

## SUPPLEMENTARY TABLES

**Supplementary Table 1. An adaptive branch-site (aBSREL) test for episodic diversification of the PD1 gene.**

Name	B	LRT	Test p-value	Uncorrected p-value	$\omega$ distribution over sites
CHLOROCEBUS_SABAEUS	0.221	151.8573	0	0	$\omega_1 = 0.0287$ (72%) $\omega_2 = 197$ (28%)
ACINONYX_JUBATUS	0.1127	134.3588	0	0	$\omega_1 = 0.0326$ (84%) $\omega_2 = 229$ (16%)
OVIS_ARIES	0.1765	148.3166	0	0	$\omega_1 = 0.732$ (79%) $\omega_2 = \infty$ (21%)
TAENIOPYGIA_GUTTATA	0.0778	57.4098	0	0	$\omega_1 = 0.361$ (93%) $\omega_2 = 745$ (6.9%)
CHRYSEMYS_PICTA	0.1014	84.2906	0	0	$\omega_1 = 0.205$ (84%) $\omega_2 = \infty$ (16%)
Node47	0.0143	37.3204	0	0	$\omega_1 = 0.00$ (92%) $\omega_2 = 131$ (7.8%)
Node38	0.1042	25.0463	0.0001	0	$\omega_1 = 0.441$ (89%) $\omega_2 = 5000$ (11%)
ALLIGATOR_SINENSIS	0.2851	22.3465	0.0004	0	$\omega_1 = 0.288$ (72%) $\omega_2 = 20.3$ (28%)
Node37	0.1629	18.77	0.0025	0	$\omega_1 = 0.114$ (72%) $\omega_2 = 56.3$ (28%)
CORVUS_CORNIX	0.0603	17.9611	0.0037	0	$\omega_1 = 0.109$ (95%) $\omega_2 = 35.9$ (4.6%)
Node36	0.0821	15.1483	0.0151	0.0002	$\omega_1 = 0.00$ (74%) $\omega_2 = 93.5$ (26%)
APTERYX_AUSTRALIS_MANTELLI	0.1045	14.5227	0.0205	0.0002	$\omega_1 = 0.244$ (95%) $\omega_2 = \infty$ (5.5%)

B; Optimized branch length

LRT: Likelihood ratio test statistic for  $\omega_+ = 1$  (null) versus  $\omega_+$  unrestricted (alternative)

Test p-value: The p-value corrected for multiple testing.

Uncorrected P-value: The uncorrected p-value for the LRT test.

**Supplementary Table 2. An adaptive branch-site (aBSREL) test for episodic diversification of PD-L1 gene.**

Name	B	LRT	Test p-value	Uncorrected p-value	$\omega$ distribution over sites
COTURNIX_JAPONICA	0.0481	28.7232	0	0	$\omega_1 = 0.298$ (96%) $\omega_2 = 5710$ (3.7%)
TAENIOPYGIA_GUTTATA	0.0734	33.334	0	0	$\omega_1 = 0.190$ (94%) $\omega_2 = 283$ (5.8%)
PSEUDOPODOCES_HUMILIS	0.0672	41.2926	0	0	$\omega_1 = 0.474$ (93%) $\omega_2 = 90.4$ (6.8%)
FALCO_PEREGRINUS	0.1009	63.2226	0	0	$\omega_1 = 0.691$ (89%) $\omega_2 = 212$ (11%)
APTERYX_AUSTRALIS_MANTELLI	0.0976	28.7185	0	0	$\omega_1 = 0.376$ (92%) $\omega_2 = 187$ (8.5%)
ANSER_CYGNOIDES_DOMESTICUS	0.1042	22.369	0.0005	0	$\omega_1 = 0.340$ (95%) $\omega_2 = 5710$ (5.3%)
Node41	0.0217	19.3186	0.0022	0	$\omega_1 = 0.00$ (92%) $\omega_2 = 5710$ (8.4%)
CHLOROCEBUS_SABAEUS	0.0247	16.2851	0.0102	0.0001	$\omega_1 = 0.385$ (98%) $\omega_2 = 1660$ (1.6%)
Node33	0.1354	15.022	0.0191	0.0002	$\omega_1 = 0.295$ (88%) $\omega_2 = 57.4$ (12%)
SARCOPHILUS_HARRISII	0.1369	13.2103	0.0471	0.0005	$\omega_1 = 0.216$ (94%) $\omega_2 = 30.1$ (5.7%)

B; Optimized branch length

LRT: Likelihood ratio test statistic for  $\omega_+ = 1$  (null) versus  $\omega_+$  unrestricted (alternative)

Test p-value: The p-value corrected for multiple testing.

