

Supplemental Tables

Supplemental Table 1. Named testis-specific genes contained in clusters 1-5.

Affymetrix probe id	Gene name (symbol)	Unigene id	Cluster	Verified by qRT-PCR
163074_at	5'-nucleotidase, cytosolic 1B (Nt5c1b)	Mm.50897	4	
163944_at	a disintegrin and metalloprotease 32 (Adam32)	Mm.84113	2	
170152_at	a disintegrin and metalloprotease domain 18 (Adam18)	Mm.89943	3	
92732_at	a disintegrin and metalloprotease domain 2 (Adam2)	Mm.4669	2	
167774_f_at	a disintegrin and metalloprotease domain 5 (Adam5)	Mm.143889	2	
92897_at	acrosomal vesicle protein 1 (Acrv1)	Mm.4776	4	
169706_at	actin-like 7a (Actl7a)	Mm.30959	4	
167445_at	Actin-related protein T1 (Actrt1-pending)	Mm.60929	5	
131272_at	allantoicase (Allc)	Mm.154960	4	
163366_at	Actin related protein M2 (Arpm2-pending)	Mm.30958	4	
102301_at	capping protein α 3 (Cappa3)	Mm.12817	4	
166358_at	cation channel of sperm 1 (Catsper1)	Mm.87321	4	
166180_f_at	centrin 1 (Cetn1)	Mm.195831	2	
115123_at	cystatin-like 1 (Cstl1)	Mm.189390	4	
92929_at	cytochrome c, testis (Cyct)	Mm.4872	1	
92198_s_at	decay accelerating factor 2 (Daf2)	Mm.34044	3	
103645_at	DnaJ (Hsp40) homolog, subfamily B, member 8 (Dnajb8)	Mm.20392	4	
167011_at	ferritin heavy chain 3 (Fth3-pending)	Mm.179144	3	
102946_r_at	glyceraldehyde-3-phosphate dehydrogenase, spermatogenic (Gapds)	Mm.1729	4	
112945_at	haploid-specific alanine rich acidic protein, chromosome X (Halapx-pending)	Mm.143832	3	
99869_at	hepatoma-derived growth factor, related protein 1 (Hdgfrp1)	Mm.7411	2	
160404_at	histone H1-like protein in spermatids 1 (Hils1)	Mm.30482	4	
100287_at	immunoglobulin (CD79A) binding protein 1b (Igbp1b-pending)	Mm.84043	3	
160219_r_at	meiosis expressed gene 1 (Meig1)	Mm.2688	2	
99873_at	NK2 transcription factor related, locus 6 (Drosophila) (Nkx2-6)	Mm.7507	4	
101968_at	outer dense fiber of sperm tails 1 (Odf1)	Mm.9397	4	
163033_at	phosducin-like 2 (Pdcl2)	Mm.143764	2	
101388_at	phosphoglycerate kinase 2 (Pgk2)	Mm.717	2	
98311_at	polyamine modulated factor 1 binding protein 1 (Pmfbp1)	Mm.42166	4	
99589_f_at	protamine 1 (Prm1)	Mm.42733	4	
93242_at	protamine 3 (Prm3)	Mm.59353	4	
134119_at	protease, serine, 21 (Prss21)	Mm.86657	3	
163153_at	protein phosphatase 3, regulatory subunit B, α isoform (calcineurin B, type II)	Mm.46125	3	
168136_at	proton/amino acid transporter 3 (Pat3)	Mm.87054	4	
99542_at	pyruvate dehydrogenase E1 α 2 (Pdha2)	Mm.4223	2	
161839_f_at	RAS-like, family 2, locus 9 (Rasl2-9)	Mm.103632	3	
166054_r_at	ring finger protein 36 (Rnf36)	Mm.55486	2	
162587_at	ropporin, rophilin associated protein 1 (Ropn1)	Mm.23515	4	
129103_at	serine protease-like 1	Mm.200587	2	
94624_at	serine/threonine kinase 22 substrate 1 (Stk22s1)	Mm.8015	4	
103360_at	serine/threonine kinase 22A (spermiogenesis associated) (Stk22a)	Mm.18470	3	

