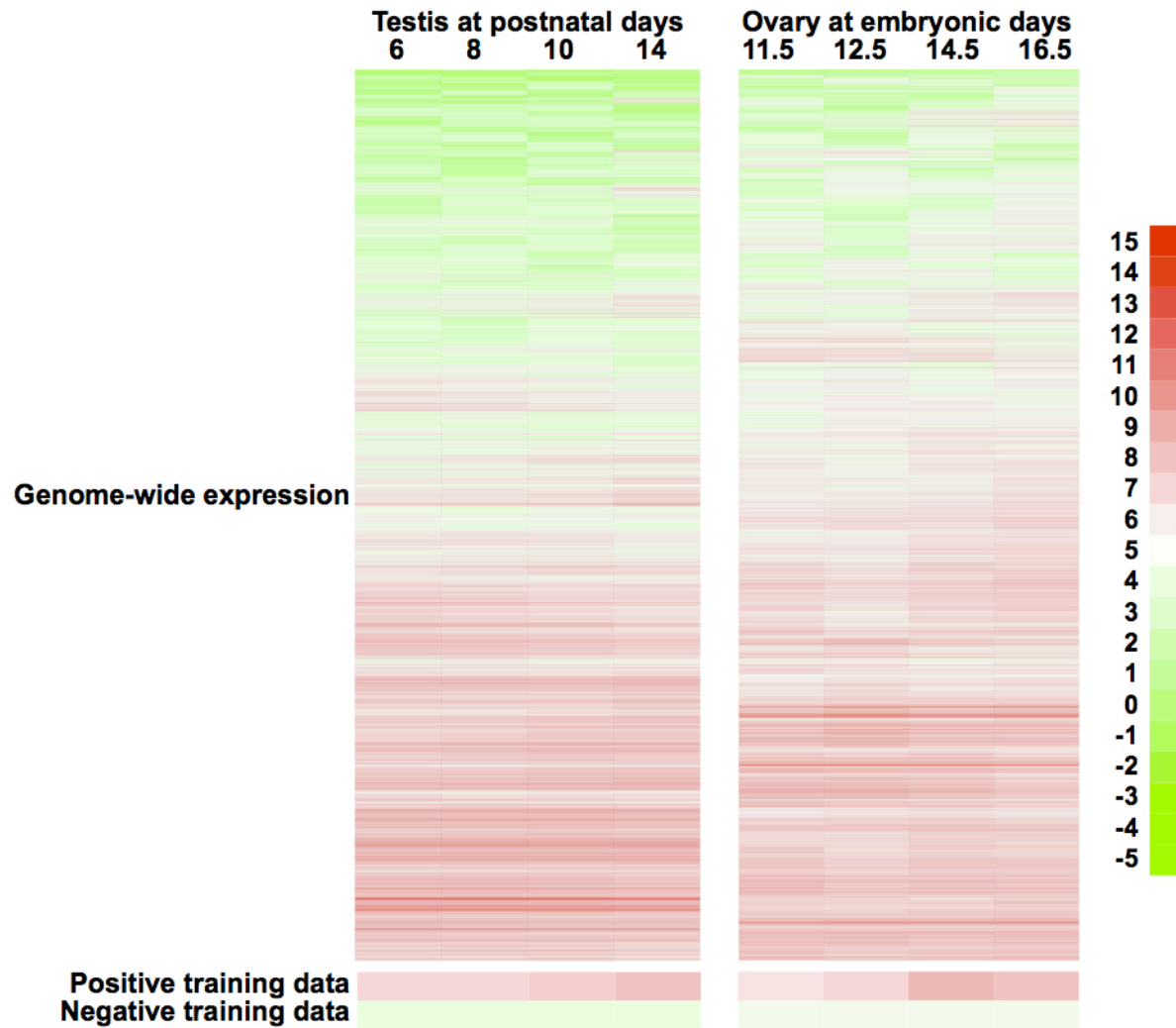


Figure S1 - Global gene expression and training data expression in meiotic prophase

Gene expression levels were log₂ transformed. The global expression data were analyzed by average linkage hierarchical clustering using uncentered correlation as distance metrics. The average expression profiles of training data are shown at the bottom of the figure.