Table S1: Detailed overview of *Prdm* genes in metazoans.

Black boxes indicate the presence of members of the different subfamilies (number of members is indicated) in the different species.

			# PRDM	PRDM1	PRDM2	PRDM3/16	PRDM4	PRDM5	PRDM6	PRDM7/9	PRDM8	PRDM10/15	PRDM11	PRDM12	PRDM13	PRDM14	PRDM17	Orphans
Sponges	*Sycon ciliatum*	*Scil*	**8**						1									7
	Amphimedon queenslandica	*Aque*	**4**							1				1				2
	Oscarella carmela	*Ocar*	**2**						1									1
Ctenophores	*Mnemiopsis leidyi*	*Mley*	**3**						1		1							1
	Pleurobrachia bachei	*Pbac*	**3**						2									1
Cnidarians	*Nematostella vectensis*	*Nvec*	**13**						5	1				1	2	4		
	Acropora digitifera	*Adig*	**11**						5	2				1	1	1		1
	Hydra magnipapillata	*Hmag*	**7**						2	2					1			2
Placozoans	*Trichoplax adhaerens*	*Tadh*	**2**											1	1			
Lophotrochozoans	*Crassostrea gigas*	*Cgig*	**13**	1		2	1					1		1	1	5		1
	Lottia gigantea	*Lgig*	**12**	1	1	1	1			1	1	1		1	1	2		1
	Pinctada fucata	*Pfuc*	**8**			2				1	1	1						3
	Platynereis dumerilii	*Pdum*	**11**	2		1	1			2	1	1		1	1	1		
	Capitella teleta	*Ctel*	**11**	1	2	1	1				1	1			1	2		1
	Helobdella robusta	*Hrob*	**8**	2		2						1			1	1		1
	Adineta vaga	*Avag*	**9**	2		3					1				1			2
	Schmidtea mediterranea	*Smed*	**8**	1		2					1				1	1		2
	Schistosoma mansoni	*Sman*	**6**	1		1					1							3
Ecdysozoans	*Caenorhabditis elegans*	*Cele*	**2**	1						1								
	Pristionchus pacificus	*Ppac*	**7**	2						1	1							3
	Brugia malayi	*Bmal*	**3**	1		1				1								
	Loa loa	*Lloa*	**4**	2		1				1								
	Wuchereria bancrofti	*Wban*	**4**	1		1				1								1
	Trichinella spiralis	*Tspi*	**3**	1		1									1			
	Metaseiulus occidentalis	*Mocc*	**4**	1		1					1				1			
	Ixodes scapularis	*Isca*	**5**			1					1	1		1	1			
	Tetranychus urticae	*Turt*	**5**	2		1					1				1			
	Strigamia maritima	*Smar*	**13**	1		1	1			1	1	3		1	2			2
	Daphnia pulex	*Dpul*	**4**	1		1					1				1			
	Pediculus humanus corporis	*Phum*	**6**	1		2					1	1			1			
	Acyrthosiphon pisum	*Apis*	**5**	1		2					1	1						
	Rhodnius prolixus	*Rpro*	**4**	1		1									1			1
	Aedes aegypti	*Aaeg*	**4**	1		1					1				1			
	Culex quinquefasciatus	*Cqui*	**5**	1		3					1				1			
	Drosophila melanogaster	*Dmel*	**5**	1		2					1				1			
	Ceratitis capitata	*Ccap*	**4**	1		1					1				1			
	Atta cephalotes	*Acep*	**7**	1		2					1	1			1			1
	Megachile rotundata	*Mrot*	**4**	1							1	1			1			
	Bombus terrestris	*Bter*	**6**	1		2					1	1			1			
	Bombus impatiens	*Bimp*	**6**	1		2					1	1			1			
	Apis mellifera	*Amel*	**4**	1		1					1	1						
	Nasonia vitripennis	*Nvit*	**5**	1		1					1	1			1			
	Tribolium castaneum	*Tcas*	**6**	1		2					1	1			1			
	Bombyx mori	*Bmor*	**5**	1		1					1				1			1
	Danaus plexippus	*Dple*	**6**	1		2					1				1			1
	Heliconius melpomene	*Hmel*	**4**	1		2					1							
	Saccoglossus kowalevskii	*Skow*	**10**		2				1			1			1	2		3
	Strongylocentrotus purpuratus	*Spur*	**18**	1	1	1	1			10		1		1	1	1		
	Branchiostoma floridae	*Bflo*	**11**	1	1	1	1		1	1		1		1	1	1		1
	Ciona intestinalis	*Cint*	**7**	2		2				1		1						1
	Ciona savignyi	*Csav*	**5**	1	1	1						1						1
	Petromyzon marinus	*Pmar*	**9**	1		1	1	1	1	2	1	1						
	Callorhinchus milii	*Cmil*	**17**	2	1	2	1	1	1		2	2		1	1	2	1	
	Danio rerio	*Drer*	**19**	2	2	2	1	1	1	1	3	1	1	1	1	1	1	
	Takifugu rubripes	*Trub*	**19**	3	2	2	1	1	1	1	1	2		2	1	1	1	
	Gasterosteus aculeatus	*Gacu*	**13**	3	1	2	1				1	2		1	1	1		
	Xiphophorus maculatus	*Xmac*	**17**	3	1	2	1	1	1		1	2		2	1	1	1	

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Black boxes indicate the presence of members of the different subfamilies (number of members is indicated) in the different species.

			# PRDM	PRDM1	PRDM2	PRDM3/16	PRDM4	PRDM5	PRDM6	PRDM7/9	PRDM8	PRDM10/15	PRDM11	PRDM12	PRDM13	PRDM14	PRDM17	Orphans
Deuterostomes	*Oreochromis niloticus*	*Onil*	**19**	3	2	2	1	1	1	1	1	2		2	1	1	1	
	Oryzias latipes	*Olat*	**19**	3	2	2	1	1	1	1	2	2		2	1	1		
	Latimeria chalumnae	*Lcha*	**16**	2	1	2	1	1	1		1	2	1	1	1	1	1	
	Xenopus tropicalis	*Xtro*	**15**	1	1	2	1	1	1	1	1	2		1	1	1	1	
	Anolis carolinensis	*Acar*	**12**	1		2	1	1	1		1	2	1			1	1	
	Pelodiscus sinensis	*Psin*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Gallus gallus	*Ggal*	**13**	1	1	2	1	1	1		1	2	1	1		1		
	Taeniopygia guttata	*Tgut*	**14**	1	1	2	1	1	1		1	2	1	1	1	1		
	Ornithorhynchus anatinus	*Oana*	**14**	1	1	1	1	1	1	1	1	2	1	1	1	1		
	Sarcophilus harrisii	*Shar*	**13**	1	1	1	1	1	1		1	2	1	1	1	1		
	Monodelphis domestica	*Mdom*	**15**	1	1	2	1	1	1	1	1	2	1	1	1	1		
	Macropus eugenii	*Meug*	**14**	1	1	2	1	1	1		1	2	1	1	1	1		
	Ailuropoda melanoleuca	*Amela*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Canis lupus familiaris	*Clup*	**15**	1	1	2	1	1	1		1	2	1	1	1	1	1	
	Mustela putorius furo	*Mput*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Felis catus	*Fcat*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Myotis lucifugus	*Mluc*	**15**	1	1	1	1	1	1	1	1	2	1	1	1	1	1	
	Sus scrofa	*Sscr*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Bos taurus	*Btau*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Equus caballus	*Ecab*	**15**	1	1	2	1	1	1		1	2	1	1	1	1	1	
	Loxodonta africana	*Lafr*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Cavia porcellus	*Cpor*	**14**	1	1	2	1	1	1		1	2	1	1	1	1		
	Ictidomys tridecemlineatus	*Itri*	**15**	1	1	2	1	1	1		1	2	1	1	1	1	1	
	Rattus norvegicus	*Rnor*	**15**	1	1	2	1	1	1	1	1	2	1	1	1	1		
	Mus musculus	*Mmus*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Oryctolagus cuniculus	*Ocun*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Microcebus murinus	*Mmur*	**15**	1	1	2	1	1	1	1		2	1	1	1	1	1	
	Otolemur garnettii	*Ogar*	**15**	1	1	2	1	1		1	1	2	1	1	1	1	1	
	Tarsius syrichta	*Tsyr*	**12**	1	1	2	1	1	1			2	1			1	1	
	Callithrix jacchus	*Cjac*	**17**	1	1	2	1	1	1	2	1	2	1	1	1	1	1	
	Macaca mulatta	*Mmul*	**15**	1	1	2	1	1	1	2	1	2	1			1	1	
	Nomascus leucogenys	*Nleu*	**16**	1	1	2	1	1	1	1	1	2	1	1	1	1	1	
	Gorilla gorilla	*Ggor*	**16**	1	1	2	1	1		2	1	2	1	1	1	1	1	
	Pongo abelii	*Pabe*	**15**	1	1	2	1	1		2	1	2		1	1	1	1	
	Pan troglodytes	*Ptro*	**17**	1	1	2	1	1	1	2	1	2	1	1	1	1	1	
	Homo sapiens	*Hsap*	**17**	1	1	2	1	1	1	2	1	2	1	1	1	1	1	
			976	**101**	**52**	**136**	**49**	**41**	**57**	**63**	**74**	**106**	**33**	**53**	**73**	**63**	**31**	**45**

Table S2: *Prdm* genes in non-bilaterians.

Taxa	Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
Porifera	*Porifera; Calcarea; Calcaronea; Leucosolenida; Sycettidae; Sycon*	*Sycon ciliatum*	Sars Center Bergen	8	*Scil-PRDMX1*	1234 scpid67802| scgid6984	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Scil-PRDMX2	17767 scpid70867| scgid1043	SET	Orphan	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Scil-PRDMX3	18954 scpid48982| scgid2795|	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Scil-PRDM6	40183 scpid51388| scgid1270	SET	6	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Scil-PRDMX4	37266 scpid67503| scgid0852	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Scil-PRDMX5	18182 scpid70624| scgid16894	SET	Orphan	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Scil-PRDMX6	37037 scpid67616| scgid5390	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Scil-PRDMX7	1603 scpid67900| scgid3478	SET	Orphan	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
Porifera	*Porifera; Demospongiae; Homoscleromorpha; Homosclerophorida; Plakinidae; Oscarella*	*Oscarella carmela*	Compagen / University of Berkeley and University of Denver	2	*Ocar-PRDM6*	g8397.t1	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Ocar-PRDMX	g8398.t1	SET	Orphan	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
Porifera	*Porifera; Demospongiae; Ceractinomorpha; Haplosclerida; Niphatidae; Amphimedon*	*Amphimedon queenslandica*	Doe Joint Genome Institute	4	*Aque-PRDM7/9*	Aqu1_218884 unnamed protein product	SET + 4 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Aque-PRDM12	Aqu1_219141 unnamed protein product	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Aque-PRDMX1	Aqu1_219799 unnamed protein product	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Aque-PRDMX2	Aqu1_222640 unnamed protein product	SET	Orphan	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
Ctenophora	*Ctenophora; Cyclocoela; Lobata; Bolinopsidae; Mnemiopsis*	*Mnemiopsis leidyi (water comb jelly)*	National Human Genome Research Institute	3	*Mley-PRDM8*	ML124240a unnamed protein product	SET	8	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Mley-PRDM6	ML274416a unnamed protein product	2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Mley-PRDMX	ML348714a unnamed protein product	1 Zn-F	Orphan	NP_878911 PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
Ctenophora	*Ctenophora; Typhlocoela; Cydippida; Pleurobrachiidae; Pleurobrachia*	*Pleurobrachia bachei*	Whitney Laboratory for Marine Bioscience, University of Florida	3	*Pbac-PRDM6a*	sb3460697	SET + 2 Zn-F	6	NP_064612.2 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Pbac-PRDM6b	sb3471497	SET	6	NP_001091643.1 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Pbac-PRDMX	sb3461590	SET	Orphan	NP_078780.1 PR domain zinc finger protein 14 [Homo sapiens]
Cnidaria	*Cnidaria; Anthozoa; Hexacorallia; Actiniaria; Edwardsiidae; Nematostella*	*Nematostella vectensis (starlet sea anemone)*	Doe Joint Genome Institute	13	*Nvec-PRDM14a*	jgi|Nemve1|104327|e_gw.72.27.1	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
					Nvec-PRDM14b	jgi|Nemve1|193459| estExt_GenewiseH_1.C_2950019_	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
					Nvec-PRDM14c	jgi|Nemve1|61034|gw.22.245.1	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
					Nvec-PRDM14d	jgi|Nemve1|96522|e_gw.43.248.1	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
					Nvec-PRDM6a	jgi|Nemve1|112691|e_gw.113.70.1	SET + 2 Zn-F	6	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Nvec-PRDM6b	jgi|Nemve1|200651| fgenesh1_pg.scaffold_23000016	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Nvec-PRDM6c	jgi|Nemve1|54602|gw.60.181.1	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Nvec-PRDM6d	jgi|Nemve1|84066|e_gw.9.119.1	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Nvec-PRDM6e	jgi|Nemve1|41788|gw.113.66.1	SET + 1 Zn-F	6	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Nvec-PRDM7/9	jgi|Nemve1|113856|e_gw.120.9.1	SET + 8 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Nvec-PRDM12	jgi|Nemve1|119550|e_gw.162.3.1	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Nvec-PRDM13a	jgi|Nemve1|40616|gw.114.81.1	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Nvec-PRDM13b	jgi|Nemve1|66221|gw.19.270.1	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Cnidaria	*Cnidaria; Anthozoa; Hexacorallia; Scleractinia; Astrocoeniina; Acroporidae; Acropora*	*Acropora digitifera*	Marine Genomics Unit, Okinawa Institute of Science and Technology	11	*Adig-PRDMX*	adi_v1.01523	SET	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Adig-PRDM6a	adi_v1.03428	SET + 1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Adig-PRDM6b	adi_v1.03429	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Adig-PRDM6c	adi_v1.03430	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Adig-PRDM6d	adi_v1.03431	SET + 1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Adig-PRDM6e	adi_v1.03434	SET + 1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Adig-PRDM7/9a	adi_v1.18285	SET	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Adig-PRDM7/9b	adi_v1.22563	SET	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Adig-PRDM12	adi_v1.20377	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Adig-PRDM13	adi_v1.02346	3 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Adig-PRDM14	adi_v1.15700	3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
Cnidaria	*Cnidaria; Hydrozoa; Hydroida; Anthomedusae; Hydridae; Hydra*	*Hydra magnipapillata*	NCBI/J. Craig Venter Institute and Doe Joint Genome Institute	7	*Hmag-PRDMX1*	XP_002154805.1| PREDICTED: PR domain zinc finger protein 14-like	SET	Orphan	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Hmag-PRDM6a	XP_002154573.2| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Hmag-PRDM7/9a	XP_002165356.2| PREDICTED: zinc finger protein 624-like	SET + 2 Zn-F	7/9	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
					Hmag-PRDM6b	XP_002162271.2| PREDICTED: uncharacterized protein LOC100208645	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Hmag-PRDM7/9b	P_002166507.2| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Hmag-PRDMX2	XP_002161305.2| PREDICTED: uncharacterized protein LOC100204011	-	Orphan	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]

Table S2: *Prdm* genes in non-bilaterians.

Taxa		Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
					Hmag-PRDM13	XP_002158638.1| PREDICTED: zinc finger protein 256-like	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
Placozoa	*Placozoa; Trichoplax*	*Trichoplax adhaerens*	Doe Joint Genome Institute	2	*Tadh-PRDM12*	TriadP14897	SET + 2 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Tadh-PRDM13	TriadP56420	SET + 1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]

Table S3: *Prdm* genes in ecdysozoans.

Taxa		Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
Nematoda	*Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis*	*Caenorhabditis elegans*	NCBI / The Genome Institute at Washington University and Sanger Institute	2	*Cele-Prdm1*	NP_001251370.1| Protein BLMP-1	SET + 3 Zn-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Cele-Prdm7/9	NP_495902.1| Protein SET-17	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
Nematoda	*Nematoda; Chromadorea; Diplogasterida; Neodiplogasteridae; Pristionchus*	*Pristionchus pacificus*	EnsemblMetazoa / The Genome Institute at Washington University and Max Planck Institute	7	*Ppac-PRDM1a*	PPA04977	3 Zn-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Ppac-PRDM1b	PPA04978	SET	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Ppac-PRDMX1	PPA07348	2 Zn-F	Orphan	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Ppac-PRDM7/9	PPA28511	-	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Ppac-PRDM8	PPA27496	-	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Ppac-PRDMX2	PPA21110	-	Orphan	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Ppac-PRDMX3	PPA23527	-	Orphan	NP_064614	PR domain-containing protein 11 [Homo sapiens]
Nematoda	*Nematoda; Chromadorea; Spirurida; Filarioidea; Onchocercidae; Wuchereria*	*Wuchereria bancrofti*	Broad Institute / Broad Institute	4	*Wban-PRDM3/16*	WUBG_02748T0 | WUBG_02748 | Wuchereria bancrofti hypothetical protein (414 aa)	2 Zn-F	3/16	NP_001098548	MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
					Wban-PRDM1	WUBG_04696T0 | WUBG_04696 | Wuchereria bancrofti zinc finger protein (775 aa)	SET + 3 Zn-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Wban-PRDM7/9	WUBG_11120T0 | WUBG_11120 | Wuchereria bancrofti hypothetical protein (111 aa)	1 Zn-F	7/9	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Wban-PRDMX	WUBG_11853T0 | WUBG_11853 | Wuchereria bancrofti SET domain-containing protein (189 aa)	SET	Orphan	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
Nematoda	*Nematoda; Chromadorea; Spirurida; Filarioidea; Onchocercidae; Brugia*	*Brugia malayi*	Wormbase / The Genome Institute at Washington University	3	*Bmal-PRDM3/16*	Bm1_23070 | Brugia malayi Zinc finger, C2H2 type family protein (523 aa)	2 Zn-F	3/16	NP_001157472	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Bmal-PRDM7/9	Bm1_23550 | Brugia malayi SET domain containing protein (237 aa)	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Bmal-PRDM1	Bm1_57210 | Brugia malayi Zinc finger, C2H2 type family protein (620 aa)	SET + 3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
Nematoda	*Nematoda; Chromadorea; Spirurida; Filarioidea; Onchocercidae; Loa*	*Loa loa (African eye worm)*	Broad Institute / Broad Institute	4	*Lloa-PRDM1a*	LOAG_03767T0 | LOAG_03767 | Loa loa V3 hypothetical protein (384 aa)	SET	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Lloa-PRDM1b	LOAG_11444T0 | LOAG_11444 | Loa loa V3 zinc finger protein (437 aa)	3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Lloa-PRDM3/16	LOAG_01298T0 | LOAG_01298 | Loa loa V3 hypothetical protein (397 aa)	2 Zn-F	3/16	NP_071397	PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
					Lloa-PRDM7/9	LOAG_06333T0 | LOAG_06333 | Loa loa V3 SET domain-containing protein (256 aa)	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
Nematoda	*Nematoda; Enoplea; Enoplia; Trichocephalida; Trichinellidae; Trichinella*	*Trichinella spiralis*	EnsemblMetazoa / The Genome Institute at Washington University	3	*Tspi-PRDM1*	EFV52614	SET + 2 Zn-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Tspi-PRDM3/16	EFV51761	2 Zn-F	3/16	NP_071397	PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
					Tspi-PRDM13	EFV59777	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Chelicerata; Arachnida; Acari; Parasitiformes; Mesostigmata; Monogynaspida; Dermanyssina; Phytoseioidea; Phytoseiidae; Typhlodrominae; Metaseiulus*	*Metaseiulus occidentalis (western predatory mite)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	4	*Mocc-PRDM1*	XP_003738192.1| PREDICTED: PR domain zinc finger protein 1-like	SET + 4 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Mocc-PRDM3/16	XP_003743927.1| PREDICTED: uncharacterized protein LOC100908931	2 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Mocc-PRDM8	XP_003745172.1| PREDICTED: uncharacterized protein LOC100905056	1 Zn-F	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Mocc-PRDM13	XP_003747800.1| PREDICTED: PR domain zinc finger protein 13-like	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Chelicerata; Arachnida; Acari; Parasitiformes; Ixodida; Ixodoidea; Ixodidae; Ixodinae; Ixodes*	*Ixodes scapularis (black-legged tick)*	NCBI / Broad Institute and J. Craig Venter Institute	5	*Isca-PRDM3/16*	XP_002403863.1| hypothetical protein IscW_ISCW010781	3 Zn-F	3/16	NP_001157472	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Isca-PRDM8	XP_002409297.1| hypothetical protein IscW_ISCW009928	-	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Isca-PRDM10/15	XP_002400869.1| zinc finger protein, putative	SET + 1 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Isca-PRDM12	XP_002399836.1| conserved hypothetical protein	SET + 1 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Isca-PRDM13	XP_002413395.1| zinc finger protein, putative	-	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Chelicerata;*	*Tetranychus urticae*	EnsemblMetazoa / VIB	5	*Turt-PRDM13*	tetur10g01540.1	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]

Table S3: *Prdm* genes in ecdysozoans.