Uncorrected P-value: The uncorrected p-value for the LRT test.

**Supplementary Table 3. An adaptive branch-site (aBSREL) test for episodic diversification of PD-L2 gene.**

Name	B	LRT	Test p-value	Uncorrected p-value	$\omega$ distribution over sites
CRICETULUS_GRISEUS	0.1001	40.3338	0	0	$\omega_1 = 0.359$ (88%) $\omega_2 = 211$ (12%)
PANTHOLOPS_HODGSONII	0.0216	56.1676	0	0	$\omega_1 = 0.00$ (92%) $\omega_2 = 1650$ (7.7%)
LOXODONTA_AFRICANA	0.2699	71.5397	0	0	$\omega_1 = 0.831$ (71%) $\omega_2 = \infty$ (29%)
TAENIOPYGIA_GUTTATA	0.0998	147.3444	0	0	$\omega_1 = 0.437$ (81%) $\omega_2 = 5000$ (19%)
CORVUS_CORNIX	0.0583	47.1431	0	0	$\omega_1 = 0.565$ (94%) $\omega_2 = 204$ (6.3%)
Node68	0.0732	37.2754	0	0	$\omega_1 = 0.308$ (96%) $\omega_2 = 5000$ (3.9%)
Node84	0.0156	43.9788	0	0	$\omega_1 = 0.421$ (89%) $\omega_2 = 1940$ (11%)
PANTHERA_TIGRIS_ALTAICA	0.016	24.5613	0.0001	0	$\omega_1 = 0.762$ (97%) $\omega_2 = 11400$ (2.7%)
Node23	0.03	24.5946	0.0001	0	$\omega_1 = 0.133$ (89%)

Node41	0.0311	24.1356	0.0002	0	$\omega_2 = 5000$ (11%) $\omega_1 = 1.00$ (89%) $\omega_2 = \infty$ (11%)
CHRYSEMYS_PICTA	0.1462	21.302	0.0007	0	$\omega_1 = 0.457$ (91%) $\omega_2 = 40.8$ (9.4%)
NANNOSPALAX_GALILI	0.1469	20.5087	0.0011	0	$\omega_1 = 0.359$ (91%) $\omega_2 = \infty$ (9.3%)
LIPOTES_VEXILLIFER	0.0136	20.2389	0.0013	0	$\omega_1 = 0.450$ (98%) $\omega_2 = 1530$ (1.6%)
Node55	0.0103	20.1447	0.0013	0	$\omega_1 = 1.00$ (97%) $\omega_2 = 90200$ (2.6%)
COTURNIX_JAPONICA	0.1582	19.8778	0.0015	0	$\omega_1 = 0.602$ (91%) $\omega_2 = 118$ (8.7%)
ACINONYX_JUBATUS	0.0158	19.1886	0.0021	0	$\omega_1 = 0.891$ (99%) $\omega_2 = 5820$ (0.69%)
Node75	0.1565	16.6122	0.0074	0	$\omega_1 = 0.278$ (87%) $\omega_2 = 2180$ (13%)
Node5	0.0019	15.603	0.0122	0	$\omega_1 = 0.0169$ (95%) $\omega_2 = \infty$ (5.1%)
Node82	0.09	15.1548	0.0151	0	$\omega_1 = 0.706$ (83%) $\omega_2 = 289$ (17%)
Node14	0.0014	15.0154	0.016	0	$\omega_1 = 0.0638$ (96%) $\omega_2 = \infty$ (3.8%)
Node38	0.008	14.2666	0.023	0	$\omega_1 = 0.00$ (93%) $\omega_2 = \infty$ (7.0%)
CALLITHRIX_JACCHUS	0.0396	14.0674	0.0252	0	$\omega_1 = 0.331$ (97%) $\omega_2 = 158$ (2.7%)
ORNITHORHYNCHUS_ANATINUS	0.3646	13.9868	0.0259	0	$\omega_1 = 0.114$ (74%) $\omega_2 = \infty$ (26%)

B; Optimized branch length

LRT: Likelihood ratio test statistic for  $\omega_+ = 1$  (null) versus  $\omega_+$  unrestricted (alternative)

Test p-value: The p-value corrected for multiple testing.