Affymetrix probe id	Gene name (symbol)	Unigene id	Cluster	Verified by qRT-PCR
166292_f_at	serine/threonine kinase 22C (spermiogenesis associated) (Stk22c)	Mm.143802	4	
167210_at	serine/threonine kinase 22D (spermiogenesis associated) (Stk22d)	Mm.220122	4	
166758_i_at	shippo 1 (sperm tail) (shippo1)	Mm.56404	4	
163023_at	Speer2 (Speer2)	Mm.212743	2	
92743_at	sperm adhesion molecule (Spam)	Mm.4688	4	
165475_f_at	spermatogenesis related gene 2	Mm.45833	2	
100358_s_at	t-complex protein 10a (Tcp10a)	Mm.88775	2	
93897_at	testicular haploid expressed gene (Theg)	Mm.89197	4	
102244_at	testicular serine protease 1 (Tesp1)	Mm.10725	3	
94741_at	testicular serine protease 2 (Tesp2)	Mm.14418	4	
161388_f_at	testis nuclear RNA binding protein (Tenr)	Mm.8122	2	
167400_i_at	testis serine protease 2 (Tessp2)	Mm.214941	2	
93140_at	testis-specific X-linked gene (Tsx)	Mm.5174	1	
162582_at	testis-specific leucine zipper protein nurit (Nurit)	Mm.23361	4	+
171329_at	TISP22 (Tisp22)	Mm.189641	4	
101534_at	transition protein 2 (Tnp2)	Mm.206798	4	
93924_f_at	tubulin, α 7 (Tuba7)	Mm.89866	1	
170603_at	WD repeat domain 20 (Wdr20)	Mm.219475	2	
98310_at	zinc and ring finger 4 (Znrf4)	Mm.42165	4	
93955_at	zona pellucida binding protein (Zpbp)	Mm.9500	2	

Supplemental Table 2. Genes from clusters 1-5 with unassigned or unknown function found only in the testis (Unigene database).

Affymetrix probe id	Unigene id	cluster	predicted function / domains ^a	SP / TM	confirmed by ISH	confirmed by qRT-PCR
169602_f_at	Mm.117198	1	protease			
167788_at	Mm.159154	1	MAGE			
163896_at	Mm.249997	1	ER lumen protein retaining receptor	2 TM		
161065_at	Mm.5349	1	protease	SP		
167393_r_at	Mm.55950	1		TM		
167928_at	Mm.84264	1		TM		
168263_f_at	Mm.116959	2	citrate synthase	SP		
165595_at	Mm.189648	2	protease	SP		
168637_f_at	Mm.232593	2	MARVEL	4 TM		
133351_at	Mm.25846	2		4 TM		
165436_r_at	Mm.26987	2	poly A binding			
166381_f_at	Mm.32219	2		7 TM		
167057_i_at	Mm.45616	2	ubiquitin conjugating enzyme			
163024_at	Mm.46106	2	Kazal	SP		
170147_r_at	Mm.54292	2		TM		
167533_at	Mm.66809	2		TM		
166172_f_at	Mm.71094	2		3 TM		
166251_f_at	Mm.79179	2	transferase			
101839_at	Mm.84934	2	protease	SP		
165593_at	Mm.23534	3	Tektin	SP		
163496_i_at	Mm.35644	3				also in ovary
167125_i_at	Mm.45821	3		4 TM		
165888_f_at	Mm.46155	3				+
167645_f_at	Mm.48860	3	CD20/IgE Fc receptor	2 TM		
114204_at	Mm.50600	3		SP/TM		
163836_at	Mm.55669	3	sugar transporter	8 TM		
116502_at	Mm.67234	3		2 TM		
168262_at	Mm.87419	3	protease	TM	+	+
168254_at	Mm.109099	4				also in lung, ovary
165480_i_at	Mm.141451	4	calmodulin-binding			+
138799_at	Mm.158111	4	intermediate filament			+
168138_at	Mm.158149	4				+
169972_at	Mm.159092	4				+
167317_f_at	Mm.177847	4				+
115716_at	Mm.19977	4	protease	SP		
115733_at	Mm.20221	4	histone-like			also in brain, heart
103632_at	Mm.20314	4	HMG group			
163176_at	Mm.22956	4				+
168047_at	Mm.233840	4		TM		+
165592_r_at	Mm.23518	4				+
162601_i_at	Mm.23887	4	histone-like			+
114961_at	Mm.26988	4	lysozyme	SP		+
165439_at	Mm.27023	4				+
115963_at	Mm.30957	4	protease	SP		
116183_at	Mm.31410	4				+
116186_at	Mm.31415	4				+
163401_at	Mm.32245	4				+
114760_at	Mm.33629	4		SP		+
105042_at	Mm.34841	4				+
165822_f_at	Mm.45302	4		SP	+	+