	Taxa	Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Arachnida; Acari; Acariformes; Trombidiformes; Prostigmata; Eleutherengona; Raphignathae; Tetranychoidea; Tetranychidae; Tetranychus	*(two-spotted spider mite)*	Ghent University		*Turt-PRDM8*	tetur11g03890.1	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Turt-PRDM1a	tetur15g00070.1	2 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Turt-PRDM1b	tetur15g00080.1	SET + 4 Zn-F	1	NP_878911 PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Turt-PRDM3/16	tetur15g03100.1	2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Myriapoda; Chilopoda; Pleurostigmophora; Epimorpha; Geophilomorpha; Linotaeniidae; Strigamia*	*Strigamia maritima*	Human Genome Sequencing Center - Baylor College of Medicine	13	*Smar-PRDM1*	SMAR011793-PA	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Smar-PRDM7/9	SMAR010638-PA	2 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Smar-PRDM12	SMAR003406-PA	SET + 1 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
					Smar-PRDM4	SMAR013152-PA	SET + 2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
					Smar-PRDMX1	SMAR007571-PA	SET	Orphan	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
					Smar-PRDM10/15a	SMAR008196-PA	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
					Smar-PRDM3/16	SMAR011141-PA	3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Smar-PRDM10/15b	SMAR015625-PA	1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
					Smar-PRDM13a	SMAR008272-PA	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Smar-PRDM8	SMAR006435-PA	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Smar-PRDM13b	SMAR010327-PA	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Smar-PRDM10/15c	SMAR013836-PA	-	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
					Smar-PRDMX2	SMAR001098-PA	-	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Crustacea; Branchiopoda; Phyllopoda; Diplostraca; Cladocera; Anomopoda; Daphniidae; Daphnia*	*Daphnia pulex (common water flea)*	Doe Joint Genome Institute	4	*Dpul_PRDM1*	JGI_V11_34713 jgi|Dappu1|34713|gw1.29.298.1	SET + 2 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Dpul_PRDM3/16	JGI_V11_14809 jgi|Dappu1|14809|gw1.106.42.1	1 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Dpul_PRDM8	JGI_V11_28712 jgi|Dappu1|28712|gw1.39.153.1	-	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Dpul_PRDM13	JGI_V11_59850 jgi|Dappu1|59850|e_gw1.86.80.1	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Phthiraptera; Anoplura; Pediculidae; Pediculus*	*Pediculus humanus corporis (human body louse)*	NCBI / J. Craig Venter Institute	6	*Phum-PRDM1*	XP_002432966.1| znf683, putative	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Phum-PRDM3/16a	XP_002430717.1| conserved hypothetical protein	3 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Phum-PRDM3/16b	XP_002430718.1| conserved hypothetical protein	2 Zn-F	3/16	NP_955533 PR domain zinc finger protein 16 isoform 2 [Homo sapiens]
					Phum-PRDM8	XP_002426750.1| conserved hypothetical protein	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Phum-PRDM10/15	XP_002427882.1| hypothetical protein Phum_PHUM351450	1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
					Phum-PRDM13	XP_002432944.1| pr-domain zinc finger protein, putative	-	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Hemiptera; Sternorrhyncha; Aphidiformes; Aphidomorpha; Aphidoidea; Aphididae; Aphidinae; Macrosiphini; Acyrthosiphon*	*Acyrthosiphon pisum (pea aphid)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	5	*Apis-PDM1*	XP_003240564.1| PREDICTED: hypothetical protein LOC100159482	3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Apis- PRDM3/16a	XP_001945435.2| PREDICTED: PR domain zinc finger protein 16-like	2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Apis- PRDM3/16b	XP_001947307.2| PREDICTED: hypothetical protein LOC100167703	2 Zn-F	3/16	XP_003120624 PREDICTED: PR domain zinc finger protein 16-like isoform 2, partial [Homo sapiens]
					Apis- PRDM8	XP_003240182.1| PREDICTED: hypothetical protein LOC100167146	-	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Apis- PRDM10/15	XP_003244166.1| PREDICTED: hypothetical protein LOC100573973	-	10/15	NP_955471 PR domain zinc finger protein 10 isoform 4 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Hemiptera; Euhemiptera; Neohemiptera; Prosorrhyncha; Heteroptera; Euheteroptera; Neoheteroptera; Panheteroptera; Cimicomorpha; Reduvioidea; Reduviidae; Triatominae; Rhodnius*	*Rhodnius prolixus*	EnsemblMetazoa / The Genome Institute at Washington University	4	*Rpro-PRDM3_16a*	RPRC011891-PA	3 Zn-F	3/16	NP_955533 PR domain zinc finger protein 16 isoform 2 [Homo sapiens]
					Rpro-PRDM13	RPRC014451-PA	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Rpro-PRDM10/15	RPRC015184-PA	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Rpro-PRDM1	RPRC001983-PA	3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda;*	*Aedes aegypti (yellow fever*	NCBI / Broad Institute and The Institute for Genomic	4	*Aaeg-PRDM1*	XP_001663975.1| zinc finger protein [Aedes aegypti]	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]

Table S3: *Prdm* genes in ecdysozoans.

	Taxa	Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Diptera; Nematocera; Culicimorpha; Culicoidea; Culicidae; Culicinae; Aedini; Aedes; Stegomyia	*mosquito)*	Research		*Aaeg-PRDM3/16b*	XP_001657808.1| hypothetical protein AaeL_AAEL006442 [Aedes aegypti]	2 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Aaeg-PRDM8	XP_001657036.1| hypothetical protein AaeL_AAEL003602 [Aedes aegypti]	2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Aaeg-PRDM13	XP_001660252.1| hypothetical protein AaeL_AAEL001736 [Aedes aegypti]	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Diptera; Nematocera; Culicimorpha; Culicoidea; Culicidae; Culicinae; Culicini; Culex; Culex; Culex pipiens complex*	*Culex quinquefasciatus (Southern House Mosquito)*	NCBI / Broad Institute and J. Craig Venter Institute	6	*Cqui-PRDM1*	XP_001849050.1| blimp-1	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Cqui-PRDM3/16a1	XP_001862948.1| conserved hypothetical protein	2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Cqui-PRDM3/16b	XP_001851003.1| conserved hypothetical protein	2 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Cqui-PRDM3/16a2	|XP_001850133.1| conserved hypothetical protein	1 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Cqui-PRDM8	XP_001846604.1| conserved hypothetical protein	2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Cqui-PRDM13	XP_001866493.1| conserved hypothetical protein	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophilina; Drosophiliti; Drosophila*	*Drosophila melanogaster*	NCBI / Berkeley *Drosophila* Genome Project	5	*Dmel-PRDM1*	NP_001261442.1| Blimp-1	SET + 3 Zn-F	1	NP_878911 PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Dmel-PRDM3/16a	NP_001246081.1| hamlet	2 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Dmel-PRDM3/16b	NP_609904.2| CG10348	2 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Dmel-PRDM8	NP_001261454.1| CG13287	2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Dmel-PRDM13	NP_648032.1| CG13296	2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Tephritoidea; Tephritidae; Dacinae; Ceratitidini; Ceratitis; Ceratitis*	*Ceratitis capitata (Mediterranean fruit fly)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	4	*Ccap-PRDM1*	XP_004523786.1| PREDICTED: PR domain zinc finger protein 1-like	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Ccap-PRDM3/16a	XP_004533307.1| PREDICTED: transcription factor hamlet-like	3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Ccap-PRDM8	XP_004526269.1| PREDICTED: homeotic protein spalt-major-like	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Ccap-PRDM13	XP_004524607.1| PREDICTED: transcription factor Sp4-like	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Vespoidea; Formicidae; Myrmicinae; Attini; Atta*	*Atta cephalotes (leaf-cutter ant)*	EnsemblMetazoa / The Genome Institute at Washington University	7	*Acep-PRDM1*	ACEP_00011370-PA	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Acep-PRDMX	ACEP_00015009-PA	SET	Orphan	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
					Acep-PRDM3/16a1	ACEP_00004178-PA	2 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Acep-PRDM3/16a2	ACEP_00004175-PA	2 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Acep-PRDM10/15	ACEP_00002360-PA	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
					Acep-PRDM8	ACEP_00008935-PA	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Acep-PRDM13	ACEP_00008621-PA	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Apoidea; Megachilidae; Megachilinae; Megachilini; Megachile*	*Megachile rotundata (alfalfa leafcutting bee)*	NCBI / Center for Bioinformatics and Computational Biology, University of Maryland	4	*Mrot-PRDM1*	XP_003699199.1| PREDICTED: uncharacterized protein LOC100877382	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Mrot-PRDM8	XP_003699750.1| PREDICTED: uncharacterized protein LOC100883161	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Mrot-PRDM10/15	XP_003708393.1| PREDICTED: PR domain zinc finger protein 5-like isoform 2	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Mrot-PRDM13	XP_003707091.1| PREDICTED: zinc finger protein 672-like	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Apoidea; Apidae; Bombinae; Bombini; Bombus; Bombus*	*Bombus terrestris (Buff-tailed Bumblebee)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	6	*Bter-PRDM1*	XP_003398307.1| PREDICTED: hypothetical protein LOC100650488	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Bter-PRDM10/15	XP_003402414.1| PREDICTED: PR domain zinc finger protein 10-like isoform 1	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Bter-PRDM13	XP_003398139.1| PREDICTED: zinc finger protein 672-like	2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Bter-PRDM3/16a1	XP_003394267.1| PREDICTED: LOW QUALITY PROTEIN: transcription factor hamlet-like	SET + 3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]

Table S3: *Prdm* genes in ecdysozoans.

	Taxa	Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
					Bter-PRDM3/16a2	XP_003394396.1| PREDICTED: hypothetical protein LOC100646056	2 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Bter-PRDM8	XP_003398297.1| PREDICTED: hypothetical protein LOC100649145	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Apoidea; Apidae; Bombinae; Bombini; Bombus; Pyrobombus*	*Bombus impatiens*	NCBI / Biotechnology Center, University of Illinois	6	*Bimp-PRDM1*	XP_003492727.1| PREDICTED: hypothetical protein LOC100741638	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Bimp-PRDM10/15	XP_003486673.1| PREDICTED: PR domain zinc finger protein 10-like isoform 1	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Bimp-PRDM13	XP_003492409.1| PREDICTED: hypothetical protein LOC100743194	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
					Bimp-PRDM3/16a1	XP_003494773.1| PREDICTED: LOW QUALITY PROTEIN: transcription factor hamlet-like	SET + 3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Bimp-PRDM3/16a2	XP_003490881.1| PREDICTED: hypothetical protein LOC100748733	2 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Bimp-PRDM8	XP_003485998.1| PREDICTED: hypothetical protein LOC100743174	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Apoidea; Apidae; Apinae; Apini; Apis*	*Apis mellifera (western honey bee)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	4	*Amel-PRDM1*	XP_391847.3| PREDICTED: hypothetical protein LOC408295	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Amel-PRDM3/16a	XP_001121599.2| PREDICTED: hypothetical protein LOC725792	SET + 4 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Amel-PRDM8	|XP_001120809.1| PREDICTED: hypothetical protein LOC724908	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Amel-PRDM10/15	XP_396029.4| PREDICTED: PR domain zinc finger protein 10-like	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Chaldicoidea group; Chalcidoidea; Pteromalidae; Pteromalinae; Nasonia*	*Nasonia vitripennis (jewel wasp)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	5	*Nvit-PRDM1*	XP_001607112.2| PREDICTED: hypothetical protein LOC100123469	SET + 4 Zn-F	1	NP_878911 PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Nvit-PRDM3/16a	XP_001606323.2| PREDICTED: hypothetical protein LOC100122721	2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Nvit-PRDM10/15	XP_003425881.1| PREDICTED: PR domain zinc finger protein 10-like	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Nvit-PRDM8	XP_001603748.2| PREDICTED: hypothetical protein LOC100120070	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Nvit-PRDM13	XP_001604522.2| PREDICTED: sal-like protein 3-like	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Coleoptera; Polyphaga; Cucujiformia; Tenebrionoidea; Tenebrionidae; Tenebrionidae incertae sedis; Tribolium*	*Tribolium castaneum (red flour beetle)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	6	*Tcas-PRDM1*	XP_001815724.1| PREDICTED: similar to Blimp-1 CG5249-PA [Tribolium castaneum]	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Tcas-PRDM3/16a	XP_975197.2| PREDICTED: similar to conserved hypothetical protein [Tribolium castaneum]	3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Tcas-PRDM3/16b	XP_001815516.1| PREDICTED: similar to CG10348 CG10348-PA [Tribolium castaneum]	2 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Tcas-PRDM10/15	XP_974598.1| PREDICTED: similar to PR domain containing 10 [Tribolium castaneum]	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Tcas-PRDM8	XP_975271.1| PREDICTED: similar to CG13287 CG13287-PA [Tribolium castaneum]	2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Tcas-PRDM13	XP_970792.1| PREDICTED: similar to CG13296 CG13296-PA [Tribolium castaneum]	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Amphiesmenoptera; Lepidoptera; Glossata; Neolepidoptera; Heteroneura; Ditrysia; Obtectomera; Bombycoidea; Bombyciformes; Bombycidae; Bombycinae; Bombyx*	*Bombyx mori (silkworm)*	EnsemblMetazoa / International Silkworm Genome Sequencing Consortium	5	*Bmor-PRDM1*	BGIBMGA000319-PA	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Bmor-PRDM3/16a	BGIBMGA008996-PA	1 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Bmor-PRDM8	BGIBMGA012741-PA	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Bmor-PRDMX	BGIBMGA001682-PA	4 Zn-F	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Bmor-PRDM13	BGIBMGA010886-PA	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota;*	*Danaus plexippus (monarch butterfly)*	EnsemblMetazoa / University of Massachusetts Medical School and Genome Project Solutions	6	*Dple-PRDM1*	EHJ68484	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Dple-PRDM3/16a	EHJ66914	1 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Dple-PRDM3/16b	EHJ78527	1 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]

Table S3: *Prdm* genes in ecdysozoans.

	Taxa	Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Amphiesmenoptera; Lepidoptera; Glossata; Neolepidoptera; Heteroneura; Ditrysia; Obtectomera; Papilionoidea; Nymphalidae; Danainae; Danaini; Danaina; Danaus; Danaus				*Dple-PRDMX*	EHJ78152	2 Zn-F	Orphan	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Dple-PRDM8	EHJ67802	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
					Dple-PRDM13	EHJ69758	1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
Arthropoda	*Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Endopterygota; Amphiesmenoptera; Lepidoptera; Glossata; Neolepidoptera; Heteroneura; Ditrysia; Obtectomera; Papilionoidea; Nymphalidae; Heliconiinae; Heliconiini; Heliconius*	*Heliconius melpomene*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	4	*Hmel-PRDM1*	HMEL007072-PA	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Hmel-PRDM3_16a	HMEL003726-PA	SET + 2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Hmel-PRDM3_16b	HMEL002495-PA	1 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Hmel-PRDM8	HMEL017852-PA	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]

Table S4: *Prdm* genes in lophotrochozoans.

Taxa		Species	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
Mollusca	*Mollusca; Bivalvia; Pteriomorphia; Ostreoida; Ostreoidea; Ostreidae; Crassostrea*	*Crassostrea gigas (pacific oyster)*	EnsemblMetazoa /Institute of Oceanology of Chinese Academy of Sciences, Beijing Genomics Institute and Rutgers University	13	*Cgig-PRDM1*	CGI_10024223	SET + 4 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Cgig-PRDM3/16a	CGI_10005698	SET + 2 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Cgig-PRDM3/16b	CGI_10008605	1 Zn-F	3/16	NP_001157472	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Cgig-PRDM4	CGI_10027610	SET + 2 Zn-F	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Cgig-PRDM10/15	CGI_10009638	SET + 1 Zn-F	10/15	NP_955469	PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
					Cgig-PRDM12	CGI_10016801	SET + 1 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Cgig-PRDM13	CGI_10026455	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Cgig-PRDM14b	CGI_10003238	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Cgig-PRDM14a	CGI_10001616	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Cgig-PRDM14c	CGI_10028491	SET	14	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Cgig-PRDM14d	CGI_10016009	SET	14	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Cgig-PRDM14e	CGI_10014816	SET	14	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Cgig-PRDMX	CGI_10016008	SET	Orphan	NP_001091643	probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
Mollusca	*Mollusca; Bivalvia; Pteriomorphia; Pterioida; Pterioidea; Pteriidae; Pinctada*	*Pinctada fucata (pearl oyster)*	Marine Genomics Unit Okinawa Institute of Science and technology	8	*Pfuc-PRDMX1*	pfu_aug1.0_1171.1_65859.t1	2 Zn-F	Orphan	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Pfuc-PRDM3/16a	pfu_aug1.0_6731.1_67521.t1	1 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Pfuc-PRDM3/16b	pfu_aug1.0_3480.1_59254.t1	2 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
					Pfuc-PRDM7/9	pfu_aug1.0_4868.1_16539.t1	SET	7/9	NP_001091643	probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Pfuc-PRDMX2	pfu_aug1.0_83945.1_13302.t1	1 Zn-F	Orphan	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Pfuc-PRDM8	pfu_aug1.0_23752.1_69582.t1	1 Zn-F	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Pfuc-PRDM10/15	pfu_aug1.0_17966.1_03883.t1	1 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 4 [Homo sapiens]
					Pfuc-PRDMX3	pfu_aug1.0_2572.1_23022.t1	SET	Orphan	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Mollusca	*Mollusca; Gastropoda; Patellogastropoda; Lottioidea; Lottiidae; Lottia*	*Lottia gigantea (owl limpet)*	Doe Joint Genome Institute	12	*Lgig-PRDM1*	Lotgi1|86198|gw1.69.204.1	2 ZN-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Lgig-PRDM2	Lotgi1|153726|fgenesh2_pg.C_sca_4000185	SET	2	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Lgig-PRDM4	Lotgi1|65785|gw1.31.124.1	SET	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Lgig-PRDM8	Lotgi1|69958|gw1.218.51.1	-	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Lgig-PRDM7/9	Lotgi1|156439|fgenesh2_pg.C_sca_11000125	SET + 1 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Lgig-PRDMX	Lotgi1|180523|fgenesh2_pm.C_sca_181000001	6 Zn-F	Orphan	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Lgig-PRDM10/15	Lotgi1|104847|e_gw1.3.24.1	SET + 1 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Lgig-PRDM12	Lotgi1|130157|e_gw1.68.116.1	SET + 2 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Lgig-PRDM13	Lotgi1|130257|e_gw1.69.247.1	-	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Lgig-PRDM14a	Lotgi1|114994|e_gw1.20.93.1	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Lgig-PRDM14b	Lotgi1|169169|fgenesh2_pg.C_sca_82000111	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Lgig-PRDM3/16	Lotgi1|88101|gw1.186.69.1	1 Zn-F	3/16	NP_071397	PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Annelida	*Annelida; Polychaeta; Palpata; Aciculata; Phyllodocida; Nereididae; Platynereis*	*Platynereis dumerilii*	*Platynereis* resources - EMBL/ EMBL Heidelberg and Genoscope	11	*Pdum_prdm1a*	LN811422	3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Pdum_prdm1b	LN811423	4 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Pdum_prdm3/16	LN811424	3 Zn-F	3/16	NP_955533	PR domain zinc finger protein 16 isoform 2 [Homo sapiens]
					Pdum_prdm4	LN811425	SET + 5 Zn-F	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Pdum_prdm7_9a	LN811426	SET + 6 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Pdum_prdm7_9b	LN811427	8 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Pdum_prdm8	LN811428	SET + 1 Zn-F	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Pdum_prdm10/15	LN811429	SET + 1 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Pdum-prdm12	LN811430	SET + 2 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Pdum-prdm13	LN811431	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Pdum-prdm14	LN811432	SET + 3 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Annelida	*Annelida; Polychaeta; Scolecida; Capitellida; Capitellidae; Capitella*	*Capitella teleta*	Doe Joint Genome Institute	11	*Ctel-PRDM14a*	Cc103287_e_gw1_24_122_1	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Ctel-PRDM13	Cc164570_estExt_Genewise1_C_430040	SET + 2 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Ctel-PRDM4	Cc168004_estExt_Genewise1Plus_C_2950035	2 ZN-F	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Ctel-PRDM2a	Cc187754_fgenesh1_pg_C_scaffold_236000023	SET	2	NP_001091643	probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
					Ctel-PRDM2b	Cc202965_fgenesh1_pg_C_scaffold_56000002	SET + 1 Zn-F	2	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]

Table S4: *Prdm* genes in lophotrochozoans.

Taxa		Species	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
					Ctel-PRDM10/15	Cc221119_estExt_fgenesh1_pg_C_3990009	SET	10/15	NP_955471	PR domain zinc finger protein 10 isoform 4 [Homo sapiens]
					Ctel-PRDM8	Cc221467_estExt_fgenesh1_pg_C_4900001	1 Zn-F	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Ctel-PRDM3/16	Cc223464_estExt_fgenesh1_pg_C_1690005	2 ZN-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Ctel-PRDM1	Cc226252_estExt_fgenesh1_pg_C_550010	SET + 4 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Ctel-PRDM14b	Cc228499_estExt_fgenesh1_pg_C_6640010	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Ctel-PRDMX	Cc75757_gw1_2103_2_1	SET + 3 Zn-F	Orphan	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Annelida	*Annelida; Clitellata; Hirudinida; Hirudinea; Rhynchobdellida; Glossiphoniidae; Helobdella*	*Helobdella robusta (freshwater leech)*	Doe Joint Genome Institute	8	*Hrob-PRDM14*	Helro1|104861	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Hrob-PRDM3/16a	Helro1|108457	1 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Hrob-PRDM3/16b	Helro1|63800	1 Zn-F	3/16	NP_001157472	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
					Hrob-PRDM13	Helro1|144862	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Hrob-PRDMX	Helro1|87582	1 Zn-F	Orphan	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Hrob-PRDM1a	Helro1|105412	SET + 1 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Hrob-PRDM1b	Helro1|184834	SET + 2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Hrob-PRDM10/15	Helro1|168778	SET	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
Platyhelminthes	*Platyhelminthes; Rhabditophora; Seriata; Tricladida; Continenticola; Geoplanoidea; Dugesiidae; Schmidtea*	*Schmidtea mediterranea*	*Schmidtea mediterranea* Genome Database/ The Genome Institute at Washington University	8	*Smed-PRDMX1*	mk4.000643.13.01	3 Zn-F	Orphan	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Smed-PRDM1	mk4.000179.12.01	3 Zn-F	1	NP_878911	PR domain zinc finger protein 1 isoform 2 [Homo sapiens]
					Smed-PRDM3/16a	mk4.001177.00.01	1 Zn-F	3/16	XP_002346939	PREDICTED: PR domain zinc finger protein 16-like [Homo sapiens]
					Smed-PRDMX2	mk4.043837.00.01	-	Orphan	NP_001098548	MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
					Smed-PRDM3/16b	mk4.000115.12.01	1 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Smed-PRDM8	mk4.005436.03.01	SET	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Smed-PRDM13	mk4.000084.16.01	-	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Smed-PRDM14	mk4.026337.00.01	1 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Platyhelminthes	*Platyhelminthes; Trematoda; Digenea; Strigeidida; Schistosomatoidea; Schistosomatidae; Schistosoma*	*Schistosoma mansoni (blood-flukes)*	EnsemblMetazoa / The Wellcome Trust Sanger Institute and The Institute for Genomic Research	6	*Sman-PRDM8*	Smp_016750.1	-	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Sman-PRDM1	Smp_128350.1	3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Sman-PRDMX2	Smp_131300.1	SET	Orphan	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Sman-PRDMX3	Smp_138420.2.1	-	Orphan	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Sman-PRDM3/16	Smp_140980.1	2 ZN-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Sman-PRDMX1	Smp_156420.1	1 Zn-F	Orphan	NP_001157471	MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
Rotifera	*Rotifera; Bdelloidea; Adinetida; Adinetidae; Adineta*	*Adineta vaga*	Genoscope	9	*Avag_Prdm1a*	GSADVT00032900001	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Avag_Prdm1b	GSADVT00048603001	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Avag_Prdm3/16a	GSADVT00017901001	2 Zn-F	3/16	NP_001157471	MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
					Avag_Prdm3/16b	GSADVT00051695001	3 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Avag_Prdm3/16c	GSADVT00035848001	-	3/16	NP_071397	PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
					Avag_PrdmX1	GSADVT00046916001	-	Orphan	NP_071397	PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
					Avag_PrdmX2	GSADVT00034811001	-	Orphan	NP_001035514	PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
					Avag_Prdm8	GSADVT00005829001	-	8	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Avag_Prdm13	GSADVT00030555001	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]

Table S5: *Prdm* genes in non-vertebrate deuterostomes.