Uncorrected P-value: The uncorrected p-value for the LRT test

**Supplementary Table 4. The detail information of PD1 gene in vertebrate species.**

Species	Scientific Name	NCBI-Protein ID	Ensembl	Uniprot
Human	<i>Homo sapiens</i>	NP_005009	ENSG00000188389	<a href="#">A0A0M3M0G7</a>
Chimpanzee	<i>Pan troglodytes</i>	XP_016806440		A0A2I3SUZ1
Western lowland gorilla	<i>Gorilla gorilla gorilla</i>	XP_004033550	ENSGGOG00000014312	G3REH1
Sumatran orangutan	<i>Pongo abelii</i>	XP_024099392	ENSPPYG00000013360	
Northern white-cheeked gibbon	<i>Nomascus leucogenys</i>	XP_003282018		G1R8C2
Rhesus monkey	<i>Macaca mulatta</i>	NP_001107830	ENSMMUG00000008592	B0LAJ2
Crab-eating macaque	<i>Macaca fascicularis</i>	NP_001271065		B0LAJ3
Green monkey	<i>Chlorocebus sabaeus</i>	XP_007965216	ENSCSAG00000005736	
Golden snub-nosed monkey	<i>Rhinopithecus roxellana</i>	XP_010375274		A0A2K6QL35
White-tufted-ear marmoset	<i>Callithrix jacchus</i>	XP_002750041	ENSCJAG00000019795	
Mouse	<i>Mus musculus</i>	NP_032824	ENSMUSG00000026285	Q544F3
Rat	<i>Rattus norvegicus</i>	NP_001100397	ENSRNOG00000049797	D3ZIN8
Chinese hamster	<i>Cricetulus griseus</i>	XP_003499314		
Mole Rat	<i>Nannospalax galili</i>	XP_008827391		
American beaver	<i>Castor canadensis</i>	XP_020013289		
Rabbit	<i>Oryctolagus cuniculus</i>	XP_017195300	ENSOCUG00000008079	G1SUF0
Chinese tree shrew	<i>Tupaia chinensis</i>	XP_006165239		
Dog	<i>Canis familiaris</i>	NP_001301026	ENSCAFG00000013184	A0A090BAM7
Giant panda	<i>Ailuropoda melanoleuca</i>	XP_002923181	ENSAMEG00000016373	G1MD70
Polar bear	<i>Ursus maritimus</i>	XP_008688483		A0A384C0X7
Pacific walrus	<i>Odobenus rosmarus divergens</i>	XP_004412778		A0A2U3WTR3
Domestic cat	<i>Felis catus</i>	NP_001138982		A9YUA6
Amur tiger	<i>Panthera tigris altaica</i>	XP_007094211		
Cheetah	<i>Acinonyx jubatus</i>	XP_026912119		
Cow	<i>Bos taurus</i>	NP_001076975	ENSBTAG00000011543	A4FV85
Wild yak	<i>Bos mutus</i>	XP_005901569		
Chiru	<i>Pantholops hodgsonii</i>	XP_005959703		
Goat	<i>Capra hircus</i>	XP_013818552		
Sheep	<i>Ovis aries</i>	XP_012031617	ENSOARG00000017587	
Pig	<i>Sus scrofa</i>	NP_001191308		
Wild Bactrian camel	<i>Camelus ferus</i>	XP_014412330		
Arabian camel	<i>Camelus dromedarius</i>	XP_010986792		
killer whale	<i>Orcinus orca</i>	XP_004262561		
Horse	<i>Equus caballus</i>	XP_023498581		
Ass	<i>Equus asinus</i>	XP_014718129		
Brandt's bat	<i>Myotis brandtii</i>	XP_005857730		
Black flying fox	<i>Pteropus alecto</i>	XP_006909981		
Opossum	<i>Monodelphis domestica</i>	XP_016280819	ENSMODG00000029268	
Platypus	<i>Ornithorhynchus anatinus</i>	XP_007667778		
Chicken	<i>Gallus gallus</i>	XP_422723	ENSGALG00000046559	
Turkey	<i>Meleagris gallopavo</i>	XP_010715066		
Japanese quail	<i>Coturnix japonica</i>	XP_015727433		
Swan goose	<i>Anser cygnoides domesticus</i>	XP_013050415		
Zebra finch	<i>Taeniopygia guttata</i>	XP_012431056		
Hooded crow	<i>Corvus cornix</i>	XP_019140093		

Peregrine falcon	<i>Falco peregrinus</i>	XP_013154882	
Rock pigeon	<i>Columba livia</i>	XP_005513327	A0A2I0LU23
Brown kiwi	<i>Apteryx australis mantelli</i>	XP_013814564	
Western clawed frog	<i>Xenopus tropicalis</i>	XP_004914438	
Chinese alligator	<i>Alligator sinensis</i>	XP_025058540	
Western painted turtle	<i>Chrysemys picta</i>	XP_005311833	
Green sea turtle	<i>Chelonia mydas</i>	XP_007057904	

List of species and NCBI GenBank accession numbers for sequences used to construct the datasets for hypothesis testing.