Affymetrix probe id	Unigene id	cluster	predicted function / domains ^a	SP / TM	confirmed by ISH	confirmed by qRT-PCR
165824_at	Mm.45306	4	electron transporter	4 TM	+	+
163006_at	Mm.45377	4	sterol carrier			+
165831_at	Mm.45442	4				+
164171_at	Mm.45611	4			+	+
165857_at	Mm.45820	4		TM		
165474_f_at	Mm.45824	4				+
165860_at	Mm.45831	4				+
165889_f_at	Mm.46121	4			+	+
163729_at	Mm.46146	4	histone-like			
165900_f_at	Mm.46151	4			+	+
165486_i_at	Mm.46159	4	Ring finger			+
163032_at	Mm.46166	4				+
165487_f_at	Mm.46167	4	cystatin-like	SP		+
167318_i_at	Mm.50087	4				+
163819_at	Mm.50982	4				+
171461_f_at	Mm.52671	4				+
166061_f_at	Mm.55870	4	Phosphate acyltransferase, EF-hand, calcium binding	TM		+
166108_r_at	Mm.56430	4	HMG group			+
166073_at	Mm.56501	4	protease associated, Ring finger	SP	+	+
166191_f_at	Mm.72892	4				+
166195_f_at	Mm.73222	4				+
167780_i_at	Mm.78368	4	ARM repeat			+
163921_at	Mm.78390	4				+
167924_at	Mm.84066	4				+
167943_f_at	Mm.84522	4			+	
166326_at	Mm.86808	4				+
166368_at	Mm.87357	4	electron transporter			
166371_i_at	Mm.87369	4	ribonuclease inhibitor			
164008_at	Mm.87446	4				also in lung
171469_r_at	Mm.158268	5		3 TM		
168592_at	Mm.195787	5	protease			
108744_at	Mm.23033	5		SP		
165591_f_at	Mm.23516	5				+
171254_r_at	Mm.45304	5		TM		
165834_r_at	Mm.45466	5	DNA binding			
99400_at	Mm.56997	5		SP		
166193_at	Mm.72970	5			+	+
133077_at	Mm.81032	5				+

Listed are 88 genes with unassigned function found in clusters 1-5. Not listed are 145 genes for which we could not find any hints towards their functions or for which we did not verify expression patterns.

^aSignal peptides (SP) or transmembrane segments (TM) were predicted using SignalP V2.0 (<http://www.cbs.dtu.dk/services/SignalP-2.0/>); potential functional domains were assigned based on gene ontology information (Netaffx), SMART (<http://smart.embl-heidelberg.de/>) and Scan-Prosite (<http://us.expasy.org/tools/scanprosite/>).

Abbreviations for the predicted domains are: HMG - high-mobility group, Kazal - serine protease inhibitor, ARM - Armadillo/ β -catenin-like repeats, MAGE - Similar to Melanoma Antigen family, MARVEL - domain involved in membrane apposition events.