Taxa		Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
Urochordata	*Chordata; Tunicata; Ascidiacea; Enterogona; Phlebobranchia; Cionidae; Ciona*	*Ciona intestinalis (sea squirt)*	NCBI / Doe Joint Genome Institute	7	*Cint-PRDM1a*	NP_001122361.1| zinc finger protein (C2H2)-46	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Cint-PRDM1b	XP_002122594.1| PREDICTED: uncharacterized protein LOC100178922	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Cint-PRDM1c	XP_002124563.1| PREDICTED: zinc finger and BTB domain-containing protein 48-like	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Cint-PRDM7/9	XP_002130308.1| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET + 3 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Cint-PRDM3/16a	NP_001037821.1| zinc finger protein LOC723797	2 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Cint-PRDM3/16b	NP_001071904.1| zinc finger protein	2 Zn-F	3/16	NP_001098548	MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
					Cint-PRDM10/15	XP_002128357.1| PREDICTED: PR domain zinc finger protein 10	SET	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
Urochordata	*Chordata; Tunicata; Ascidiacea; Enterogona; Phlebobranchia; Cionidae; Ciona*	*Ciona savignyi*	Ensembl / Broad Institute	5	*Csav-PRDM1*	ENSCSAVP00000018974	2 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Csav-PRDMX1	ENSCSAVP00000016503	-	Orphan	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Csav-PRDM10/15	ENSCSAVP00000014934	SET	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Csav-PRDM3/16	ENSCSAVP00000007598	1 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Csav-PRDMX2	ENSCSAVP00000007596	1 Zn-F	Orphan	NP_001157472	MDS1 and EVI1 complex locus protein EVI1 isoform e [Homo sapiens]
Cephalochordata	*Chordata; Cephalochordata; Branchiostomidae; Branchiostoma*	*Branchiostoma floridae (Amphioxus)*	Doe Joint Genome Institute	11	Bflo-PRDM1	jgi|Brafl1|120369| estExt_fgenesh2_pg.C_440063	SET + 3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Bflo-PRDM2	jgi|Brafl1|126284| estExt_fgenesh2_pg.C_2100033	SET + 2 Zn-F	2	NP_036363	PR domain zinc finger protein 2 isoform a [Homo sapiens]
					Bflo-PRDM3/16	jgi|Brafl1|126318| estExt_fgenesh2_pg.C_2110039	SET + 5 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Bflo-PRDM4	jgi|Brafl1|199581|e_gw.3.285.1	SET + 1 Zn-F	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Bflo-PRDM6	jgi|Brafl1|90731| fgenesh2_pg.scaffold_201000036	SET + 2 Zn-F	6	NP_001129711	putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Bflo-PRDMX	jgi|Brafl1|96304| fgenesh2_pg.scaffold_282000018	SET + 1 Zn-F	Orphan	NP_001092873	PR domain zinc finger protein 8 [Homo sapiens]
					Bflo-PRDM7/9	jgi|Brafl1|119068| estExt_fgenesh2_pg.C_230072	SET + 3 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Bflo-PRDM10/15	jgi|Brafl1|125674| estExt_fgenesh2_pg.C_1910081	SET + 2 Zn-F	10/15	NP_955471	PR domain zinc finger protein 10 isoform 4 [Homo sapiens]
					Bflo-PRDM12	jgi|Brafl1|105710| fgenesh2_pg.scaffold_504000008	SET + 2 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Bflo-PRDM13	jgi|Brafl1|160222|gw.506.20.1	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Bflo-PRDM14	jgi|Brafl1|240852|e_gw.386.8.1	SET + 3 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Echinodermata	*Echinodermata; Eleutherozoa; Echinozoa; Echinoidea; Euechinoidea; Echinacea; Echinoida; Strongylocentrotidae; Strongylocentrotus*	*Strongylocentrotus purpuratus (purple sea urchin)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	17	*Spur-PRDM1*	NP_001073021.1| Blimp1/Krox1b	SET + 3 Zn-F	1	NP_001189	PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
					Spur-PRDM2	XP_003724631.1| PREDICTED: uncharacterized protein LOC100893443 isoform 2	SET	2	NP_056950	PR domain zinc finger protein 2 isoform b [Homo sapiens]
					Spur-PRDM3/16	XP_003730421.1| PREDICTED: PR domain zinc finger protein 16-like	3 Zn-F	3/16	NP_004982	MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
					Spur-PRDM4	XP_003723338.1| PREDICTED: uncharacterized protein LOC100891124	SET + 3 Zn-F	4	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]
					Spur-PRDM7/9a	XP_792842.3| PREDICTED: zinc finger protein 850-like, partial	SET + 7 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9b	XP_794235.3| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET + 10 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9c	XP_003724787.1| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9d	XP_003728319.1| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET + 2 Zn-F	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9e	XP_788042.2| PREDICTED: histone-lysine N-methyltransferase PRDM9-like	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9f	XP_003727211.1| PREDICTED: zinc finger protein 91-like	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9g	XP_791556.1| PREDICTED: zinc finger protein 227-like	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Spur-PRDM7/9h	XP_787589.2| PREDICTED: uncharacterized protein LOC582550	SET	7/9	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]

Table S5: *Prdm* genes in non-vertebrate deuterostomes.