**Supplementary Table 5. The detail information of PD-L1 gene in vertebrate species.**

Species	Scientific Name	Ensembl	Uniprot	NCBI-Protein ID
Human	<i>Homo sapiens</i>	ENSG00000120217	Q9NZQ7	
Chimpanzee	<i>Pan troglodytes</i>	ENSPTRG00000020755	H2QWZ8	
Bonobo	<i>Pan paniscus</i>		A0A2R9B063	XP_003823426
Western lowland gorilla	<i>Gorilla gorilla gorilla</i>			XP_018889139
Sumatran orangutan	<i>Pongo abelii</i>	ENSPPYG00000019237	H2PS75	XP_002819859
Northern white-cheeked gibbon	<i>Nomascus leucogenys</i>		G1RCP1	XP_003273874
Rhesus monkey	<i>Macaca mulatta</i>	ENSMMUG0000001223 5	A4GW29	NP_001077358
Crab-eating macaque	<i>Macaca fascicularis</i>		G7PSE7	XP_005581836
Green monkey	<i>Chlorocebus sabaesus</i>	ENSCSAG00000008879		XP_007967522
Golden snub-nosed monkey	<i>Rhinopithecus roxellana</i>		A0A2K6PJ04	XP_010363385
White-tufted-ear marmoset	<i>Callithrix jacchus</i>	ENSCJAG00000011388	A4GW22	NP_001254676
Mouse	<i>Mus musculus</i>	ENSMUSG00000016496	Q9EP73	NP_068693
Rat	<i>Rattus norvegicus</i>	ENSRNOG00000016112	D4AE25	NP_001178883
Chinese hamster	<i>Cricetulus griseus</i>			XP_007626098
Mole Rat	<i>Nannospalax galili</i>			XP_008849411
American beaver	<i>Castor canadensis</i>			XP_020015185
Rabbit	<i>Oryctolagus cuniculus</i>	ENSOCUG00000008117	G1SUI3	XP_008253343
Chinese tree shrew	<i>Tupaia chinensis</i>			XP_006152480
Dog	<i>Canis familiaris</i>	ENSCAFG00000002120	E2RKZ5	NP_001278901
Giant panda	<i>Ailuropoda melanoleuca</i>	ENSAMEG00000009800		XP_011228696
Polar bear	<i>Ursus maritimus</i>		A0A384C2Q2	XP_008689127
Pacific walrus	<i>Odobenus rosmarus divergens</i>		A0A2U3ZNI8	XP_012420554
Domestic cat	<i>Felis catus</i>	ENSFCAG00000009047	M3WAP8	XP_006939101
Amur tiger	<i>Panthera tigris altaica</i>			XP_007094214
Pangolin	<i>Manis javanica</i>			XM_017657766.1
Cheetah	<i>Acinonyx jubatus</i>			XP_014919968
Cow	<i>Bos taurus</i>	ENSBTAG00000000095	C5NU11	NP_001156884
Wild yak	<i>Bos mutus</i>		L8IU19	XP_005891421
Zebu cattle	<i>Bos indicus</i>			XP_019821547
Chiru	<i>Pantholops hodgsonii</i>			XP_005983887
Goat	<i>Capra hircus</i>			XP_005683750
Sheep	<i>Ovis aries</i>	ENSOARG00000013509		XP_004004411
Pig	<i>Sus scrofa</i>	ENSSSCG00000005211	Q4QTK1	NP_001020392
Wild Bactrian camel	<i>Camelus ferus</i>			XP_014416016