Taxa		Species (common name)	Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human	
					Spur-PRDM7/9i	XP_003727216.1| PREDICTED: PR domain zinc finger protein 10-like	SET	7/9	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Spur-PRDM7/9j	XP_003726187.1| PREDICTED: uncharacterized protein LOC100888640	SET + 1 Zn-F	7/9	NP_001035514	PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
					Spur_PRDM10_15	XP_796389.3| PREDICTED: uncharacterized protein LOC591744	SET + 2 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Spur-PRDM12	XP_790201.2| PREDICTED: PR domain zinc finger protein 12-like	SET + 2 Zn-F	12	NP_067632	PR domain zinc finger protein 12 [Homo sapiens]
					Spur-PRDM13	XP_003728148.1| PREDICTED: zinc finger protein 26-like	1 Zn-F	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Spur-PRDM14	XP_794184.3| PREDICTED: PR domain zinc finger protein 14-like	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
Hemichordata	*Hemichordata; Enteropneusta; Harrimaniidae; Saccoglossus*	*Saccoglossus kowalevskii (acorn worm)*	NCBI / Human Genome Sequencing Center - Baylor College of Medicine	10	Skow-PRDM2a	XP_002741726.1| PREDICTED: retinoblastoma protein-binding zinc finger protein-like	SET + 1 Zn-F	2	NP_056950	PR domain zinc finger protein 2 isoform b [Homo sapiens]
					Skow-PRDM2b	XP_002732088.1| PREDICTED: retinoblastoma protein-binding zinc finger protein-like	SET + 1 Zn-F	2	NP_001007258	PR domain zinc finger protein 2 isoform c [Homo sapiens]
					Skow-PRDM2c	XP_002736208.1| PREDICTED: retinoblastoma protein-binding zinc finger protein-like	SET + 1 Zn-F	2	NP_056950	PR domain zinc finger protein 2 isoform b [Homo sapiens]
					Skow-PRDM6	NP_001161634.1| PR domain containing 6-like protein	SET + 2 Zn-F	6	NP_001129711	putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
					Skow-PRDM10/15	XP_002731410.1| PREDICTED: PR domain containing 4-like	SET + 3 Zn-F	10/15	NP_064613	PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
					Skow-PRDM13	XP_002740058.1| PREDICTED: zinc finger and BTB domain containing 48-like	SET	13	NP_067633	PR domain zinc finger protein 13 [Homo sapiens]
					Skow-PRDM14a	XP_002739286.1| PREDICTED: PR domain containing 14-like	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Skow-PRDM14b	XP_002737396.1| PREDICTED: PR domain containing 14-like	SET + 2 Zn-F	14	NP_078780	PR domain zinc finger protein 14 [Homo sapiens]
					Skow-PRDMX2	XP_002736218.1| PREDICTED: predicted protein-like	6 Zn-F	Orphan	NP_064612	histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
					Skow-PRDMX1	XP_002741229.1| PREDICTED: zinc finger-like protein-like	SET	Orphan	NP_036538	PR domain zinc finger protein 4 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Homininae; Homo*	*Homo sapiens*	Human	NCBI / Genome Reference Consortium and J. Craig Venter Institute	17	*Hsap-PRDM1*	NP_001189.2| PR domain zinc finger protein 1	SET + 4 Zn-F	1	n/a
						Hsap-PRDM2	NP_056950.2| PR domain zinc finger protein 2	SET + 1 Zn-F	2	n/a
						Hsap-PRDM3	NP_005232.2| MDS1 and EVI1 complex locus protein EVI1	SET + 2 Zn-F	3/16	n/a
						Hsap-PRDM4	NP_036538.3| PR domain zinc finger protein	SET + 2 Zn-F	4	n/a
						Hsap-PRDM5	NP_061169.2| PR domain zinc finger protein 5	SET + 4 Zn-F	5	n/a
						Hsap-PRDM6	NP_001129711.1| putative histone-lysine N-methyltransferase PRDM6	SET + 2 Zn-F	6	n/a
						Hsap-PRDM7	NP_443722.2| probable histone-lysine N-methyltransferase PRDM7	-	7/9	n/a
						Hsap-PRDM8	NP_064611.3| PR domain zinc finger protein 8	SET + 1 Zn-F	8	n/a
						Hsap-PRDM9	NP_064612.2| histone-lysine N-methyltransferase PRDM9	SET + 11 Zn-F	7/9	n/a
						Hsap-PRDM10	NP_955470.1| PR domain zinc finger protein 10	SET	10/15	n/a
						Hsap-PRDM11	NP_064614.2| PR domain-containing protein 11	SET	11	n/a
						Hsap-PRDM12	NP_067632.2| PR domain zinc finger protein 12	SET + 2 Zn-F	12	n/a
						Hsap-PRDM13	NP_067633.2| PR domain zinc finger protein 13	SET + 1 Zn-F	13	n/a
						Hsap-PRDM14	NP_078780.1| PR domain zinc finger protein 14	SET + 2 Zn-F	14	n/a
						Hsap-PRDM15	NP_071398.3| PR domain zinc finger protein 15	SET + 2 Zn-F	10/15	n/a
						Hsap-PRDM16	NP_071397.3| PR domain zinc finger protein 16	SET + 3 Zn-F	3/16	n/a
						Hsap-PRDM17	NP_079017.1| zinc finger protein 408	SET + 6 Zn-F	17	n/a
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Homininae; Pan*	*Pan troglodytes*	Chimpanzee	Ensembl / Washington University School of Medicine and the Broad Institute	17	*Ptro-PRDM1*	ENSPTRP00000031523	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Ptro-PRDM2	ENSPTRP00000059740	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Ptro-PRDM3	ENSPTRP00000026847	2 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Ptro-PRDM4	ENSPTRP00000009163	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ptro-PRDM5	ENSPTRP00000028170	SET + 2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ptro-PRDM6	ENSPTRP00000029386	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Ptro-PRDM7	ENSPTRP00000014513	-	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
						Ptro-PRDM8	ENSPTRP00000027850	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ptro-PRDM9	ENSPTRP00000048166	13 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Ptro-PRDM10	ENSPTRP00000007657	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Ptro-PRDM11	ENSPTRP00000048137	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Ptro-PRDM12	ENSPTRP00000036745	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ptro-PRDM13	ENSPTRP00000049811	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Ptro-PRDM14	ENSPTRP00000034799	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ptro-PRDM15	ENSPTRP00000053945	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Ptro-PRDM16	ENSPTRP00000052931	SET + 5 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Ptro-PRDM17	ENSPTRP00000006167	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata;*	*Pongo abelii*	Orangutan	Ensembl /	15	*Pabe-PDRM1*	ENSPPYP00000018898	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Ponginae; Pongo			Washington University School of Medicine, Baylor College of Medicine		*Pabe-PDRM2*	ENSPPYP00000002150	SET + 1 Zn-F	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Pabe-PDRM3	ENSPPYP00000015958	2 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Pabe-PDRM4	ENSPPYP00000005606	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Pabe-PDRM5	ENSPPYP00000016789	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Pabe-PDRM7	ENSPPYP00000008660	-	7/9	NP_443722 probable histone-lysine N-methyltransferase PRDM7 isoform 2 [Homo sapiens]
						Pabe-PDRM8	ENSPPYP00000016613	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Pabe-PDRM9	ENSPPYP00000017162	SET + 9 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Pabe-PDRM10	ENSPPYP00000004643	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Pabe-PDRM12	ENSPPYP00000022077	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Pabe-PDRM13	ENSPPYP00000018880	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Pabe-PDRM14	ENSPPYP00000020932	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Pabe-PDRM15	ENSPPYP00000012772	SET + 3 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Pabe-PDRM16	ENSPPYP00000002283	SET + 4 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Pabe-PDRM17	ENSPPYP00000003809	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Homininae; Gorilla*	*Gorilla gorilla*	Gorilla	Ensembl / Wellcome Trust Sanger Institute.	16	*Ggor-PRDM1*	ENSGGOP00000001899	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Ggor-PRDM2	ENSGGOP00000022522	SET + 1 Zn-F	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Ggor-PRDM3	ENSGGOP00000027124	4 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Ggor-PRDM4	ENSGGOP00000001228	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ggor-PRDM5	ENSGGOP00000013231	4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ggor-PRDM7	ENSGGOP00000018504	SET	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
						Ggor-PRDM8	ENSGGOP00000007338	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ggor-PRDM9	ENSGGOP00000024099	SET + 3 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Ggor-PRDM10	ENSGGOP00000014988	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Ggor-PRDM11	ENSGGOP00000016682	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Ggor-PRDM12	ENSGGOP00000022906	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ggor-PRDM13	ENSGGOP00000006795	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Ggor-PRDM14	ENSGGOP00000011080	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ggor-PRDM15	ENSGGOP00000011065	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Ggor-PRDM16	ENSGGOP00000003707	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Ggor-PRDM17	ENSGGOP00000009907	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hylobatidae; Nomascus*	*Nomascus leucogenys*	Gibbon	Ensembl / The Broad Institute of Harvard and MIT	16	*Nleu-PRDM1*	ENSNLEP00000016062	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Nleu-PRDM2	ENSNLEP00000012041	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapiens]
						Nleu-PRDM3	ENSNLEP00000006114	4 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Nleu-PRDM4	ENSNLEP00000008216	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Nleu-PRDM5	ENSNLEP00000011114	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Nleu-PRDM6	ENSNLEP00000014650	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Nleu-PRDM7	ENSNLEP00000014567	-	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
						Nleu-PRDM8	ENSNLEP00000010355	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Nleu-PRDM10	ENSNLEP00000009110	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Nleu-PRDM11	ENSNLEP00000021837	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Nleu-PRDM12	ENSNLEP00000015220	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Nleu-PRDM13	ENSNLEP00000016799	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Nleu-PRDM14	ENSNLEP00000013749	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Nleu-PRDM15	ENSNLEP00000017586	SET	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Nleu-PRDM16	ENSNLEP00000009858	5 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Nleu-PRDM17	ENSNLEP00000017179	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Cercopithecoidea; Cercopithecidae; Cercopithecinae; Macaca*	*Macaca mulatta*	Macaque	Ensembl / Human Genome Sequencing Center - Baylor College of Medicine	15	*Mmul-PRDM1*	ENSMMUP00000028193	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mmul-PRDM2	ENSMMUP00000040589	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Mmul-PRDM3	ENSMMUP00000002996	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Mmul-PRDM4	ENSMMUP00000020397	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mmul-PRDM5	ENSMMUP00000004331	4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mmul-PRDM6	ENSMMUP00000013956	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mmul-PRDM7	ENSMMUP00000034910	-	7/9	NP_443722 probable histone-lysine N-methyltransferase PRDM7 isoform 2 [Homo sapiens]
						Mmul-PRDM8	ENSMMUP00000004447	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Mmul-PRDM9	ENSMMUP00000005026	SET + 8 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Mmul-PRDM10	ENSMMUP00000036585	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Mmul-PRDM11	ENSMMUP00000019797	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Mmul-PRDM14	ENSMMUP00000018639	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mmul-PRDM15	ENSMMUP00000035665	SET + 3 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Mmul-PRDM16	ENSMMUP00000040662	SET + 5 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Mmul-PRDM17	ENSMMUP00000025849	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Platyrrhini; Cebidae; Callitrichinae; Callithrix*	*Callithrix jacchus*	Marmoset	Ensembl / Human Genome Sequencing Center - Baylor College of Medicine and The Genome Center, Washington University School of Medicine	17	*Cjac-PRDM1*	ENSCJAP00000011710	SET + 4 Zn-F	1	NP_001189.2| PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Cjac-PRDM2	ENSCJAP00000025358	SET + 1 Zn-F	2	NP_056950.2| PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Cjac-PRDM3a	ENSCJAP00000004909	4 Zn-F	3/16	NP_005232.2| MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Cjac-PRDM4	ENSCJAP00000028158	SET + 3 Zn-F	4	NP_036538.3| PR domain zinc finger protein 4 [Homo sapiens]
						Cjac-PRDM5	ENSCJAP00000005738	SET + 4 Zn-F	5	NP_061169.2| PR domain zinc finger protein 5 [Homo sapiens]
						Cjac-PRDM6	ENSCJAP00000031870	SET + 2 Zn-F	6	NP_001129711.1| putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Cjac-PRDM7	ENSCJAP00000019247	SET	7/9	NP_443722.2| probable histone-lysine N-methyltransferase PRDM7 isoform 2 [Homo sapiens]
						Cjac-PRDM8	ENSCJAP00000027759	SET + 1 Zn-F	8	NP_064611.3| PR domain zinc finger protein 8 [Homo sapiens]
						Cjac-PRDM9	ENSCJAP00000019231	SET + 11 Zn-F	7/9	NP_064612.2| histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Cjac-PRDM10	ENSCJAP00000016976	SET	10/15	NP_955470.1| PR domain zinc finger protein 10 isoform 3 [Homo sapiens]
						Cjac-PRDM11	ENSCJAP00000021173	SET	11	NP_064614.2| PR domain-containing protein 11 [Homo sapiens] non sens RNA?
						Cjac-PRDM12	ENSCJAP00000038158	SET + 3 Zn-F	12	NP_067632.2| PR domain zinc finger protein 12 [Homo sapiens]
						Cjac-PRDM13	ENSCJAP00000002621	SET + 2 Zn-F	13	NP_067633.2| PR domain zinc finger protein 13 [Homo sapiens]
						Cjac-PRDM14	ENSCJAP00000014861	SET + 3 Zn-F	14	NP_078780.1| PR domain zinc finger protein 14 [Homo sapiens]
						Cjac-PRDM15	ENSCJAP00000025414	SET + 3 Zn-F	10/15	NP_071398.3| PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Cjac-PRDM3b	ENSCJAP00000004915	SET + 4 Zn-F	3/16	NP_071397.3| PR domain zinc finger protein 16 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Cjac-PRDM17	ENSCJAP00000042440	6 Zn-F	17	NP_079017.1| zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Haplorrhini; Tarsiiformes; Tarsiidae; Tarsius*	*Tarsius syrichta*	Tarsier	Ensembl / Human Genome Sequencing Center - Baylor College of Medicine and The Broad Institute	12	*Tsyr-PRDM1*	ENSTSYP00000010720	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Tsyr-PRDM2	ENSTSYP00000003309	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Tsyr-PRDM3	ENSTSYP00000008841	5 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Tsyr-PRDM4	ENSTSYP00000008494	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Tsyr-PRDM5	ENSTSYP00000008844	SET + 3 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Tsyr-PRDM6	ENSTSYP00000008643	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Tsyr-PRDM10	ENSTSYP00000000502	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Tsyr-PRDM11	ENSTSYP00000005870	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Tsyr-PRDM14	ENSTSYP00000009734	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Tsyr-PRDM15	ENSTSYP00000010591	SET	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Tsyr-PRDM16	ENSTSYP00000013638	-	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Tsyr-PRDM17	ENSTSYP00000012264	3 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Strepsirrhini; Lorisiformes; Galagidae; Otolemur*	*Otolemur garnettii*	Galago/Bushbaby	Ensembl / The Broad Institute of Harvard and MIT	15	*Ogar-PRDM1*	ENSOGAP00000012568	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Ogar-PRDM2	ENSOGAP00000007245	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Ogar-PRDM3	ENSOGAP00000011484	SET + 3 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Ogar-PRDM4	ENSOGAP00000010688	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ogar-PRDM5	ENSOGAP00000008930	3 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ogar-PRDM8	ENSOGAP00000019247	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ogar-PRDM7_9	ENSOGAP00000015635	SET + 6 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Ogar-PRDM10	ENSOGAP00000009599	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Ogar-PRDM11	ENSOGAP00000004093	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Ogar-PRDM12	ENSOGAP00000006760	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ogar-PRDM13	ENSOGAP00000022042	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Ogar-PRDM14	ENSOGAP00000011835	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ogar-PRDM15	ENSOGAP00000005776	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Ogar-PRDM16	ENSOGAP00000004519	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Ogar-PRDM17	ENSOGAP00000016417	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Primates; Strepsirrhini; Lemuriformes; Cheirogaleidae; Microcebus*	*Microcebus murinus*	Mouse lemur	Ensembl / The Broad Institute of Harvard and MIT	15	*Mmur-PRDM1*	ENSMICP00000009403	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mmur-PRDM2	ENSMICP00000016213	SET + 1 Zn-F	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Mmur-PRDM3	ENSMICP00000000539	5 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Mmur-PRDM4	ENSMICP00000007100	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mmur-PRDM5	ENSMICP00000001336	3	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mmur-PRDM6	ENSMICP00000007053	SET + 3 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mmur-PRDM7_9	ENSMICP00000004601	SET + 6 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Mmur-PRDM10	ENSMICP00000012674	1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Mmur-PRDM11	ENSMICP00000012880	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Mmur-PRDM12	ENSMICP00000014107	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Mmur-PRDM13	ENSMICP00000001001	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Mmur-PRDM14	ENSMICP00000002233	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mmur-PRDM15	ENSMICP00000012612	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Mmur-PRDM16	ENSMICP00000004383	SET + 4 Zn-F	3/16	NP_955533 PR domain zinc finger protein 16 isoform 2 [Homo sapiens]
						Mmur-PRDM17	ENSMICP00000006310	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae; Oryctolagus*	*Oryctolagus cuniculus*	Rabbit	Ensembl / The Broad Institute of Harvard and MIT	16	*Ocun-PRDM1*	ENSOCUP00000013310	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Ocun-PRDM2	ENSOCUP00000008278	1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapie
						Ocun-PRDM3	ENSOCUP00000008768	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b
						Ocun-PRDM4	ENSOCUP00000021480	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ocun-PRDM5	ENSOCUP00000011579	SET	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ocun-PRDM6	ENSOCUP00000002997	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Ocun-PRDM8	ENSOCUP00000022376	SET + 2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ocun-PRDM7/9	ENSOCUP00000023211	SET	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sap
						Ocun-PRDM10	ENSOCUP00000003240	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapi
						Ocun-PRDM11	ENSOCUP00000023331	SET	11	NP_001243624 PR domain-containing protein 11 isoform 1 [Homo sapi
						Ocun-PRDM12	ENSOCUP00000007120	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ocun-PRDM13	ENSOCUP00000025935	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Ocun-PRDM14	ENSOCUP00000025244	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ocun-PRDM15	ENSOCUP00000025070	-	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapi
						Ocun-PRDM16	ENSOCUP00000001002	SET	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapi
						Ocun-PRDM17	ENSOCUP00000020273	6 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus; Mus*	*Mus musculus*	Mouse	NCBI / Genome Reference Consortium	16	*Mmus-PRDM1*	NP_031574.2| PR domain zinc finger protein 1	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mmus-PRDM2	NP_001074824.3| retinoblastoma protein-binding zinc finger protein	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Mmus-PRDM3	NP_031989.2| MDS1 and EVI1 complex locus protein EVI1	4 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
						Mmus-PRDM4	NP_857633.2| PR domain zinc finger protein 4	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mmus-PRDM5	NP_081823.2| PR domain zinc finger protein 5	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mmus-PRDM6	NP_001028453.1| putative histone-lysine N-methyltransferase PRDM6	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mmus-PRDM8	NP_084223.2| PR domain zinc finger protein 8	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Mmus-PRDM7/9	NP_659058.2| histone-lysine N-methyltransferase PRDM9	SET + 11 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Mmus-PRDM10	NP_001074286.1| PR domain zinc finger protein 10	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Mmus-PRDM11	NP_001171007.1| PR domain-containing protein 11	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Mmus-PRDM12	NP_001116834.1| PR domain zinc finger protein 12	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Mmus-PRDM13	NP_001074240.1| PR domain zinc finger protein 13	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Mmus-PRDM14	NP_001074678.2| PR domain zinc finger protein 14	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mmus-PRDM15	NP_659038.2| PR domain containing 15	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Mmus-PRDM16	NP_081780.3| PR domain zinc finger protein 16	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Mmus-PRDM17	NP_001028623.1| zinc finger protein 408	5 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata;*	*Rattus norvegicus*	Rat	Ensembl / Human Genome Sequencing	15	*Rnor-PRDM1*	ENSRNOP00000040939	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Rattus			Center - Baylor College of Medicine		*Rnor-PRDM2*	ENSRNOP00000046011	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Rnor-PRDM3	ENSRNOP00000060380	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Rnor-PRDM4	ENSRNOP00000006886	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Rnor-PRDM5	ENSRNOP00000009569	SET + 2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Rnor-PRDM6	ENSRNOP00000041369	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Rnor-PRDM8	ENSRNOP00000002746	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Rnor-PRDM7/9	ENSRNOP00000060531	SET + 9 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Rnor-PRDM10	ENSRNOP00000010423	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Rnor-PRDM11	ENSRNOP00000061592	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Rnor-PRDM12	ENSRNOP00000012234	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Rnor-PRDM13	ENSRNOP00000010126	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Rnor-PRDM14	ENSRNOP00000032955	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Rnor-PRDM15	ENSRNOP00000041592	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Rnor-PRDM16	ENSRNOP00000064955	SET + 5 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Sciuridae; Xerinae; Marmotini; Ictidomys*	*Ictidomys tridecemlineatus*	Squirrel	Ensembl / The Broad Institute of Harvard and MIT	15	*Itri_PRDM1*	ENSSTOP00000014774	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Itri_PRDM2	ENSSTOP00000023607	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Itri_PRDM3	ENSSTOP00000011991	2 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Itri_PRDM4	ENSSTOP00000014476	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Itri_PRDM5	ENSSTOP00000004269	1 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Itri_PRDM6	ENSSTOP00000005736	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Itri_PRDM8	ENSSTOP00000014046	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Itri_PRDM10	ENSSTOP00000001797	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Itri_PRDM11	ENSSTOP00000015970	SET	11	NP_001243624 PR domain-containing protein 11 isoform 1 [Homo sapiens]
						Itri_PRDM12	ENSSTOP00000005349	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Itri_PRDM13	ENSSTOP00000014829	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Itri_PRDM14	ENSSTOP00000021117	2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Itri_PRDM15	ENSSTOP00000000232	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Itri_PRDM16	ENSSTOP00000019543	3 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Itri_PRDM17	ENSSTOP00000004585	4 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Euarchontoglires; Glires; Rodentia; Hystricognathi; Caviidae; Cavia*	*Cavia porcellus*	Guinea pig	Ensembl / The Broad Institute of Harvard and MIT	14	*Cpor-PRDM1*	ENSCPOP00000012667	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Cpor-PRDM2	ENSCPOP00000013075	SET + 1 Zn-F	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Cpor-PRDM3	ENSCPOP00000012219	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Cpor-PRDM4	ENSCPOP00000016082	SET + 4 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Cpor-PRDM5	ENSCPOP00000011596	SET + 2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Cpor-PRDM6	ENSCPOP00000003841	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Cpor-PRDM8	ENSCPOP00000016305	SET + 2 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Cpor-PRDM10	ENSCPOP00000000340	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Cpor-PRDM11	ENSCPOP00000017055	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Cpor-PRDM12	ENSCPOP00000005323	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Cpor-PRDM13	ENSCPOP00000017578	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Cpor-PRDM14	ENSCPOP00000015743	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Cpor-PRDM15	ENSCPOP00000019896	1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Cpor-PRDM16	ENSCPOP00000010339	SET + 4 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Afrotheria; Proboscidea; Elephantidae; Loxodonta*	*Loxodonta africana*	African elephant	Ensembl / The Broad Institute of Harvard and MIT	16	*Lafr-PRDM1*	ENSLAFP00000019226	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Lafr-PRDM2	ENSLAFP00000010222	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapie
						Lafr-PRDM3	ENSLAFP00000009593	4 Zn-F	3/16	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e
						Lafr-PRDM4	ENSLAFP00000001236	SET + 4 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Lafr-PRDM5	ENSLAFP00000005482	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Lafr-PRDM6	ENSLAFP00000021823	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Lafr-PRDM7/9	ENSLAFP00000017573	SET	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sap
						Lafr-PRDM8	ENSLAFP00000013567	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Lafr-PRDM10	ENSLAFP00000020955	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sap
						Lafr-PRDM11	ENSLAFP00000000917	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Lafr-PRDM12	ENSLAFP00000005864	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Lafr-PRDM13	ENSLAFP00000021409	2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Lafr-PRDM14	ENSLAFP00000013111	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Lafr-PRDM15	ENSLAFP00000007452	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sap
						Lafr-PRDM16	ENSLAFP00000000902	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sap
						Lafr-PRDM17	ENSLAFP00000019611	5 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus; Equus*	*Equus caballus*	Horse	Ensembl / The Broad Institute of Harvard and MIT	15	*Ecab-PRDM1*	ENSECAP00000007075	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Ecab-PRDM2	ENSECAP00000006928	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Ecab-PRDM3	ENSECAP00000018770	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Ecab-PRDM4	ENSECAP00000013230	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ecab-PRDM5	ENSECAP00000009516	4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ecab-PRDM6	ENSECAP00000003259	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Ecab-PRDM8	ENSECAP00000015312	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ecab-PRDM10	ENSECAP00000009737	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Ecab-PRDM11	ENSECAP00000021045	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Ecab-PRDM12	ENSECAP00000004143	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ecab-PRDM13	ENSECAP00000005846	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Ecab-PRDM14	ENSECAP00000012409	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ecab-PRDM15	ENSECAP00000015039	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Ecab-PRDM16	ENSECAP00000015057	SET + 6 Zn-F	16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Ecab-PRDM17	ENSECAP00000008742	6 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Mammalia	*Craniata, Vertebrata, Gnathostomata, Teleostomi Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria;*	*Bos taurus*	Cow	Ensembl / Center for Bioinformatics and Computational Biology, University of Maryland	16	*Btau-PRDM1*	ENSBTAP00000001081	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Btau-PRDM2	ENSBTAP00000027387	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Btau-PRDM3	ENSBTAP00000007717	2 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Btau-PRDM4	ENSBTAP00000017284	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Mammalia; Theria; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bos					*Btau-PRDM5*	ENSBTAP00000046605	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Btau-PRDM6	ENSBTAP00000027421	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Btau-PRDM8	ENSBTAP00000046130	SET + 4 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Btau-PRDM7/9	ENSBTAP00000047652	SET + 13 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Btau-PRDM10	ENSBTAP00000025295	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Btau-PRDM11	ENSBTAP00000008450	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Btau-PRDM12	ENSBTAP00000032579	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Btau-PRDM13	ENSBTAP00000008009	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Btau-PRDM14	ENSBTAP00000000066	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Btau-PRDM15	ENSBTAP00000056120	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Btau-PRDM16	ENSBTAP00000025245	SET + 3 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Btau-PRDM17	ENSBTAP00000039420	5 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae; Sus*	*Sus scrofa*	Pig	Ensembl / The Swine Genome Sequencing Consortium	16	*Sscr-PRDM1*	ENSSSCP00000004716	-	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Sscr-PRDM2	ENSSSCP00000006634	-	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Sscr-PRDM3	ENSSSCP00000012514	SET + 4 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Sscr-PRDM4	ENSSSCP00000000167	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Sscr-PRDM5	ENSSSCP00000009710	3 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Sscr-PRDM6	ENSSSCP00000015146	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Sscr-PRDM8	ENSSSCP00000009869	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Sscr-PRDM7/9	ENSSSCP00000023246	SET + 9 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Sscr-PRDM10	ENSSSCP00000016167	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Sscr-PRDM11	ENSSSCP00000014108	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Sscr-PRDM12	ENSSSCP00000006110	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Sscr-PRDM13	ENSSSCP00000004698	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Sscr-PRDM14	ENSSSCP00000006606	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Sscr-PRDM15	ENSSSCP00000012866	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Sscr-PRDM16	ENSSSCP00000020637	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Sscr-PRDM17	ENSSSCP00000023673	6 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Chiroptera; Microchiroptera; Vespertilionidae; Myotis*	*Myotis lucifugus*	Microbat	Ensembl / The Broad Institute of Harvard and MIT	15	*Mluc-PRDM1*	ENSMLUP00000012812	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mluc-PRDM2	ENSMLUP00000006376	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Mluc-PRDM3	ENSMLUP00000014351	4 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Mluc-PRDM4	ENSMLUP00000000704	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mluc-PRDM5	ENSMLUP00000005570	2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mluc-PRDM6	ENSMLUP00000009157	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mluc-PRDM8	ENSMLUP00000018201	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Mluc-PRDM7/9	ENSMLUP00000009197	SET	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Mluc-PRDM10	ENSMLUP00000019425	SET	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Mluc-PRDM11	ENSMLUP00000015895	SET	11	NP_001243624 PR domain-containing protein 11 isoform 1 [Homo sapiens]
						Mluc-PRDM12	ENSMLUP00000011265	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Mluc-PRDM13	ENSMLUP00000001730	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Mluc-PRDM14	ENSMLUP00000006946	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mluc-PRDM15	ENSMLUP00000001001	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Mluc-PRDM17	ENSMLUP00000016078	4 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Carnivora; Feliformia; Felidae; Felinae; Felis*	*Felis catus*	Cat	Ensembl / International Cat Genome Sequencing Consortium	16	*Fcat-PRDM1*	ENSFCAP00000009991	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Fcat-PRDM2	ENSFCAP00000022446	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Fcat-PRDM3	ENSFCAP00000011745	SET + 4 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Fcat-PRDM4	ENSFCAP00000017415	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Fcat-PRDM5	ENSFCAP00000023804	1 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Fcat-PRDM6	ENSFCAP00000016968	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Fcat-PRDM8	ENSFCAP00000019355	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Fcat-PRDM7/9	ENSFCAP00000003508	SET	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
						Fcat-PRDM10	ENSFCAP00000003791	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Fcat-PRDM11	ENSFCAP00000006188	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Fcat-PRDM12	ENSFCAP00000016661	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Fcat-PRDM13	ENSFCAP00000009553	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Fcat-PRDM14	ENSFCAP00000001333	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Fcat-PRDM15	ENSFCAP00000011771	SET + 2 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Fcat-PRDM16	ENSFCAP00000012503	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Fcat-PRDM17	ENSFCAP00000017836	6 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Carnivora; Caniformia; Mustelidae; Mustelinae; Mustela; Mustela putorius*	*Mustela putorius furo*	Ferret	Ensembl / The Broad Institute of Harvard and MIT	16	*Mput-PRDM1*	ENSMPUP00000009446	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mput-PRDM2	ENSMPUP00000016249	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Mput-PRDM3	ENSMPUP00000016975	SET + 4 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Mput-PRDM4	ENSMPUP00000012141	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mput-PRDM5	ENSMPUP00000017305	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mput-PRDM6	ENSMPUP00000012865	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mput-PRDM8	ENSMPUP00000006502	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Mput-PRDM7/9	ENSMPUP00000006803	SET + 1 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Mput-PRDM10	ENSMPUP00000008641	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Mput-PRDM11	ENSMPUP00000005967	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Mput-PRDM12	ENSMPUP00000012594	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Mput-PRDM13	ENSMPUP00000001631	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Mput-PRDM14	ENSMPUP00000010550	SET + 1 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mput-PRDM15	ENSMPUP00000008868	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Mput-PRDM16	ENSMPUP00000007423	SET + 6 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Mput-PRDM17	ENSMPUP00000005449	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
Mammalia	*Craniata, Vertebrata, Gnathostomata, Teleostomi Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Carnivora; Caniformia; Canidae; Canis; Canis lupus*	*Canis lupus familiaris*	Dog	Ensembl / The Broad Institute of Harvard and MIT	15	*Clup-PRDM1*	ENSCAFP00000005506	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Clup-PRDM2	ENSCAFP00000024082	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Clup-PRDM3	ENSCAFP00000021589	SET + 3 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Clup-PRDM4	ENSCAFP00000040587	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Clup-PRDM5	ENSCAFP00000006212	2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Clup-PRDM6	ENSCAFP00000031903	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Clup-PRDM8	ENSCAFP00000013038	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Clup-PRDM10	ENSCAFP00000041652	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Clup-PRDM11	ENSCAFP00000013839	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Clup-PRDM12	ENSCAFP00000030461	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Clup-PRDM13	ENSCAFP00000031095	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Clup-PRDM14	ENSCAFP00000036507	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Clup-PRDM15	ENSCAFP00000015009	SET + 3 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Clup-PRDM16	ENSCAFP00000028796	SET + 7 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Clup-PRDM17	ENSCAFP00000013443	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata, Vertebrata, Gnathostomata, Teleostomi Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Laurasiatheria; Carnivora; Caniformia; Ursidae; Ailuropoda*	*Ailuropoda melanoleuca*	Panda	Ensembl / Bejing Genomics Institute	16	*Amela-PRDM1*	ENSAMEP00000001570	6 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Amela-PRDM2	ENSAMEP00000007067	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Amela-PRDM3	ENSAMEP00000002205	SET + 4 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Amela-PRDM4	ENSAMEP00000017084	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Amela-PRDM5	ENSAMEP00000003221	2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Amela-PRDM6	ENSAMEP00000016566	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Amela-PRDM7/9	ENSAMEP00000001535	SET	7/9	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1 [Homo sapiens]
						Amela-PRDM8	ENSAMEP00000005538	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Amela-PRDM10	ENSAMEP00000002557	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Amela-PRDM11	ENSAMEP00000000776	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Amela-PRDM12	ENSAMEP00000017138	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Amela-PRDM13	ENSAMEP00000009412	SET + 3 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Amela-PRDM14	ENSAMEP00000006554	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Amela-PRDM15	ENSAMEP00000002303	SET + 2 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Amela-PRDM16	ENSAMEP00000009899	SET + 7 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Amela-PRDM17	ENSAMEP00000007271	6 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Metatheria; Didelphimorphia; Didelphidae; Didelphinae; Monodelphis*	*Monodelphis domestica*	Opossum	Ensembl / The Broad Institute of Harvard and MIT	15	*Mdom-PRDM1*	ENSMODP00000022480	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Mdom-PRDM2	ENSMODP00000035055	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Mdom-PRDM3	ENSMODP00000034995	3 Zn-F	3/16	NP_001192123 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Mdom-PRDM4	ENSMODP00000001757	SET + 4 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Mdom-PRDM5	ENSMODP00000023632	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Mdom-PRDM6	ENSMODP00000016775	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Mdom-PRDM7/9	ENSMODP00000031611	SET	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Mdom-PRDM8	ENSMODP00000026004	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Mdom-PRDM10	ENSMODP00000006132	-	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Mdom-PRDM11	ENSMODP00000024799	SET	11	NP_001243624 PR domain-containing protein 11 isoform 1 [Homo sapiens]
						Mdom-PRDM12	ENSMODP00000015165	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Mdom-PRDM13	ENSMODP00000022552	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Mdom-PRDM14	ENSMODP00000036437	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Mdom-PRDM15	ENSMODP00000026214	SET + 1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Mdom-PRDM16	ENSMODP00000031211	SET + 4 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Metatheria; Dasyuromorphia; Dasyuridae; Sarcophilus*	*Sarcophilus harrisii*	Tasmanian devil	Ensembl / Wellcome Trust Sanger Institute and Illumina	13	*Shar-PRDM1*	ENSSHAP00000011740	SET	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Shar-PRDM2	ENSSHAP00000017120	SET + 5 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Shar-PRDM3	ENSSHAP00000020670	4 Zn-F	3/16	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d [Homo sapiens]
						Shar-PRDM4	ENSSHAP00000019032	-	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Shar-PRDM5	ENSSHAP00000003696	2 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Shar-PRDM6	ENSSHAP00000011079	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Shar-PRDM8	ENSSHAP00000021414	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Shar-PRDM10	ENSSHAP00000005149	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Shar-PRDM11	ENSSHAP00000011422	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Shar-PRDM12	ENSSHAP00000018820	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Shar-PRDM13	ENSSHAP00000015656	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Shar-PRDM14	ENSSHAP00000018236	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Shar-PRDM15	ENSSHAP00000003225	1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
Mammalia	*Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Prototheria; Monotremata; Ornithorhynchidae; Ornithorhynchus*	*Ornithorhynchus anatinus*	Platypus	Ensembl / The Genome Institute at Washington University	14	*Oana-PRDM1*	ENSOANP00000006627	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Oana-PRDM2	ENSOANP00000015708	-	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Oana-PRDM3	ENSOANP00000012088	SET + 4 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Oana-PRDM4	ENSOANP00000008775	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Oana-PRDM5	ENSOANP00000023793	SET + 1 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Oana-PRDM6	ENSOANP00000002432	2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Oana-PRDM10	ENSOANP00000000911	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Oana-PRDM11	ENSOANP00000015071	SET	11	NP_001243624 PR domain-containing protein 11 isoform 1 [Homo sapiens]
						Oana-PRDM12	ENSOANP00000001663	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Oana-PRDM15	ENSOANP00000010290	SET + 2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Oana-PRDM7/9	ENSOANP00000008625	SET + 5 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Oana-PRDM8	ENSOANP00000005509	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Oana-PRDM13	ENSOANP00000029175	-	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Oana-PRDM14	ENSOANP00000028246	2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
Sauropsida	*Craniata, Vertebrata, Gnathostomata,*	*Anolis carolinensis*	Anole lizard	Ensembl / The Broad Institute of Harvard	12	*Acar-PRDM1*	XP_003215674.1| PREDICTED: PR domain zinc finger protein 1-like	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Teleostomi Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Lepidosauria; Squamata; Bifurcata; Unidentata; Episquamata; Toxicofera; Iguania; Iguanidae; Polychrotinae; Anolis			and MIT		*Acar-PRDM3*	XP_003218207.1| PREDICTED: MDS1 and EVI1 complex locus protein EVI1-like	SET + 2 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Acar-PRDM4	XP_003220940.1| PREDICTED: PR domain zinc finger protein 4-like	SET + 2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Acar-PRDM5	XP_003221822.1| PREDICTED: PR domain zinc finger protein 5-like	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Acar-PRDM6	XP_003223027.1| PREDICTED: putative histone-lysine N-methyltransferase PRDM6-like	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Acar-PRDM8	XP_003226938.1| PREDICTED: PR domain zinc finger protein 8-like	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Acar-PRDM10	XP_003223211.1| PREDICTED: PR domain zinc finger protein 10-like isoform 1	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Acar-PRDM11	XP_003214687.1| PREDICTED: zinc finger protein 862-like	SET	11	NP_001243625 PR domain-containing protein 11 isoform 2 [Homo sapiens]
						Acar-PRDM14	XP_003219660.1| PREDICTED: PR domain zinc finger protein 14-like	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Acar-PRDM15	XP_003219007.1| PREDICTED: PR domain zinc finger protein 15-like	SET + 1 Zn-F	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Acar-PRDM16	XP_003228409.1| PREDICTED: PR domain zinc finger protein 16-like, partial	4 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Acar-PRDM17	XP_003214663.1| PREDICTED: zinc finger protein 408-like	4 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Sauropsida	*Craniata, Vertebrata, Gnathostomata, Teleostomi Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Testudines + Archosauria group; Testudines; Cryptodira; Trionychoidea; Trionychidae; Pelodiscus*	*Pelodiscus sinensis*	Chinese soft-shelled turtle	Ensembl / RIKEN institute	16	*Psin-DMRT1*	ENSPSIP00000002732	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Psin-DMRT2	ENSPSIP00000005800	-	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Psin-DMRT3	ENSPSIP00000005311	2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Psin-DMRT4	ENSPSIP00000013424	SET + 2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Psin-DMRT5	ENSPSIP00000015205	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Psin-DMRT6	ENSPSIP00000008417	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Psin-DMRT8	ENSPSIP00000020061	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Psin-DMRT7/9	ENSPSIP00000002371	SET + 13 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Psin-DMRT10	ENSPSIP00000004634	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Psin-DMRT11	ENSPSIP00000014284	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Psin-DMRT12	ENSPSIP00000007299	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Psin-DMRT13	ENSPSIP00000002623	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Psin-DMRT14	ENSPSIP00000020200	2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Psin-DMRT15	ENSPSIP00000007705	SET + 2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Psin-DMRT16	ENSPSIP00000004358	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Psin-DMRT17	ENSPSIP00000005285	5 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Sauropsida	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Testudines + Archosauria group; Archosauria; Dinosauria; Saurischia; Theropoda; Coelurosauria; Aves; Neognathae; Passeriformes; Passeroidea; Estrildidae; Estrildinae; Taeniopygia	*Taeniopygia guttata*	Zebra finch	Ensembl / Washington University Genome Sequencing Center.	14	*Tgut-PRDM1*	ENSTGUP00000012569	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Tgut-PRDM2	ENSTGUP00000002573	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Tgut-PRDM3	ENSTGUP00000011364	2 Zn-F	3/16	NP_001098548 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Tgut-PRDM4	ENSTGUP00000011301	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Tgut-PRDM5	ENSTGUP00000001982	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Tgut-PRDM6	ENSTGUP00000001146	SET + 1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Tgut-PRDM8	ENSTGUP00000001575	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Tgut-PRDM10	ENSTGUP00000000556	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Tgut-PRDM11	ENSTGUP00000010614	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
						Tgut-PRDM12	ENSTGUP00000004826	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Tgut-PRDM13	ENSTGUP00000012643	SET	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Tgut-PRDM14	ENSTGUP00000011805	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Tgut-PRDM15	ENSTGUP00000005639	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Tgut-PRDM16	ENSTGUP00000002902	SET + 1 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Sauropsida	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Sauropsida; Sauria; Testudines + Archosauria group; Archosauria; Dinosauria; Saurischia; Theropoda; Coelurosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus	*Gallus gallus*	Chicken	NCBI / International Chicken Genome Consortium	13	*Ggal-PRDM1*	XP_003641086.1| PREDICTED: PR domain zinc finger protein 1	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Ggal-PRDM2	XP_003642562.1| PREDICTED: PR domain zinc finger protein 2	SET	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Ggal-PRDM3	XP_422804.3| PREDICTED: MDS1 and EVI1 complex locus protein EVI1	SET + 2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Ggal-PRDM4	XP_416301.3| PREDICTED: PR domain zinc finger protein 4	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Ggal-PRDM5	XP_420628.3| PREDICTED: PR domain zinc finger protein 5	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Ggal-PRDM6	XP_424413.3| PREDICTED: putative histone-lysine N-methyltransferase PRDM6	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Ggal-PRDM8	XP_001236845.2| PREDICTED: PR domain zinc finger protein 8-like	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Ggal-PRDM10	XP_417870.3| PREDICTED: PR domain zinc finger protein 10	SET + 1 Zn-F	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Ggal-PRDM11	XP_421099.2| PREDICTED: zinc finger protein 862	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Ggal-PRDM12	XP_415465.2| PREDICTED: PR domain zinc finger protein 12	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Ggal-PRDM14	XP_003640888.1| PREDICTED: PR domain zinc finger protein 14-like	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Ggal-PRDM15	XP_416740.3| PREDICTED: PR domain zinc finger protein 15	SET + 2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Ggal-PRDM16	XP_417551.3| PREDICTED: PR domain zinc finger protein 16	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Amphibia	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amphibia; Batrachia; Anura; Pipoidea; Pipidae; Xenopodinae; Xenopus; Silurana	*Xenopus (Silurana) tropicalis*	Western clawed frog	Ensembl / Doe Joint Genome Institute	15	*Xtro-PRDM1*	ENSXETP00000018988	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Xtro-PRDM2	ENSXETP00000029499	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Xtro-PRDM3	ENSXETP00000049401	1 Zn-F	3/16	NP_001098548 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Xtro-PRDM4	ENSXETP00000025214	1 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Xtro-PRDM5	ENSXETP00000004492	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Xtro-PRDM6	ENSXETP00000022617	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Xtro-PRDM8	ENSXETP00000046540	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Xtro-PRDM7/9	ENSXETP00000005787	7 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Xtro-PRDM10	ENSXETP00000062917	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Xtro-PRDM12	ENSXETP00000002850	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Xtro-PRDM13	ENSXETP00000061235	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Xtro-PRDM14	ENSXETP00000034731	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Xtro-PRDM15	ENSXETP00000000120	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Xtro-PRDM16	ENSXETP00000026324	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Xtro-PRDM17	ENSXETP00000004234	3 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Coelacanthimorpha	Chordata; Craniata; Vertebrata;	*Latimeria chalumnae*	Coelacanth	Ensembl / The Broad Institute of Harvard	16	*Lcha-PRDM1a*	ENSLACP00000019582	SET	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Coelacanthimorpha; Coelacanthiformes; Coelacanthidae; Latimeria			and MI1		*Lcha-PRDM1b*	ENSLACP00000022113	SET	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Lcha-PRDM2	ENSLACP00000005070	SET + 1 Zn-F	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapiens]
						Lcha-PRDM3	ENSLACP00000019597	SET + 2 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Lcha-PRDM4	ENSLACP00000008418	2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Lcha-PRDM5	ENSLACP00000010429	4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Lcha-PRDM6	ENSLACP00000003694	SET + 1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Lcha-PRDM8	ENSLACP00000002086	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Lcha-PRDM10	ENSLACP00000022508	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Lcha-PRDM11	ENSLACP00000020673	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Lcha-PRDM12	ENSLACP00000019977	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Lcha-PRDM13	ENSLACP00000010000	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Lcha-PRDM14	ENSLACP00000005725	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Lcha-PRDM15	ENSLACP00000018399	1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Lcha-PRDM16	ENSLACP00000021648	SET + 1 Zn-F	3/16	XP_003120624 PREDICTED: PR domain zinc finger protein 16-like isoform 2, partial [Homo sapiens]
						Lcha-PRDM17	ENSLACP00000021408	3 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Teleostei	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Otocephala; Ostariophysi; Otophysi; Cypriniphysi; Cypriniformes; Cyprinoidea; Cyprinidae; Danio	*Danio rerio*	Zebrafish	NCBI / Sanger Institute	19	*Dre-PRDM1b*	XP_002665829.1| PREDICTED: PR domain zinc finger protein 1	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Dre-PRDM1a	NP_955809.2| PR domain zinc finger protein 1	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Dre-PRDM2a	XP_002663834.1| PREDICTED: PR domain zinc finger protein 2	SET	2	NP_056950 PR domain zinc finger protein 2 isoform b [Homo sapiens]
						Dre-PRDM2b	XP_001343122.2| PREDICTED: PR domain zinc finger protein 2	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapiens]
						Dre-PRDM3	XP_001920947.3| PREDICTED: LOW QUALITY PROTEIN: MDS1 and EVI1 complex locus protein EVI1	2 Zn-F	3/16	NP_001098548 MDS1 and EVI1 complex locus protein EVI1 isoform b [Homo sapiens]
						Dre-PRDM4	NP_001116215.1| PR domain zinc finger protein 4	SET + 1 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Dre-PRDM5	NP_001002301.1| PR domain zinc finger protein 5	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Dre-PRDM6	XP_003199079.1| PREDICTED: putative histone-lysine N-methyltransferase PRDM6	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Dre-PRDM8a	NP_001098575.1| PR domain zinc finger protein 8	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Dre-PRDM8b	NP_998575.1| PR domain containing 8	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Dre-PRDM8c	XP_001343474.3| PREDICTED: PR domain zinc finger protein 8-like	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Dre-PRDM7/9	NP_957196.1| histone-lysine N-methyltransferase PRDM9	SET + 4 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Dre-PRDM10	XP_003200534.1| PREDICTED: PR domain zinc finger protein 10	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Dre-PRDM11	XP_693848.3| PREDICTED: zinc finger protein 862	SET	11	NP_064614 PR domain-containing protein 11 [Homo sapiens]
						Dre-PRDM12	NP_001007458.1| PR domain zinc finger protein 12	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Dre-PRDM13	XP_001336591.2| PREDICTED: hypothetical protein LOC796276	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Dre-PRDM14	NP_001157303.1| PR domain zinc finger protein 14	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Dre-PRDM16	XP_001922927.3| PREDICTED: PR domain zinc finger protein	2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Dre-PRDM17	XP_001333167.1| PREDICTED: zinc finger protein 408-like	5 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Teleostei	Craniata; Vertebrata;	*Takifugu rubripes*	Fugu	Ensembl /	19	*Trub-PRDM1a*	ENSTRUP00000000947	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Euteleostei; Neognathi; Neoteleostei; Eurypterygii; Ctenosquamata; Acanthomorpha; Euacanthomorpha; Holacanthopterygii; Acanthopterygii; Euacanthopterygii; Percomorpha; Tetraodontiformes; Tetraodontoidei; Tetradontoidea; Tetraodontidae; Takifugu			International Fugu Genome Consortium		*Trub-PRDM1c*	ENSTRUP00000013557	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Trub-PRDM1b	ENSTRUP00000019508	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Trub-PRDM2a	ENSTRUP00000037073	SET	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapie
						Trub-PRDM2b	ENSTRUP00000036979	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapie
						Trub-PRDM3	ENSTRUP00000019908	1 Zn-F	3/16	NP_001098548 MDS1 and EVI1 complex locus protein EVI1 isoform b
						Trub-PRDM4	ENSTRUP00000017108	1 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Trub-PRDM5	ENSTRUP00000035409	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Trub-PRDM6	ENSTRUP00000029271	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Trub-PRDM8	ENSTRUP00000002356	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Trub-PRDM7/9	ENSTRUP00000023424	4 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sap
						Trub-PRDM10	ENSTRUP00000029110	1 Zn-F	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sap
						Trub-PRDM12a	ENSTRUP00000047797	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Trub-PRDM12b	ENSTRUP00000033700	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Trub-PRDM13	ENSTRUP00000000761	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Trub-PRDM14	ENSTRUP00000029691	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Trub-PRDM15	ENSTRUP00000003342	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sap
						Trub-PRDM16	ENSTRUP00000037755	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sap
						Trub-PRDM17	ENSTRUP00000032924	3 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Teleostei	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Euteleostei; Neognathi; Neoteleostei; Eurypterygii; Ctenosquamata; Acanthomorpha; Euacanthomorpha; Holacanthopterygii; Acanthopterygii; Euacanthopterygii; Percomorpha; Smegmamorpha; Gasterosteidae; Gasterosteus	*Gasterosteus aculeatus*	Three-spined stickleback	Ensembl / The Broad Institute of Harvard and MIT	13	*Gacu-PRDM1a*	ENSGACP00000002263	3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Gacu-PRDM1b	ENSGACP00000012338	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Gacu-PRDM1c	ENSGACP00000003553	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Gacu-PRDM2a	ENSGACP00000001573	SET + 1 Zn-F	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapiens]
						Gacu-PRDM3	ENSGACP00000009669	2 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Gacu-PRDM4	ENSGACP00000025056	SET + 2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Gacu-PRDM8	ENSGACP00000009461	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Gacu-PRDM10	ENSGACP00000016253	SET	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sapiens]
						Gacu-PRDM12	ENSGACP00000022065	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Gacu-PRDM13	ENSGACP00000006645	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Gacu-PRDM14	ENSGACP00000003704	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Gacu-PRDM15	ENSGACP00000026688	1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]
						Gacu-PRDM16	ENSGACP00000008736	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
Teleostei	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Euteleostei; Neognathi; Neoteleostei; Eurypterygii; Ctenosquamata; Acanthomorpha; Euacanthomorpha; Holacanthopterygii; Acanthopterygii; Euacanthopterygii; Percomorpha; Smegmamorpha; Atherinomorpha; Beloniformes;	*Oryzias latipes*	Medaka	Ensembl / National Institute of Genetics and the University of Tokyo	19	*Olat-PRDM1b*	ENSORLP00000016227	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Olat-PRDM1a	ENSORLP00000019640	3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Olat-PRDM1c	ENSORLP00000012576	SET + 3 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Olat-PRDM2a	ENSORLP00000004978	SET	2	NP_036363 PR domain zinc finger protein 2 isoform a [Homo sapie
						Olat-PRDM2b	ENSORLP00000005803	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapie
						Olat-PRDM3	ENSORLP00000015118	SET + 1 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a
						Olat-PRDM4	ENSORLP00000013805	2 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Olat-PRDM5	ENSORLP00000020343	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Olat-PRDM6	ENSORLP00000021378	2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Olat-PRDM8a	ENSORLP00000022263	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Olat-PRDM8b	ENSORLP00000010984	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Olat-PRDM7/9	ENSORLP00000011010	6 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sap
						Olat-PRDM10	ENSORLP00000003001	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sap
						Olat-PRDM12a	ENSORLP00000008922	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Adrianichthyoidei; Adrianichthyidae; Oryziinae; Oryzias					*Olat-PRDM12b*	ENSORLP00000021967	SET + 2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Olat-PRDM13	ENSORLP00000002644	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Olat-PRDM14	ENSORLP00000010172	SET + 2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Olat-PRDM15	ENSORLP00000015690	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sap
						Olat-PRDM16	ENSORLP00000005644	SET + 2 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sap
Teleostei	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Euteleostei; Neognathi; Neoteleostei; Eurypterygii; Ctenosquamata; Acanthomorpha; Euacanthomorpha; Holacanthopterygii; Acanthopterygii; Euacanthopterygii; Percomorpha; Smegmamorpha; Atherinomorpha; Cyprinodontiformes; Cyprinodontoidei; Poeciliidae; Poeciliinae; Xiphophorus	*Xiphophorus maculatus*	Platyfish	Ensembl / The Genome Institute, Washington University School of Medicine	17	*Xmac-PRDM1a*	ENSXMAP00000013381	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Xmac-PRDM1b	ENSXMAP00000003426	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Xmac-PRDM1c	ENSXMAP00000016799	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Xmac-PRDM2a	ENSXMAP00000017089	SET	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapie
						Xmac-PRDM3	ENSXMAP00000010771	4 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a
						Xmac-PRDM4	ENSXMAP00000004305	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Xmac-PRDM5	ENSXMAP00000013864	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Xmac-PRDM6	ENSXMAP00000015346	SET	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Xmac-PRDM8	ENSXMAP00000010001	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Xmac-PRDM10	ENSXMAP00000007760	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sap
						Xmac-PRDM12a	ENSXMAP00000005547	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Xmac-PRDM12b	ENSXMAP00000000473	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Xmac-PRDM13	ENSXMAP00000002545	SET + 2 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Xmac-PRDM14	ENSXMAP00000010265	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Xmac-PRDM15	ENSXMAP00000013890	1 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sap
						Xmac-PRDM16	ENSXMAP00000019119	SET + 8 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sap
						Xmac-PRDM17	ENSXMAP00000018382	4 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Teleostei	Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Actinopterygii; Actinopteri; Neopterygii; Teleostei; Elopocephala; Clupeocephala; Euteleostei; Neognathi; Neoteleostei; Eurypterygii; Ctenosquamata; Acanthomorpha; Euacanthomorpha; Holacanthopterygii; Acanthopterygii; Euacanthopterygii; Percomorpha; Perciformes; Labroidei; Cichlidae; African cichlids; Pseudocrenilabrinae; Oreochromini; Oreochromis	*Oreochromis niloticus*	Nile tilapia	Ensembl / The Broad Institute of Harvard and MIT	19	*Onil-PRDM1a*	ENSONIP00000008446	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Onil-PRDM1c	ENSONIP00000017081	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Onil-PRDM1b	ENSONIP00000018515	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Onil-PRDM2b	ENSONIP00000002697	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapiens]
						Onil-PRDM2a	ENSONIP00000004947	SET	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapiens]
						Onil-PRDM3	ENSONIP00000007026	SET + 6 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c [Homo sapiens]
						Onil-PRDM4	ENSONIP00000021069	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Onil-PRDM5	ENSONIP00000003899	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Onil-PRDM6	ENSONIP00000017375	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Onil-PRDM8	ENSONIP00000017647	SET + 1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Onil-PRDM7/9	ENSONIP00000010036	SET + 3 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Onil-PRDM10	ENSONIP00000005157	SET + 1 Zn-F	10/15	NP_064613 PR domain zinc finger protein 10 isoform 1 [Homo sapiens]
						Onil-PRDM12a	ENSONIP00000003595	SET + 3 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Onil-PRDM12b	ENSONIP00000000841	SET	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Onil-PRDM13	ENSONIP00000000138	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Onil-PRDM14	ENSONIP00000017914	SET + 3 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Onil-PRDM15	ENSONIP00000014290	-	10/15	NP_071398 PR domain zinc finger protein 15 isoform 1 [Homo sapiens]
						Onil-PRDM16	ENSONIP00000002644	7 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sapiens]
						Onil-PRDM17	ENSONIP00000008874	3 Zn-F	17	NP_079017 zinc finger protein 408 isoform 1 [Homo sapiens]
Chondrichthyes	Craniata; Vertebrata;	*Callorhinchus milii*	Elephant shark	Elephant shark	17	*Cmil-PRDM1a*	SINCAMP00000008650	SET + 5 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie

Table S6: *Prdm* genes in vertebrates.

Taxa		Species		Source of the used sequences / Sequencing centers	# PRDM genes	Genes	Accession proteins	Domains	PRDM family	Best Blast Hit Human
	Gnathostomata; Chondrichthyes; Holocephali; Chimaeriformes; Callorhinchidae; Callorhinchus			genome project A*STAR Singapore/ International Elephant Shark Genome Sequencing Consortium		*Cmil-PRDM1b*	SINCAMP00000015280	SET + 4 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapie
						Cmil-PRDM2	SINCAMP00000009944	-	2	NP_001007258 PR domain zinc finger protein 2 isoform c [Homo sapie
						Cmil-PRDM3	SINCAMP00000024526	SET + 7 Zn-F	3/16	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c
						Cmil-PRDM4	SINCAMP00000000798	SET + 3 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Cmil-PRDM5	SINCAMP00000016250	SET + 4 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Cmil-PRDM6	SINCAMP00000008474	SET + 2 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [H
						Cmil-PRDM8a	SINCAMP00000023046	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Cmil-PRDM8b	SINCAMP00000006559	SET	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Cmil-PRDM10	SINCAMP00000018809	SET + 1 Zn-F	10/15	NP_955469 PR domain zinc finger protein 10 isoform 2 [Homo sap
						Cmil-PRDM12	SINCAMP00000002817	2 Zn-F	12	NP_067632 PR domain zinc finger protein 12 [Homo sapiens]
						Cmil-PRDM13	SINCAMP00000024288	SET + 1 Zn-F	13	NP_067633 PR domain zinc finger protein 13 [Homo sapiens]
						Cmil-PRDM14a	SINCAMP00000009895	2 Zn-F	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Cmil-PRDM14b	SINCAMP00000015982	-	14	NP_078780 PR domain zinc finger protein 14 [Homo sapiens]
						Cmil-PRDM15	SINCAMP00000002864	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sap
						Cmil-PRDM16	SINCAMP00000011229	SET + 4 Zn-F	3/16	NP_071397 PR domain zinc finger protein 16 isoform 1 [Homo sap
						Cmil-PRDM17	SINCAMP00000000245	5 Zn-F	17	NP_001171680 zinc finger protein 408 isoform 2 [Homo sapiens]
Petromyzontiformes	Craniata; Vertebrata; Hyperoartia; Petromyzontiformes; Petromyzontidae; Petromyzon	*Petromyzon marinus*	Sea lamprey	Ensembl / The Genome Institute at Washington University	9	*Pmar-PRDM1*	ENSPMAP00000008473	SET + 2 Zn-F	1	NP_001189 PR domain zinc finger protein 1 isoform 1 [Homo sapiens]
						Pmar-PRDM3/16	ENSPMAP00000007374	1 Zn-F	3/16	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a [Homo sapiens]
						Pmar-PRDM4	ENSPMAP00000003945	1 Zn-F	4	NP_036538 PR domain zinc finger protein 4 [Homo sapiens]
						Pmar-PRDM5	ENSPMAP00000005770	3 Zn-F	5	NP_061169 PR domain zinc finger protein 5 [Homo sapiens]
						Pmar-PRDM6	ENSPMAP00000007500	1 Zn-F	6	NP_001129711 putative histone-lysine N-methyltransferase PRDM6 [Homo sapiens]
						Pmar-PRDM8	ENSPMAP00000006345	1 Zn-F	8	NP_001092873 PR domain zinc finger protein 8 [Homo sapiens]
						Pmar-PRDM7/9a	ENSPMAP00000008984	SET + 4 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Pmar-PRDM7/9b	ENSPMAP00000010842	SET + 1 Zn-F	7/9	NP_064612 histone-lysine N-methyltransferase PRDM9 [Homo sapiens]
						Pmar-PRDM15	ENSPMAP00000010764	2 Zn-F	10/15	NP_001035514 PR domain zinc finger protein 15 isoform 2 [Homo sapiens]

Table S7: Statistical support of the Prdm subfamilies and some groupings of subfamilies in the different phylogenetic analyses.

Families	Dataset 1			Dataset 2			Dataset 3			Dataset 4		
	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP
PRDM1	0,77	65	97	1	86	99	0,88	77	92	0,94	75	90
PRDM2	0,83	71	95	0,84	77	86	0,91	81	87	0,89	77	87
PRDM3/16	1	95	100	0,8	56	52	1	91	100	0,99	89	100
PRDM4	0,91	88	91	0,99	81	77	0,88	74	91	0,76	77	86
PRDM5	0,92	81	91	1	90	92	0,93	80	96	0,95	81	98
PRDM6	0,99	91	98	1	92	89	0,88	77	79	0,91	75	89
PRDM7/9	0,57	50	71	0,84	65	71	0,88	75	66	0,90	76	96
PRDM8	0,92	85	98	0,98	76	75	0,84	70	75	0,88	69	84
PRDM10/15	0,98	79	92	0,99	71	66	1	91	87	1	96	100
PRDM11	1	100	100	1	91	99	1	94	100	0,99	90	94
PRDM12	0,97	89	99	1	93	95	1	95	96	1	93	99
PRDM13	0,99	95	100	1	92	100	1	91	88	1	91	100
PRDM14	0,79	67	85	0,94	81	74	0,96	88	99	0,97	92	97
PRDM17	1	100	100	0,99	87	96	1	99	100	0,98	97	99
High-order groupings	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP	Phyml aLRT	Phyml Boot	Bayes PP
PRDM14 + PRDM5	0,87	35	60	-	-	-	-	-	-	0,66	45	78
PRDM4 + PRDM10/15	0,88	55	87	-	-	-	-	-	-	0,57	46	64
PRDM2 + PRDM3/16	0,58	15	-	-	-	-	-	-	-	0,49	42	51
PRDM8 + PRDM13	0,94	73	91	0,93	56	98	0,91	66	88	0,88	61	87
PRDM12 + PRDM6	0,20	5	-	0,97	61	100	0,95	71	77	0,41	33	-

Families	Phyml aLRT values														
	without PRDM1	without PRDM2	without PRDM3/16	without PRDM4	without PRDM5	without PRDM6	without PRDM7/9	without PRDM8	without PRDM10/15	without PRDM11	without PRDM12	without PRDM13	without PRDM14	without PRDM17	without Orphans
PRDM1	-	0,81	0,84	0,87	0,82	0,81	0,89	0,85	0,83	0,86	0,89	0,85	0,82	0,85	0,92
PRDM2	0,82	-	0,79	0,80	0,85	0,88	0,78	0,82	0,84	0,85	0,82	0,88	0,81	0,87	0,89
PRDM3/16	0,99	0,94	-	0,89	0,91	0,90	0,94	0,94	0,91	0,92	0,94	0,95	0,92	0,91	0,97
PRDM4	0,74	0,68	0,67	-	0,71	0,71	0,72	0,73	0,78	0,71	0,70	0,71	0,73	0,78	0,77
PRDM5	0,91	0,92	0,92	0,91	-	0,93	0,89	0,91	0,92	0,93	0,89	0,91	0,90	0,92	0,93
PRDM6	0,98	0,91	0,93	0,95	0,97	-	0,99	0,94	0,92	0,95	0,99	0,94	0,95	0,94	0,99
PRDM7/9	0,55	0,61	0,61	0,59	0,58	0,61	-	0,57	0,61	0,66	0,61	0,58	0,54	0,59	0,61
PRDM8	0,87	0,81	0,81	0,82	0,84	0,88	0,89	-	0,84	0,90	0,88	0,81	0,88	0,87	0,86
PRDM10/15	0,81	0,84	0,79	0,80	0,82	0,78	0,79	0,78	-	0,82	0,84	0,77	0,80	0,81	0,84
PRDM11	1	0,99	1	0,98	0,99	1	0,98	1	1	-	0,99	0,97	0,96	0,97	1
PRDM12	0,95	0,97	0,94	0,98	0,99	0,98	0,94	0,96	0,99	0,98	-	0,96	0,98	0,95	0,99
PRDM13	0,94	0,92	0,95	0,94	0,91	0,94	0,90	0,91	0,91	0,93	0,94	-	0,95	0,90	0,97
PRDM14	0,81	0,88	0,84	0,86	0,88	0,79	0,88	0,86	0,84	0,87	0,88	0,81	-	0,81	0,87
PRDM17	1	1	1	1	0,99	1	1	1	1	0,99	1	0,98	1	-	1

Table S8: Character matrix used to infer ancestral sets of Prdm subfamilies in metazoans.

Taxon \ Character	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Saccoglossus kowalevskii	0	1	0	0	0	1	0	0	1	0	0	1	1	0
Strongylocentrotus purpuratus	1	1	1	1	0	0	1	0	1	0	1	1	1	0
Branchiostoma floridae	1	1	1	1	0	1	1	0	1	0	1	1	1	0
Ciona intestinalis	1	0	1	0	0	0	1	0	1	0	0	0	0	0
Ciona savignyi	1	1	1	0	0	0	0	0	1	0	0	0	0	0
Petromyzon marinus	1	0	1	1	1	1	1	1	1	0	0	0	0	0
Callorhinchus milii	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Danio rerio	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Takifugu rubripes	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Gasterosteus aculeatus	1	1	1	1	0	0	0	1	1	0	1	1	1	0
Xiphophorus maculatus	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Oreochromis niloticus	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Oryzias latipes	1	1	1	1	1	1	1	1	1	0	1	1	1	0
Latimeria chalumnae	1	1	1	1	1	1	0	1	1	1	1	1	1	1
Xenopus tropicalis	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Anolis carolinensis	1	0	1	1	1	1	0	1	1	1	0	0	1	1
Pelodiscus sinensis	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gallus gallus	1	1	1	1	1	1	0	1	1	1	1	0	1	0
Taeniopygia guttata	1	1	1	1	1	1	0	1	1	1	1	1	1	0
Ornithorhynchus anatinus	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Sarcophilus harrisii	1	1	1	1	1	1	0	1	1	1	1	1	1	0
Monodelphis domestica	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Macropus eugenii	1	1	1	1	1	1	0	1	1	1	1	1	1	0
Ailuropoda melanoleuca	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canis lupus familiaris	1	1	1	1	1	1	0	1	1	1	1	1	1	1
Mustela putorius furo	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Felis catus	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Myotis lucifugus	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sus scrofa	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bos taurus	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Equus caballus	1	1	1	1	1	1	0	1	1	1	1	1	1	1
Loxodonta africana	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cavia porcellus	1	1	1	1	1	1	0	1	1	1	1	1	1	0
Ictidomys tridecemlineatus	1	1	1	1	1	1	0	1	1	1	1	1	1	1
Rattus norvegicus	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Mus musculus	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table S8: Character matrix used to infer ancestral sets of Prdm subfamilies in metazoans.

Oryctolagus cuniculus	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Microcebus murinus	1	1	1	1	1	1	1	0	1	1	1	1	1	1
Otolemur garnettii	1	1	1	1	1	0	1	1	1	1	1	1	1	1
Tarsius syrichta	1	1	1	1	1	1	0	0	1	1	0	0	1	1
Callithrix jacchus	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Macaca mulatta	1	1	1	1	1	1	1	1	1	1	0	0	1	1
Nomascus leucogenys	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gorilla gorilla	1	1	1	1	1	0	1	1	1	1	1	1	1	1
Pongo abelii	1	1	1	1	1	0	1	1	1	0	1	1	1	1
Pan troglodytes	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Homo sapiens	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Crassostrea gigas	1	0	1	1	0	0	0	0	1	0	1	1	1	0
Lottia gigantea	1	1	1	1	0	0	1	1	1	0	1	1	1	0
Pinctada fucata	0	0	1	0	0	0	1	1	1	0	0	0	0	0
Platynereis dumerilii	1	0	1	1	0	0	1	1	1	0	1	1	1	0
Capitella teleta	1	1	1	1	0	0	0	1	1	0	0	1	1	0
Helobdella robusta	1	0	1	0	0	0	0	0	1	0	0	1	1	0
Adineta vaga	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Schmidtea mediterranea	1	0	1	0	0	0	0	1	0	0	0	1	1	0
Schistosoma mansoni	1	0	1	0	0	0	0	1	0	0	0	0	0	0
Caenorhabditis elegans	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Pristionchus pacificus	1	0	0	0	0	0	1	1	0	0	0	0	0	0
Brugia malayi	1	0	1	0	0	0	1	0	0	0	0	0	0	0
Loa loa	1	0	1	0	0	0	1	0	0	0	0	0	0	0
Wuchereria bancrofti	1	0	1	0	0	0	1	0	0	0	0	0	0	0
Trichinella spiralis	1	0	1	0	0	0	0	0	0	0	0	1	0	0
Metaseiulus occidentalis	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Ixodes scapularis	0	0	1	0	0	0	0	1	1	0	1	1	0	0
Tetranychus urticae	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Strigamia maritima	1	0	1	1	0	0	1	1	1	0	1	1	0	0
Daphnia pulex	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Pediculus humanus corporis	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Acyrthosiphon pisum	1	0	1	0	0	0	0	1	1	0	0	0	0	0
Rhodnius prolixus	1	0	1	0	0	0	0	0	0	0	0	1	0	0
Aedes aegypti	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Culex quinquefasciatus	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Drosophila melanogaster	1	0	1	0	0	0	0	1	0	0	0	1	0	0

Table S8: Character matrix used to infer ancestral sets of Prdm subfamilies in metazoans.

Ceratitis capitata	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Atta cephalotes	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Megachile rotundata	1	0	0	0	0	0	0	1	1	0	0	1	0	0
Bombus terrestris	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Bombus impatiens	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Apis mellifera	1	0	1	0	0	0	0	1	1	0	0	0	0	0
Nasonia vitripennis	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Tribolium castaneum	1	0	1	0	0	0	0	1	1	0	0	1	0	0
Bombyx mori	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Danaus plexippus	1	0	1	0	0	0	0	1	0	0	0	1	0	0
Heliconius melpomene	1	0	1	0	0	0	0	1	0	0	0	0	0	0
Trichoplax adhaerens	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Hydra magnipapillata	0	0	0	0	0	1	1	0	0	0	0	1	0	0
Acropora digitifera	0	0	0	0	0	1	1	0	0	0	1	1	1	0
Nematostella vectensis	0	0	0	0	0	1	1	0	0	0	1	1	1	0
Pleurobrachia bachei	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Mnemiopsis leidyi	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Oscarella carmela	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Amphimedon queenslandica	0	0	0	0	0	0	1	0	0	0	1	0	0	0
Sycon ciliatum	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Table S9: Inference by Dollo-like parsimony of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figure 3.

« X » denotes presence.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Metazoa	3A	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Porifera	3A	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Bilateria + Cnidaria + Ctenophora + Placozoa	3A	-	-	-	-	-	X	X	-	-	-	X	X	-	-
Bilateria + Cnidaria + Ctenophora	3A	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Cnidaria + Ctenophora	3A	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Cnidaria	3A	-	-	-	-	-	X	X	-	-	-	X	X	X	-
Ctenophora	3A	-	-	-	-	-	X	-	X	-	-	-	-	-	-
Metazoa	3B	-	-	-	-	-	X	-	X	-	-	-	-	-	-
Ctenophora	3B	-	-	-	-	-	X	-	X	-	-	-	-	-	-
Bilateria + Cnidaria + Placozoa + Porifera	3B	-	-	-	-	-	X	X	X	-	-	X	-	-	-
Porifera	3B	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Bilateria + Cnidaria + Placozoa	3B	-	-	-	-	-	X	X	X	-	-	X	X	-	-
Bilateria + Cnidaria	3B	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Cnidaria	3B	-	-	-	-	-	X	X	-	-	-	X	X	X	-
Metazoa	3C	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Porifera	3C	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Bilateria + Cnidaria + Ctenophora + Placozoa	3C	-	-	-	-	-	X	X	X	-	-	X	-	-	-
Ctenophora	3C	-	-	-	-	-	X	-	X	-	-	-	-	-	-
Bilateria + Cnidaria + Placozoa	3C	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Cnidaria	3C	-	-	-	-	-	X	X		-	-	X	X	X	-
Bilateria + Placozoa	3C	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Metazoa	3D	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Porifera + Cnidaria + Ctenophora + Placozoa	3D	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Porifera + Cnidaria + Ctenophora	3D	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Porifera	3D	-	-	-	-	-	X	X	-	-	-	X	-	-	-
Cnidaria + Ctenophora	3D	-	-	-	-	-	X	X	X	-	-	X	X	X	-
Cnidaria	3D	-	-	-	-	-	X	X	-	-	-	X	X	X	-
Ctenophora	3D	-	-	-	-	-	X	-	X	-	-	-	-	-	-

Table S10: Inference by Dollo-like parsimony of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5.

« X » denotes presence.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Bilateria	2	X	X	X	X	-	X	X	X	X	-	X	X	X	-
Deuterostomia	2	X	X	X	X	-	X	X	X	X	-	X	X	X	-
Protostomia	2	X	X	X	X	-	-	X	X	X	-	X	X	X	-
Lophotrochozoa	2	X	X	X	X	-	-	X	X	X	-	X	X	X	-
Mollusca	2	X	X	X	X	-	-	X	X	X	-	X	X	X	-
Annelida	2	X	X	X	X	-	-	X	X	X	-	X	X	X	-
Platyhelmintha	2	X	-	X	-	-	-	-	X	-	-	-	X	X	-
Ecdysozoa	4	X	-	X	X	-	-	X	X	X	-	X	X	-	-
Nematoda	4	X	-	X	-	-	-	X	X	-	-	-	X	-	-
Rhabditina + Spirurina	4	X	-	X	-	-	-	X	X	-	-	-	-	-	-
Rhabditina	4	X	-		-	-	-	X	X	-	-	-	-	-	-
Spirurina	4	X	-	X	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	4	X	-	X	X	-	-	X	X	X	-	X	X	-	-
Mandibulata *	4	X	-	X	X	-	-	X	X	X	-	X	X	-	-
Myriochelata *	4	X	-	X	-	-	-	-	X	X	-	X	X	-	-
Chelicerata / Acari	4	X	-	X	-	-	-	-	X	X	-	X	X	-	-
Pancrustacea	4	X	-	X	-	-	-	-	X	X	-	-	X	-	-
Hexapoda	4	X	-	X	-	-	-	-	X	X	-	-	X	-	-
Coleoptera + Mecopterida	4	X	-	X	-	-	-	-	X	X	-	-	X	-	-
Hymenoptera	4	X	-	X	-	-	-	-	X	X	-	-	X	-	-
Mecopterida	4	X	-	X	-	-	-	-	X	-	-	-	X	-	-
Diptera	4	X	-	X	-	-	-	-	X	-	-	-	X	-	-
Lepidoptera	4	X	-	X	-	-	-	-	X	-	-	-	X	-	-
Ambulacraria	2	X	X	X	X	-	X	X			-	X	X	X	-
Chordata	5	X	X	X	X	-	X	X	X	X	-	X	X	X	-
Olfactores	5	X	X	X	X	-	X	X	X	X	-	X	X	X	-
Urochordata	5	X	X	X	-	-	-	X		X	-	-	-	-	-
Vertebrata	5	X	X	X	X	X	X	X	X	X	-	X	X	X	-
Gnathostomata	5	X	X	X	X	X	X	X	X	X	-	X	X	X	X
Euteleostomi	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Teleostei	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Euteleostei	5	X	X	X	X	X	X	X	X	X	-	X	X	X	X
Sarcopterygii	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tetrapoda	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Amniota	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sauropsida	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Testudines + Archosauria	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Aves	5	X	X	X	X	X	X	-	X	X	X	X	X	X	-

Table S10: Inference by Dollo-like parsimony of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5.

« X » denotes presence.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Mammalia	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Metatheria	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	-
Eutheria	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Laurasiatheria	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Glires	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Primates	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Strepsirrhini	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Haplorrhini	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Simiiformes	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mandibulata and Myriochelata, denoted by asterisks, correspond to groups found in the two alternative arthropod phylogenies described in the main text													

Table S11: Probability of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figure 3, defined by the ML approach.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Metazoa	3A	0.03699448	0.03509618	0.03699448	0.03693012	0.00205556	0.98095746	0.84210623	0.09724279	0.03699512	0.00177285	0.96438335	0.37953409	0.10008033	0.00183208
Porifera	3A	0.00391891	0.00372961	0.00391891	0.00391249	0.00043469	0.99961392	0.84248673	0.00992706	0.00391897	0.0004065	0.95030556	0.03807803	0.01021003	0.00041241
Bilateria + Cnidaria + Ctenophora + Placozoa	3A	0.09393005	0.08893818	0.09393005	0.09376081	0.00205312	0.9762763	0.86545008	0.25236162	0.09393173	0.0013097	0.99964614	0.99468718	0.25982336	0.00146545
Bilateria + Cnidaria + Ctenophora	3A	0.3261775	0.30868858	0.3261775	0.32558456	0.00428837	0.99916788	0.99532228	0.88123956	0.3261834	0.00168381	0.99966742	0.99974481	0.90738162	0.00222949
Cnidaria + Ctenophora	3A	0.09469373	0.08966142	0.09469372	0.09452311	0.00207248	0.9999755	0.98976568	0.8614147	0.09469542	0.00132304	0.96728209	0.99311905	0.88335546	0.00148005
Cnidaria	3A	0.02298172	0.02179445	0.02298172	0.02294146	0.00112965	0.99998242	0.99989755	0.20387363	0.02298212	0.00095284	0.965691	0.99992543	0.89904992	0.00098988
Ctenophora	3A	0.01930392	0.01830534	0.01930392	0.01927007	0.00092481	0.99998256	0.19691573	0.88186913	0.01930426	0.00077609	0.19245424	0.19758115	0.17580043	0.00080725
Metazoa	3B	0.01242268	0.01184309	0.01242268	0.01240299	0.00205613	0.99609668	0.32962442	0.44121944	0.01242287	0.00197478	0.39034837	0.13042805	0.03527473	0.00199182
Ctenophora	3B	0.00297863	0.00286362	0.00297863	0.00297472	0.00092157	0.99995059	0.06592192	0.44874174	0.00297867	0.00090542	0.07797156	0.02639479	0.00751323	0.0009088
Bilateria + Cnidaria + Placozoa + Porifera	3B	0.02694512	0.02552422	0.02694512	0.02689687	0.00153083	0.99974814	0.80458695	0.38679769	0.0269456	0.00133138	0.95345588	0.31624339	0.08296851	0.00137316
Porifera	3B	0.00291676	0.00277506	0.00291676	0.00291194	0.00038236	0.99995686	0.80940381	0.03880238	0.0029168	0.00036247	0.94067017	0.03176648	0.00850358	0.00036664
Bilateria + Cnidaria + Placozoa	3B	0.08193686	0.07745576	0.08193685	0.08178468	0.00178769	0.99126526	0.83649923	0.3974858	0.08193837	0.00115867	0.9995823	0.99429825	0.25861809	0.00129043
Bilateria + Cnidaria	3B	0.30518117	0.28833629	0.30518117	0.30460914	0.00389262	0.99965011	0.99861146	0.50547173	0.30518686	0.00152806	0.99989586	0.99993468	0.96934326	0.00202336
Cnidaria	3B	0.07264187	0.06866767	0.07264186	0.07250691	0.00155908	0.99997971	0.99997108	0.11989627	0.07264321	0.00100121	0.99158763	0.99998208	0.96732765	0.00111807
Metazoa	3C	0.01285659	0.01221514	0.01285659	0.01283475	0.00192942	0.99618424	0.86317438	0.24957754	0.01285681	0.00184802	0.86317571	0.12739516	0.11234068	0.00186506
Porifera	3C	0.0015118	0.00144784	0.0015118	0.00150963	0.00042211	0.99989182	0.86106374	0.02511835	0.00151183	0.00041399	0.86106491	0.01293395	0.01143267	0.00041569
Bilateria + Cnidaria + Ctenophora + Placozoa	3C	0.03045599	0.02876921	0.03045599	0.03039855	0.00172142	0.99994419	0.88857184	0.65294776	0.03045656	0.00150736	0.88857331	0.33165163	0.29206369	0.00155218
Ctenophora	3C	0.00655703	0.00622232	0.00655703	0.00654564	0.00085515	0.99998231	0.17683553	0.71659824	0.00655715	0.00081267	0.17683582	0.06632419	0.05846863	0.00082157
Bilateria + Cnidaria + Placozoa	3C	0.08849022	0.08341698	0.08849022	0.08831744	0.00206678	0.99970789	0.99541407	0.64242676	0.08849194	0.00142294	0.99541575	0.9943804	0.87531386	0.00155776
Cnidaria	3C	0.02151813	0.0203212	0.02151813	0.02147737	0.00112831	0.99998019	0.9999445	0.15220797	0.02151853	0.00097641	0.98803024	0.99993591	0.89266456	0.00100822
Bilateria + Placozoa	3C	0.26783477	0.25230275	0.26783477	0.26730582	0.00324412	0.96775682	0.9880247	0.68775595	0.26784004	0.00127298	0.99994447	0.9999359	0.89206208	0.00168574
Metazoa	3D	0.42517553	0.40525089	0.42517553	0.42497205	0.0065133	0.93074576	0.97671828	0.56048409	0.42519029	0.00256549	0.99618204	0.99576773	0.63189239	0.00339345
Porifera + Cnidaria + Ctenophora + Placozoa	3D	0.10930606	0.1042171	0.10930606	0.10925409	0.00237539	0.93667552	0.9695272	0.39272975	0.10930983	0.00136708	0.99988613	0.99923593	0.43625248	0.00157855
Porifera + Cnidaria + Ctenophora	3D	0.03123772	0.02982068	0.03123772	0.03122325	0.0014624	0.99944615	0.99147808	0.36145258	0.03123877	0.00118163	0.9971266	0.96858931	0.3970599	0.00124052
Porifera	3D	0.00334483	0.00320352	0.00334483	0.00334338	0.00037554	0.99995135	0.97419655	0.03627488	0.00334493	0.00034754	0.97917718	0.09682045	0.03982575	0.00035341
Cnidaria + Ctenophora	3D	0.00982696	0.00941921	0.00982696	0.00982279	0.00125933	0.99997783	0.98685082	0.38943381	0.00982726	0.00117854	0.96497141	0.96949549	0.41925828	0.00119548
Cnidaria	3D	0.00295916	0.00286296	0.00295916	0.00295818	0.00093781	0.99998244	0.99987332	0.09251953	0.00295923	0.00091875	0.96385623	0.99972906	0.53053827	0.00092275
Ctenophora	3D	0.00246355	0.00238264	0.00246355	0.00246273	0.00076345	0.99998258	0.19633733	0.50768652	0.00246361	0.00074742	0.19199573	0.19289345	0.08370824	0.00075078

Table S12: Probability of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5, defined by the ML approach.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Bilateria	2	0.99414848	0.94067897	0.99414847	0.99233565	0.01002545	0.99323354	0.99994103	0.96339616	0.99416651	0.00206245	0.99997789	0.99998031	0.99714131	0.00373076
Deuterostomia	2	0.9996787	0.99948444	0.9996787	0.99959588	0.02630194	0.99963281	0.99991098	0.8637556	0.99993358	0.00291024	0.99990122	0.99998003	0.9999532	0.00781097
Protostomia	2	0.99993397	0.92606667	0.99993396	0.99746821	0.00372286	0.28660453	0.99996854	0.99952993	0.99970406	0.0014318	0.99988092	0.99998204	0.9923119	0.0019118
Lophotrochozoa	2	1	0.93993309	1	0.99983678	0.00057611	0.02766509	0.99969398	1	0.99992006	0.00035672	0.99968285	1	0.99999561	0.00040268
Mollusca	2	0.99991409	0.94790926	0.99998262	0.9999076	0.00077662	0.0071677	0.99990192	0.99991409	0.99998196	0.00072486	0.99990147	0.99991409	0.99991392	0.0007357
Annelida	2	0.99998262	0.90530773	0.99998262	0.9999076	0.00077662	0.0071677	0.99313617	0.99991409	0.99998196	0.00072486	0.99312774	0.99998262	0.99998259	0.0007357
Platyhelmintha	2	0.99998277	0.1870273	0.99998277	0.19891417	0.00062788	0.00600323	0.19888583	0.99998277	0.19893069	0.00058435	0.19888362	0.99173843	0.99173495	0.00059347
Ecdysozoa	4	0.99998192	0.2996195	0.99998144	0.9222915	0.00218871	0.09341035	0.99884847	0.99885473	0.99256141	0.00144991	0.98959586	0.99993263	0.32098179	0.00160469
Nematoda	4	0.99998247	0.0779879	0.99992655	0.23856443	0.00128556	0.02481007	0.9907548	0.8824929	0.25668584	0.00109503	0.25592108	0.99405405	0.08349687	0.00113495
Rhabditina + Spirurina	4	0.99998233	0.02327898	0.99325685	0.0694837	0.00120844	0.00797745	0.99990499	0.86255276	0.07469801	0.00115362	0.07447795	0.28687033	0.02486415	0.0011651
Rhabditina	4	0.99998262	0.00513288	0.19760849	0.01430142	0.00075336	0.00209655	0.99998198	0.88277138	0.01533611	0.00074248	0.01529244	0.0574381	0.00544743	0.00074476
Spirurina	4	0.99998248	0.00613289	0.99992657	0.01703394	0.0009258	0.00252281	0.99998183	0.20414213	0.01826414	0.00091287	0.01821222	0.0683218	0.00650688	0.00091558
Arthropoda	4	0.99998174	0.09065326	0.99998232	0.90470189	0.00154367	0.02887347	0.97366946	0.99997288	0.99852901	0.00132232	0.99435715	0.99998191	0.09705335	0.0013687
Mandibulata *	4	0.99998247	0.02269529	0.99998248	0.92215065	0.00104123	0.0076825	0.97387276	0.9999824	0.99985555	0.00098744	0.98938747	0.99998247	0.02425054	0.00099871
Myriochelata *	4	0.99998175	0.02325453	0.99998233	0.28975971	0.00124685	0.00792166	0.2948402	0.99998225	0.99820614	0.00119305	0.88165459	0.99998233	0.02486264	0.00120432
Chelicerata / acari	4	0.99991337	0.02202845	0.99998248	0.21408635	0.00100489	0.00745279	0.23035781	0.9999824	0.9587866	0.00095267	0.95497906	0.99998247	0.02353842	0.00096361
Pancrustacea	4	0.99998262	0.00581315	0.99998262	0.21177694	0.00085465	0.00237542	0.22362064	0.99998262	0.99162229	0.00084233	0.22717331	0.99998262	0.00616928	0.00084491
Hexapoda	4	0.99999992	0.00138323	0.99999992	0.03569941	0.00055708	0.00081046	0.03767272	0.9999996	0.99999793	0.00055503	0.03826464	0.9999996	0.00144256	0.00055546
Coleoptera + Mecopterida	4	0.99998247	0.00110136	0.99998247	0.00389697	0.00103405	0.0010547	0.00405773	0.99998247	0.9942365	0.00103389	0.00410595	0.99998189	0.00110619	0.00103392
Hymenoptera	4	0.99998248	0.00101677	0.9999819	0.00363683	0.00095369	0.00097304	0.00378749	0.99998248	0.99998208	0.00095354	0.00383269	0.99998247	0.0010213	0.00095357
Mecopterida	4	0.99998233	0.00127207	0.99998233	0.00213767	0.00125123	0.00125762	0.00218744	0.99998233	0.30877275	0.00125118	0.00220237	0.99991207	0.00127357	0.00125119
Diptera	4	0.99998233	0.00115296	0.99998233	0.00139362	0.00114716	0.00114894	0.00140746	0.99998233	0.08664815	0.00114715	0.00141161	0.99998174	0.00115337	0.00114715
Lepidoptera	4	0.99998248	0.00094082	0.99998248	0.00114503	0.0009359	0.00093741	0.00115678	0.99998248	0.07348922	0.00093589	0.0011603	0.9916005	0.00094117	0.00093589
Ambulacraria	2	0.99148371	0.99997852	0.99148371	0.99141805	0.00573273	0.99144732	0.99166786	0.17191117	0.99998222	0.00109105	0.99166012	0.9999826	0.99998238	0.00206352
Chordata	5	0.99997995	0.99997406	0.99997995	0.99991346	0.07945803	0.99991472	0.99998126	0.84194696	0.99998207	0.00608132	0.99970136	0.99971093	0.99970768	0.02145427
Olfactores	5	0.99998231	0.9995646	0.99998231	0.99324692	0.29531444	0.99324787	0.99990964	0.87346931	0.99998233	0.01998905	0.96731122	0.96731992	0.96731696	0.07767171
Urochordata	5	0.99998262	0.99139325	0.99998262	0.19760652	0.05911369	0.19760671	0.99166679	0.17383869	0.99998262	0.00448005	0.19246002	0.19246175	0.19246116	0.01592619
Vertebrata	5	0.99998247	0.99132402	0.99998247	0.99992648	0.99412466	0.99992649	0.99990752	0.99893079	0.99998247	0.06454	0.96571321	0.96572012	0.96571777	0.25929469
Gnathostomata	5	0.99998247	0.99991049	0.99998247	0.99998201	0.99993378	0.99998201	0.99131963	0.99997373	0.99998247	0.24526209	0.99969758	0.99969764	0.99969762	0.99382479
Euteleostomi	5	0.99998233	0.99998173	0.99998233	0.99998232	0.99998192	0.99998232	0.99956195	0.99998226	0.99998233	0.97561869	0.99997994	0.99997994	0.99997994	0.99993069
Teleostei	5	0.99998247	0.99998247	0.99998247	0.99998247	0.99998189	0.99998189	0.99997826	0.99998247	0.99998247	0.97617117	0.99998245	0.99998245	0.99998245	0.99998143
Euteleostei	5	0.99998233	0.99998233	0.99998233	0.99998233	0.99991265	0.99991265	0.99990963	0.99998233	0.99998233	0.28172466	0.99998233	0.99998233	0.99998233	0.99990977
Sarcopterygii	5	0.99998247	0.99998246	0.99998247	0.99998247	0.99998247	0.99998247	0.99131254	0.99998247	0.99998247	0.99893727	0.99998245	0.99998245	0.99998245	0.99998202
Tetrapoda	5	0.99998247	0.99998189	0.99998247	0.99998247	0.99998247	0.99998247	0.99989835	0.99998247	0.99998247	0.99082531	0.99998189	0.99998187	0.99998247	0.9999801
Amniota	5	0.99998233	0.99991207	0.99998233	0.99998233	0.99998233	0.99998233	0.99968646	0.99998233	0.99998233	0.99990557	0.99991207	0.99990978	0.99998233	0.99969724
Sauropsida	5	0.99998247	0.99159994	0.99998247	0.99998247	0.99998247	0.99998247	0.96591711	0.99998247	0.99998247	0.99998184	0.99159994	0.99132697	0.99998247	0.99991742
Testudines + Archosauria	5	0.99998248	0.9999128	0.99998248	0.99998248	0.99998248	0.99998248	0.96757391	0.99998248	0.99998248	0.99998247	0.9999128	0.99956904	0.99998248	0.99330527
Aves	5	0.99998262	0.99998205	0.99998262	0.99998262	0.99998262	0.99998262	0.19251215	0.99998262	0.99998262	0.99998262	0.99998205	0.99139677	0.99998262	0.1976181
Mammalia	5	0.99998247	0.99998189	0.99998247	0.99998247	0.99998247	0.99998247	0.99997948	0.99998247	0.99998247	0.99998183	0.99998189	0.99998187	0.99998247	0.96688859

Table S12: Probability of the presence of the different subfamilies at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5, defined by the ML approach.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm4	Prdm5	Prdm6	Prdm7/9	Prdm8	Prdm10/15	Prdm11	Prdm12	Prdm13	Prdm14	Prdm17
Metatheria	**5**	0.99998248	0.99998248	0.99998248	0.99998248	0.99998248	0.99998248	0.99331201	0.99998248	0.99998248	0.99998248	0.99998248	0.99998248	0.99998248	0.22920806
Eutheria	**5**	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99998201	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99972323
Laurasiatheria	**5**	1	1	1	1	1	1	0.99999982	1	1	1	1	1	1	1
Glires	**5**	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99992654	0.99998244	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99997903
Primates	**5**	0.99998233	0.99998233	0.99998233	0.99998233	0.99998233	0.99991264	0.99991205	0.99956542	0.99998233	0.99998233	0.99990976	0.99990976	0.99998233	0.99998233
Strepsirrhini	**5**	0.99998262	0.99998262	0.99998262	0.99998262	0.99998262	0.99166917	0.99998204	0.9913939	0.99998262	0.99998262	0.99998202	0.99998202	0.99998262	0.99998262
Haplorrhini	**5**	0.99998247	0.99998247	0.99998247	0.99998247	0.99998247	0.99998189	0.99159992	0.99132468	0.99998247	0.99998247	0.99132469	0.99132469	0.99998247	0.99998247
Simiiformes	**5**	0.99998248	0.99998248	0.99998248	0.99998248	0.99998248	0.99998245	0.99991279	0.9999105	0.99998248	0.99998247	0.99956617	0.99956617	0.99998248	0.99998248
		Mandibulata and Myriochelata, denoted by asterisks, correspond to groups found in the two alternative arthropod phylogenies described in the main text													

Table S13: Character matrix used to position gene duplications.

Taxon \ Character	Prdm1	Prdm2	Prdm3/16	Prdm7/9	Prdm8	Prdm10/15	Prdm12
Saccoglossus kowalevskii	0	2	0	0	0	1	0
Strongylocentrotus purpuratus	1	1	1	3	0	1	1
Branchiostoma floridae	1	1	1	1	0	1	1
Ciona intestinalis	2	0	2	1	0	1	0
Ciona savignyi	1	1	1	0	0	1	0
Petromyzon marinus	1	0	1	2	1	1	0
Callorhinchus milii	2	1	2	0	2	2	1
Danio rerio	2	2	2	1	3	1	1
Takifugu rubripes	3	2	2	1	1	2	2
Gasterosteus aculeatus	3	1	2	0	1	2	1
Xiphophorus maculatus	3	1	2	0	1	2	2
Oreochromis niloticus	3	2	2	1	1	2	2
Oryzias latipes	3	2	2	1	2	2	2
Latimeria chalumnae	2	1	2	0	1	2	1
Xenopus tropicalis	1	1	2	1	1	2	1
Anolis carolinensis	1	0	2	0	1	2	0
Pelodiscus sinensis	1	1	2	1	1	2	1
Gallus gallus	1	1	2	0	1	2	1
Taeniopygia guttata	1	1	2	0	1	2	1
Ornithorhynchus anatinus	1	1	1	1	1	2	1
Sarcophilus harrisii	1	1	1	0	1	2	1
Monodelphis domestica	1	1	2	1	1	2	1
Macropus eugenii	1	1	2	0	1	2	1
Ailuropoda melanoleuca	1	1	2	1	1	2	1
Canis lupus familiaris	1	1	2	0	1	2	1
Mustela putorius furo	1	1	2	1	1	2	1
Felis catus	1	1	2	1	1	2	1
Myotis lucifugus	1	1	2	1	1	2	1
Sus scrofa	1	1	2	1	1	2	1
Bos taurus	1	1	2	1	1	2	1
Equus caballus	1	1	2	0	1	2	1
Loxodonta africana	1	1	2	1	1	2	1
Cavia porcellus	1	1	2	0	1	2	1
Ictidomys tridecemlineatus	1	1	2	0	1	2	1
Rattus norvegicus	1	1	2	1	1	2	1
Mus musculus	1	1	2	1	1	2	1
Oryctolagus cuniculus	1	1	2	1	1	2	1
Microcebus murinus	1	1	2	1	0	2	1
Otolemur garnettii	1	1	2	1	1	2	1
Tarsius syrichta	1	1	2	0	0	2	0
Callithrix jacchus	1	1	2	2	1	2	1
Macaca mulatta	1	1	2	2	1	2	0
Nomascus leucogenys	1	1	2	1	1	2	1
Gorilla gorilla	1	1	2	2	1	2	1
Pongo abelii	1	1	2	2	1	2	1
Pan troglodytes	1	1	2	2	1	2	1
Homo sapiens	1	1	2	2	1	2	1
Crassostrea gigas	1	0	2	0	0	1	1

Table S13: Character matrix used to position gene duplications.

Lottia gigantea	1	2	1	1	1	1	1
Pinctada fucata	0	0	2	1	1	1	0
Platynereis dumerilii	2	0	1	2	1	1	1
Capitella teleta	1	2	1	0	1	1	0
Helobdella robusta	2	0	2	0	0	1	0
Adineta vaga	2	0	3	0	1	0	0
Schmidtea mediterranea	1	0	2	0	1	0	0
Schistosoma mansoni	1	0	1	0	1	0	0
Caenorhabditis elegans	1	0	0	1	0	0	0
Pristionchus pacificus	2	0	0	1	1	0	0
Brugia malayi	1	0	1	1	0	0	0
Loa loa	2	0	1	1	0	0	0
Wuchereria bancrofti	1	0	1	1	0	0	0
Trichinella spiralis	1	0	1	0	0	0	0
Metaseiulus occidentalis	1	0	1	0	1	0	0
Ixodes scapularis	0	0	1	0	1	1	1
Tetranychus urticae	2	0	1	0	1	0	0
Strigamia maritima	1	0	1	1	1	3	1
Daphnia pulex	1	0	1	0	1	0	0
Pediculus humanus corporis	1	0	2	0	1	1	0
Acyrthosiphon pisum	1	0	2	0	1	1	0
Rhodnius prolixus	1	0	1	0	0	0	0
Aedes aegypti	1	0	1	0	1	0	0
Culex quinquefasciatus	1	0	3	0	1	0	0
Drosophila melanogaster	1	0	2	0	1	0	0
Ceratitis capitata	1	0	1	0	1	0	0
Atta cephalotes	1	0	2	0	1	1	0
Megachile rotundata	1	0	0	0	1	1	0
Bombus terrestris	1	0	2	0	1	1	0
Bombus impatiens	1	0	2	0	1	1	0
Apis mellifera	1	0	1	0	1	1	0
Nasonia vitripennis	1	0	1	0	1	1	0
Tribolium castaneum	1	0	2	0	1	1	0
Bombyx mori	1	0	1	0	1	0	0
Danaus plexippus	1	0	2	0	1	0	0
Heliconius melpomene	1	0	2	0	1	0	0
Trichoplax adhaerens	0	0	0	0	0	0	1
Hydra magnipapillata	0	0	0	2	0	0	0
Acropora digitifera	0	0	0	2	0	0	1
Nematostella vectensis	0	0	0	1	0	0	1
Pleurobrachia bachei	0	0	0	0	0	0	0
Mnemiopsis leidyi	0	0	0	0	1	0	0
Oscarella carmela	0	0	0	0	0	0	0
Amphimedon queenslandica	0	0	0	1	0	0	1
Sycon ciliatum	0	0	0	0	0	0	0

Table S14: Inference by parsimony of the number of genes at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5.

Ancestors (nodes)	Figure	Prdm1	Prdm2	Prdm3/16	Prdm7/9	Prdm8	Prdm10/15	Prdm12
Bilateria	2	1	1	1	1	1	1	1
Deuterostomia	2	1	1	1	1	1	1	1
Protostomia	2	1	1	1	1	1	1	1
Lophotrochozoa	2	1	1	1	1	1	1	1
Mollusca	2	1	1	1	1	1	1	1
Annelida	2	1-2	1	1	1	1	1	1
Platyhelmintha	2	1	0	1	1	1	0	0
Ecdysozoa	4	1	0	1	1	1	1	1
Nematoda	4	1	0	1	1	1	0	0
Arthropoda	4	1	0	1	1	1	1	1
Mandibulata	4	1	0	1	1	1	1	1
Pancrustacea	4	1	0	1	0	1	1	0
Hexapoda	4	1	0	2	0	1	1	0
Coleoptera + Mecopterida	4	1	0	2	0	1	1	0
Hymenoptera	4	1	0	2	0	1	1	0
Mecopterida	4	1	0	2	0	1	0	0
Diptera	4	1	0	2	0	1	0	0
Lepidoptera	4	1	0	2	0	1	0	0
Ambulacraria	2	1	1	1	1	0	1	1
Chordata	5	1	1	1	1	1	1	1
Olfactores	5	1	1	1	1	1	1	1
Urochordata	5	1	1	1	1	0	1	0
Vertebrata	5	1	1	1	1	1	1	1
Gnathostomata	5	2	1	2	1	1	2	1
Euteleostomi	5	2	1	2	1	1	2	1
Teleostei	5	2	2	2	1	1	2	1
Euteleostei	5	3	2	2	1	1	2	1-2
Percomorpharia	5	3	2	2	1	1	2	1-2
Ovalentariae	5	3	2	2	1	1	2	2
Atherinomorphae	5	3	2	2	1	1	2	2
Sarcopterygii	5	2	1	2	1	1	2	1
Tetrapoda	5	1	1	2	1	1	2	1
Amniota	5	1	1	2	1	1	2	1
Sauropsida	5	1	1	2	1	1	2	1
Testudines + Archosauria	5	1	1	2	1	1	2	1
Aves	5	1	1	2	-	1	2	1
Mammalia	5	1	1	2	1	1	2	1
Metatheria	5	1	1	2	1	1	2	1
Eutheria	5	1	1	2	1	1	2	1
Laurasiatheria	5	1	1	2	1	1	2	1
Glires	5	1	1	2	1	1	2	1
Primates	5	1	1	2	1	1	2	1
Strepsirrhini	5	1	1	2	1	1	2	1
Haplorrhini	5	1	1	2	1-2	1	2	1
Simiiformes	5	1	1	2	2	1	2	1

Table S15: Probability of the presence of two (or three for Prdm1) genes at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5.

Ancestors (nodes)	Figure	Prdm1#	Prdm2	Prdm3/16	Prdm7/9	Prdm8	Prdm10/15	Prdm12
Bilateria	2	0,00183491 0,00106498	0,0184791	0,00302886	0,00210661	0,00045628	0,00045801	0,00085916
Deuterostomia	2	0,00056849 0,00027078	0,02913959	0,00169603	0,00724813	0,00005245	0,00044828	0,00173432
Protostomia	2	0,00275717 0,00018544	0,00012121	0,00128748	0,00054746	0,00115726	0,00005409	0,00033452
Lophotrochozoa	2	0,02104596 0,00002163	0,0000026	0,0054619	0,00019715	0,00000041	0,0000098	0,00290701
Mollusca	2	0,00176366 0,00013524	0,03210572	0,04790633	0,0054979	0,00006314	0,00042125	0,00425117
Annelida	2	0,50920865 0,0013424*	0,00103308	0,00495125	0,06219625	0,00006314	0,00042125	0,00301289
Platyhelmintha	2	0,00065118 0,00004773	0,00003328	0,004999417	0,00025373	0,00000215	0,00002642	0,0001745
Ecdysozoa	4	0,00076266 0,00005646	0,00004051	0,00022261	0,00095363	0,00116112	0,00002439	0,00026337
Nematoda	4	0,00135424 0,00006853	0,00003574	0,00033296	0,00396441	0,000466429	0,00000105	0,00019389
Arthropoda	4	0,00313489 0,00021744	0,00003692	0,00022439	0,00096658	0,00043106	0,00007552	0,000062496
Mandibulata	4	0,00112631 0,00003995	0,00003552	0,00198633	0,00418127	0,00004477	0,00119572	0,00321659
Pancrustacea	4	0,00003242 0,00002994	0,00003437	0,00189643	0,00073771	0,00002307	0,00117155	0,00049831
Hexapoda	4	0,00000097 0,00000096	0,0000112	0,84603842	0,00002185	0,00000187	0,00002834	0,00001252
Coleoptera + Mecopterida	4	0,00003053 0,00003053	0,00003555	0,95556913	0,00027909	0,00002279	0,00044761	0,00018737
Hymenoptera	4	0,0000305 0,0000305	0,00003551	0,79158207	0,00027894	0,00002277	0,00001867	0,00018722
Mecopterida	4	0,00003155 0,00003155	0,00003555	0,93448252	0,00027744	0,00002277	0,00044104	0,00018659
Diptera	4	0,00003149 0,00003149	0,00003676	0,6688644	0,00021912	0,00002344	0,000002823	0,000019852
Lepidoptera	4	0,0000305 0,0000305	0,00003575	0,96588107	0,00027749	0,00002277	0,00002767	0,00018662
Ambulacraria	2	0,00109458 0,00099935	0,10518829	0,00266017	0,00703302	0,00002353	0,00002718	0,0034251
Chordata	5	0,00193214 0,00013431	0,00225962	0,00485626	0,01676676	0,00000873	0,00005349	0,0035968
Olfactores	5	0,02931089 0,00025401	0,00069432	0,04914826	0,03637959	0,00150248	0,00046561	0,00178834
Urochordata	5	0,05734377 0,00099283	0,00123053	0,08991445	0,01548407	0,0275501	0,00001876	0,00054069
Vertebrata	5	0,05414754 0,00100237	0,00224634	0,08769	0,1659243	0,08041868	0,02012702	0,00354918
Gnathostomata	5	0,89579788 0,00316663	0,00574477	0,9530363	0,04514214	0,00568519	0,95888692	0,00408455
Euteleostomi	5	0,91804946 0,00689188	0,03813233	0,9971344	0,01168832	0,00296474	0,97887004	0,00439803
Teleostei	5	0,91533961 0,05717579	0,91474863	0,99952626	0,0029833	0,000026042	0,95797237	0,003086977
Euteleostei	5	0,02887929 0,96846063	0,94178242	0,99963164	0,0016078	0,002795474	0,99903575	0,50004181 ***
Percomorpharia	5	0,0008851 0,99892614	0,91344696	0,99967233	0,00415942	0,00002938	0,99995187	0,499993315 ****
Ovalentariae	5	0,00091284 0,99889244	0,96990329	0,99965567	0,00117847	0,00093114	0,99995083	0,97095444
Atherinomorphae	5	0,00005573 0,99987962	0,93975973	0,9996735	0,00401457	0,0279422	0,99997139	0,99808735
Sarcopterygii	5	0,89484469 0,00320632	0,0012682	0,99951469	0,00710224	0,00020455	0,9951131	0,00043693
Tetrapoda	5	0,02738657 0,00093911	0,00008217	0,9994904	0,00357304	0,00002802	0,99996115	0,0002324
Amniota	5	0,00089551 0,00008651	0,00010901	0,99663237	0,00384933	0,00002361	0,99997033	0,00054911
Sauropsida	5	0,05734377 0,00099283	0,000106943	0,99950194	0,00520233	0,00002274	0,99997117	0,00320005
Testudines + Archosauria	5	0,00003128 0,00003052	0,00010175	0,99964907	0,0055601	0,0002275	0,99997121	0,00051479
Aves	5	0,00002954 0,00002952	0,00003742	0,99967318	0,00201811	0,0000221	0,99997182	0,00020136
Mammalia	5	0,00005707 0,00003308	0,00003901	0,94365678	0,00132615	0,00002281	0,99997116	0,0002168

Table S15: Probability of the presence of two (or three for Prdm1) genes at the different nodes of the phylogenetic trees shown in Figures 2, 4 and 5.

Ancestors (nodes)	Figure	Prdm1#	Prdm2	Prdm3/16	Prdm7/9	Prdm8	Prdm10/15	Prdm12
Metatheria	**5**	0,00003053 0,00003051	0,00003552	0,99465144	0,00399135	0,00002277	0,99997119	0,03086977
Eutheria	**5**	0,00003056 0,00003054	0,00003556	0,99938604	0,0003905	0,00002285	0,99997118	0,00018674
Laurasiatheria	**5**	0,00000003 0,00000003	0,00000004	0,9999992	0,0000194	0,00000002	0,9999999	0,0000006
Glires	**5**	0,00003057 0,00003057	0,00003559	0,99965414	0,0010387	0,000002419	0,99997116	0,00019149
Primates	**5**	0,00003152 0,00003152	0,00003672	0,99963745	0,02256399	0,00018946	0,99997055	0,00070885
Strepsirrhini	**5**	0,00002955 0,00002955	0,00003431	0,99967261	0,00164649	0,00081419	0,99997181	0,00021953
Haplorrhini	**5**	0,00003053 0,00003053	0,0000355	0,99965507	0,311224865 **	0,00083615	0,99997118	0,00347271
Simiiformes	**5**	0,0000305 0,0000305	0,00003551	0,99965597	0,92958496	0,00008714	0,99997119	0,00135226
		# For Prdm1, the first number indicates the probability to have two genes and the second number the probability to have three genes						
		* Probability of the presence of a single gene: 0,48810048						
		** Probability of the presence of a single gene: 0,3124865; Probability of the absence of the subfamily: 0,34018363						
		*** Probability of the presence of a single gene: 0,4952612						
		**** Probability of the presence of a single gene: 0,49566259						

Table S16: Summary of the performed AU tests.

Subfamilies	Hypotheses	P-value	Rejected
Prdm1	Teleost sequences form a monophyletic group	0,42	no
	Sarcopterygian sequences form a monophyletic group	0,23	no
	Both teleost and sarcopterygian sequences form a monophyletic group	0,20	no
	Teleost *Prdm1a* and *Prdm1b* sequences do not form a monophyletic group; teleost *Prdm1a* sequences and tetrapod sequences form a monophyletic group	**0,008**	**yes**
	Teleost *Prdm1a* and *Prdm1b* sequences do not form a monophyletic group; teleost *Prdm1b* sequences and tetrapod sequences form a monophyletic group	**0,025**	**yes**
Prdm2	Teleost *Prdm2a* and *Prdm2b* sequences do not form a monophyletic group; teleost *Prdm2a* sequences and other vertebrate sequences form a monophyletic group	**0,004**	**yes**
	Teleost *Prdm2a* and *Prdm2b* sequences do not form a monophyletic group; teleost *Prdm2b* sequences and other vertebrate sequences form a monophyletic group	**0,006**	**yes**
Prdm3/16	*Pmar_prdm3_16* is included in the vertebrate Prdm3 group	**0,001**	**yes**
	Pmar_prdm3_16 is included in the vertebrate Prdm16 group	**0,004**	**yes**
	Dpul_prdm3_16 is included in the hexapod Prdm3_16b group	**0,012**	**yes**
	Dpul_prdm3_16 is found as outgroup to the hexapod Prdm3_16a + Prdm3_16b group	**0,025**	**yes**
	Hymenopteran *Prdm3_16a1* sequences are included in the hexapod Prdm3_16b group	**0,018**	**yes**
	Hymenopteran *Prdm3_16a2* sequences are included in the hexapod Prdm3_16b group	**0,022**	**yes**
Prdm7/9	Primate *Prdm7* sequences form a monophyletic group; Primate *Prdm7* + *Prdm9* sequences is not a monophyletic group	0,12	no
	Primate *Prdm9* sequences form a monophyletic group; Primate *Prdm7* + *Prdm9* sequences is not a monophyletic group	0,29	no
	Primate *Prdm7* sequences form a monophyletic group; Primate *Prdm7* + *Prdm9* sequences sequences is a monophyletic group	0,14	no
	Primate *Prdm9* sequences form a monophyletic group; Primate *Prdm7* + *Prdm9* sequences sequences is a monophyletic group	0,09	no
	Both primate *Prdm7* and *Prdm9* sequences form monophyletic groups; Primate *Prdm7* + *Prdm9* sequences sequences is a monophyletic group	0,10	no
Prdm8	Teleost sequences form a monophyletic group	**0,009**	**yes**
	The two *Callorhinchus* sequences form a monophyletic group	**0,011**	**yes**
	Both teleost and *Callorhinchus* sequences form monophyletic groups	**0,004**	**yes**
	Teleost sequences (excluding *Drer_prdm8c*) form a monophyletic group	**0,034**	**yes**
	Both teleost (excluding *Drer_prdm8c*) and *Callorhinchus* sequences form monophyletic groups	**0,029**	**yes**
Prdm10/15	*Petromyzon Pmar_prdm15* sequence clusters with gnathostome *Prdm10* + non-vertebrate deuterostome sequences; the *Petromyzon* sequence is found as sister group to the *Prdm10* sequences	**0,035**	**yes**
	Petromyzon Pmar_prdm15 sequence clusters with gnathostome *Prdm10* + non-vertebrate deuterostome sequences; the *Petromyzon* sequence forms a monophyletic group with the *Branchiostoma* and *Saccoglossus* sequences	**0,039**	**yes**
	Petromyzon Pmar_prdm15 sequence clusters with gnathostome *Prdm10* + non-vertebrate deuterostome sequences; the *Petromyzon* sequence forms a monophyletic group with the *Ciona* sequences	**0,042**	**yes**
Prdm12	*Gasterosteus Gacu_prdm12a* sequence is the sister group to the Euteleosti *Prdm12a* + *Prdm12b* sequences	**0,029**	**yes**
	Danio Drer_prdm12 forms a monophyletic group with the Euteleosti *Prdm12a* sequences	**0,012**	**yes**
	Danio Drer_prdm12 forms a monophyletic group with the Euteleosti *Prdm12b* sequences	**0,015**	**yes**

Table S17: Proteins from non-metazoan species with similarity to animal Prdm proteins.

Species names	Species abbreviations	Phylogenetic group	Proteins	Domain(s)	Best Blast hit in Human	E-value
Albugo laibachii	*Alai*	Stramenopiles; Oomycetes	-	-	-	-
Allomyces macrogynus	*Amac*	Opisthokonta; Fungi; Blastocladiomycota	AMAG_03264T0	1 X zf-C2H2_4	NP_004982 MDS1 and EVI1 complex locus protein EVI1	3E-07
Arabidopsis thaliana	*Atha*	Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta	NP_196059.1	2 X zf-C2H2_6	NP_001098548 MDS1 and EVI1 complex locus protein EVI1 isoform b	8E-05
Ashbya gossypii	*Agos*	Opisthokonta; Fungi; Dikarya; Ascomycota	AAS53951	1 X zf-H2C2_2	NP_071397 PR domain zinc finger protein 16 isoform 1	3E-10
Aspergillus nidulans	*Anid*	Opisthokonta; Fungi; Dikarya; Ascomycota	CADANIAP00002206	fungal_TF_MHR	NP_001129711 putative histone-lysine N-methyltransferase PRDM6	5E-05
Batrachochytrium dendrobatidis	*Bden*	Opisthokonta; Fungi; Chytridiomycota	fgenesh1_pg_C_scaffold_1000374	1 X zf-H2C2_2	NP_036538 PR domain zinc finger protein 4	2E-10
Capsaspora owczarzaki	*Cowc*	Opisthokonta; Opisthokonta incertae sedis; Ichthyosporea	-	-	-	-
Chondrus crispus	*Ccri*	Rhodophyta; Florideophyceae	XP_005714528	1 X zf-H2C2_2	NP_001098547 MDS1 and EVI1 complex locus protein EVI1 isoform a	1E-11
			XP_005710300	-	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e	9E-08
Cryptococcus neoformans	*Cneo*	Opisthokonta; Fungi; Dikarya; Basidiomycota	AAW46721	-	NP_955469 PR domain zinc finger protein 10 isoform 2	5E-08
Cyanidioschyzon merolae	*Cmer*	Rhodophyta; Bangiophyceae	-	-	-	-
Dictyostelium discoideum	*Ddis*	Amoebozoa; Mycetozoa	DDB0220662	-	NP_071398 PR domain zinc finger protein 15 isoform 1	1E-07
			DDB0304751	IPT_PCSR	NP_036538 PR domain zinc finger protein 4	2,27
			DDB0186030	ADP_ribosyl_GH	NP_001091643 probable histone-lysine N-methyltransferase PRDM7 isoform 1	0,35
Ectocarpus siliculosus	*Esil*	Stramenopiles; PX clade; Phaeophyceae	emb| CBJ32734.1	-	NP_036538 PR domain zinc finger protein 4	7E-02
			emb| CBJ27429	Glo_EDI_BRP_like superfamily	XP_003120623 PR domain zinc finger protein 16-like isoform 1, partial	9,94
Emiliania huxleyi	*Ehux*	Haptophyceae; Isochrysidales	XP_005786304	-	NP_071398 PR domain zinc finger protein 15 isoform 1	4E-02
Entamoeba histolytica	*Ehist*	Amoebozoa; Archamoebae	-	-	-	-
Fonticula alba	*Falb*	Opisthokonta; Nucleariidae and Fonticula group	-	-	-	-
Fusarium oxysporum	*Foxy*	Opisthokonta; Fungi; Dikarya; Ascomycota	FOXG_05245P0	RING superfamily	NP_955469 PR domain zinc finger protein 10 isoform 2	4E-08
Gaeumannomyces graminis	*Ggra*	Opisthokonta; Fungi; Dikarya; Ascomycota	GGTG_10332T0	1 X zf-H2C2_2	XP_003120624 PR domain zinc finger protein 16-like isoform 2, partial	3E-11
			GGTG_05505T0	1 X zf-met	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c	4E-08
Giardia lamblia	*Glam*	Fornicata; Diplomonadida; Hexamitidae	EDO80981	-	NP_064613 PR domain zinc finger protein 10 isoform 1	7E-02
			EDO76536	-	NP_955469 PR domain zinc finger protein 10 isoform 2	0,15
Gibberella moniliformis	*Gmon*	Opisthokonta; Fungi; Dikarya; Ascomycota	FVEG_02887T0	RING superfamily	NP_064613 PR domain zinc finger protein 10 isoform 1	9E-08

Table S17: Proteins from non-metazoan species with similarity to animal Prdm proteins.

Species names	Species abbreviations	Phylogenetic group	Proteins	Domain(s)	Best Blast hit in Human	E-value
Gibberella zeae	*Gzea*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Glomerella graminicola	*Ggram*	Opisthokonta; Fungi; Dikarya; Ascomycota	EFQ29651	fungal_TF_MHR + 2 X zf-C2H2	NP_071398 PR domain zinc finger protein 15 isoform 1	1E-08
Guillardia theta	*Gthe*	Cryptophyta; Pyrenomonadales	EKX45696	SET	NP_064612 histone-lysine N-methyltransferase PRDM9	5E-02
			EKX35628	SET	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c	2E-04
			EKX48836	-	NP_955533 PR domain zinc finger protein 16 isoform 2	9E-02
Komagataella pastoris	*Kpas*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Leptosphaeria maculans	*Lmac*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Magnaporthe oryzae	*Mory*	Opisthokonta; Fungi; Dikarya; Ascomycota	MGG_12536T0	-	NP_955533 PR domain zinc finger protein 16 isoform 2	6E-12
			MGG_03030T0	2 X zf-H2C2_2	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c	6E-08
			MGG_15393T0	1 X zf-H2C2_2	NP_004982 MDS1 and EVI1 complex locus protein EVI1 isoform c	1E-07
			MGG_12009T0	1 X zf-met	NP_001157471 MDS1 and EVI1 complex locus protein EVI1 isoform d	9E-04
Melampsora larici-populina	*Mlar*	Opisthokonta; Fungi; Dikarya; Basidiomycota	-	-	-	-
Monosiga brevicollis	*Mbre*	Opisthokonta; Choanoflagellida; Codonosigidae	fgenesh2_pg.scaffold_14000153	1 X zf-H2C2_2	NP_071397 PR domain zinc finger protein 16 isoform 1	4E-12
			estExt_fgenesh2_pg.C_50338	2 X zf-H2C2_2	NP_071397 PR domain zinc finger protein 16 isoform 1	1E-12
			estExt_fgenesh2_pg.C_120214	1 X zf-C2H2_4	NP_067632 PR domain zinc finger protein 12	8E-11
Mortierella verticillata	*Mver*	Opisthokonta; Fungi; Fungi incertae sedis; Early diverging fungal lineages; Mortierellomycotina	MVEG_03499T0	-	NP_071398 PR domain zinc finger protein 15 isoform 1	6E-04
Neurospora crassa	*Ncra*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Rhizopus oryzae	*Rory*	Opisthokonta; Fungi; Fungi incertae sedis; Early diverging fungal lineages; Mucoromycotina	-	-	-	-
Saccharomyces cerevisiae	*Scer*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Salpingoeca rosetta	*Sros*	Opisthokonta; Choanoflagellida; Salpingoecidae	PTSG_08808T0	3 X zf-H2C2_2	NP_064612 histone-lysine N-methyltransferase PRDM9	1E-40
Schizosaccharomyces pombe	*Spom*	Opisthokonta; Fungi; Dikarya; Ascomycota	-	-	-	-
Sphaeroforma arctica	*Sarc*	Opisthokonta; Opisthokonta incertae sedis; Ichthyosporea	-	-	-	-
Spizellomyces punctatus	*Spun*	Opisthokonta; Fungi; Chytridiomycota; Chytridiomycetes	SPPG_05829T0	1 X zf-H2C2_2	NP_001157472 MDS1 and EVI1 complex locus protein EVI1 isoform e	1E-14
Tetrahymena	*Tthe*	Alveolata; Ciliophora; Intramacronucleata;	EAR96094	-	NP_001092873 PR domain zinc finger protein 8	6E-04
			EAR96093	-	NP_001092873 PR domain zinc finger protein 8	3E-03

Table S17: Proteins from non-metazoan species with similarity to animal Prdm proteins.

Species names	Species abbreviations	Phylogenetic group	Proteins	Domain(s)	Best Blast hit in Human	E-value
thermophila	*Tthe*	Intramacronucleata; Oligohymenophorea	EAR96090	-	NP_001092873 PR domain zinc finger protein 8	1E-02
			EAR92589	-	NP_071398 PR domain zinc finger protein 15	2E-02
Thalassiosira pseudonana	*Tpse*	Stramenopiles; Bacillariophyta; Coscinodiscophyceae	Thaps6535	SET	NP_079532 histone-lysine N-methyltransferase, H3 lysine-9 specific 3 isoform b	5E-10
Thecamonas trahens	*Ttra*	Apusozoa; Apusomonadidae	-	-	-	-
Toxoplasma gondii	*Tgon*	Alveolata; Apicomplexa; Conoidasida	TGME49_046520	-	NP_064613 PR domain zinc finger protein 10 isoform 1	2,74
Trypanosoma brucei	*Tbru*	Euglenozoa; Kinetoplastida	EAN76378	1 X zf-H2C2_2	NP_061169 PR domain zinc finger protein 5	1E-08
			EAN79525	-	NP_443722 probable histone-lysine N-methyltransferase PRDM7 isoform 2	0,93

Table S18: SET domain genes in selected opisthokont species.

Species	Phylogenetic group	Number of putative orthologs of Human SET domain gene	Number of proteins with a SET domain
Allomyces macrogynus	Opisthokonta; Fungi; Blastocladiomycota	25	20
Amphimedon queenslandica	Opisthokonta; Metazoa; Porifera	34	23
Branchiostoma floridae	Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata	63	45
Capsaspora owczarzaki	Opisthokonta; Opisthokonta incertae sedis; Ichthyosporea	29	19
Dictyostelium discoideum	Amoebozoa; Mycetozoa	35	21
Drosophila melanogaster	Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Arthropoda	-	24
Homo sapiens	Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata	-	46
Lottia gigantea	Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Lophotrochozoa; Mollusca	46	31
Mnemiopsis leidyi	Opisthokonta; Metazoa; Eumetazoa; Ctenophora	37	24
Monosiga brevicollis	Opisthokonta; Choanoflagellida; Codonosigidae	27	19
Nematostella vectensis	Opisthokonta; Metazoa; Eumetazoa; Cnidaria	49	31
Saccharomyces cerevisiae	Opisthokonta; Fungi; Dikarya; Ascomycota	-	7
Salpingoeca rosetta	Opisthokonta; Choanoflagellida; Salpingoecidae	22	16
Schizosaccharomyces pombe	Opisthokonta; Fungi; Dikarya; Ascomycota	-	11
Sphaeroforma arctica	Opisthokonta; Opisthokonta incertae sedis; Ichthyosporea	39	26
Spizellomyces punctatus	Opisthokonta; Fungi; Chytridiomycota; Chytridiomycetes	31	21
Strigamia marítima	Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Arthropoda	44	27
Thecamonas trahens	Apusozoa; Apusomonadidae	13	8