Arabian camel	<i>Camelus dromedarius</i>			XP_010991731
Yangtze River dolphin	<i>Lipotes vexillifer</i>		A0A340X5J4	XP_007454584
killer whale	<i>Orcinus orca</i>			XP_004279158
Horse	<i>Equus caballus</i>	ENSECAG00000016312	F7DZ76	XP_001492892
Ass	<i>Equus asinus</i>			XP_014716218
Brandt's bat	<i>Myotis brandtii</i>			XP_005861392
Black flying fox	<i>Pteropus alecto</i>		L5K6N3	XP_006918439
African savanna elephant	<i>Loxodonta africana</i>			XP_010586356
Florida manatee	<i>Trichechus manatus latirostris</i>		A0A2Y9DG34	XP_004373536
Opossum	<i>Monodelphis domestica</i>	ENSMODG00000015352		XP_007499604
Tasmanian devil	<i>Sarcophilus harrisii</i>	ENSSHAG00000002682		XP_012399523
Platypus	<i>Ornithorhynchus anatinus</i>	ENSOANG00000010091		XP_001506048
Chicken	<i>Gallus gallus</i>			XP_424811
Turkey	<i>Meleagris gallopavo</i>			XP_019466012
Japanese quail	<i>Coturnix japonica</i>			XP_015704470
Swan goose	<i>Anser cygnoides domesticus</i>			XP_013052847
Zebra finch	<i>Taeniopygia guttata</i>			XP_012433182
Tibetan ground-tit	<i>Pseudopodoces humilis</i>			XP_014107713
Hooded crow	<i>Corvus cornix</i>			XP_010391160
Peregrine falcon	<i>Falco peregrinus</i>			XP_013158040
Brown kiwi	<i>Apteryx australis mantelli</i>			XP_013812986
Western clawed frog	<i>Xenopus tropicalis</i>			XP_017946448
Common carp	<i>Cyprinus carpio</i>			XP_018933702
Channel catfish	<i>Ictalurus punctatus</i>		A0A2D0SYD8	XP_017347687
Spotted green pufferfish	<i>Tetraodon nigroviridis</i>		Q4T1R6	CAF93166

List of species and NCBI GenBank accession numbers for sequences used to construct the datasets for hypothesis testing.

**Supplementary Table 6. The detail information of PD-L2 gene in vertebrate species.**

Species	Scientific Name	Ensembl	Uniprot	NCBI-Protein ID
Human	<i>Homo sapiens</i>	ENSG00000197646	Q9BQ51	NP_079515
Chimpanzee	<i>Pan troglodytes</i>	ENSPTRG00000020756		XP_001140776
Bonobo	<i>Pan paniscus</i>		A0A2R9AHT0	XP_003823428
Western lowland gorilla	<i>Gorilla gorilla gorilla</i>			XP_018889135
Sumatran orangutan	<i>Pongo abelii</i>	ENSPPYG00000019236		XP_024107734
Northern white-cheeked gibbon	<i>Nomascus leucogenys</i>		G1RCR0	XP_003273875
Rhesus monkey	<i>Macaca mulatta</i>		A4GW30	NP_001077068
Crab-eating macaque	<i>Macaca fascicularis</i>			XP_005581838
Green monkey	<i>Chlorocebus sabaeus</i>	ENSCSAG00000008883		XP_007967513
Golden snub-nosed monkey	<i>Rhinopithecus roxellana</i>			XP_010363386
White-tufted-ear marmoset	<i>Callithrix jacchus</i>	ENSCJAG00000011422	A0A2R8P957	XP_017828946
Mouse	<i>Mus musculus</i>	ENSMUSG00000016498	Q3U304	NP_067371
Rat	<i>Rattus norvegicus</i>	ENSRNOG00000016136	D4AAV6	NP_001101052
Chinese hamster	<i>Cricetulus griseus</i>			XP_003511103

Mole Rat	<i>Nannospalax galili</i>			XP_017658223
American beaver	<i>Castor canadensis</i>			XP_020015183
Rabbit	<i>Oryctolagus cuniculus</i>			XP_017202816
Pangolin	<i>Manis javanica</i>			XR_001852674.1
Dog	<i>Canis familiaris</i>	ENSCAFG00000002121	44336	XP_013973349
Giant panda	<i>Ailuropoda melanoleuca</i>	ENSAMEG00000009830		XP_011228695
Polar bear	<i>Ursus maritimus</i>		A0A384C2M8	XP_008689126
	<i>Odobenus rosmarus</i>			
Pacific walrus	<i>divergens</i>		A0A2U3ZNI5	XP_012420555
Domestic cat	<i>Felis catus</i>	ENSFCAG00000009048	L7SSK5	NP_001277173
Amur tiger	<i>Panthera tigris altaica</i>			XP_007094211
Cheetah	<i>Acinonyx jubatus</i>			XP_014919966
Cow	<i>Bos taurus</i>		A0A024FBV6	NP_001278965
Wild yak	<i>Bos mutus</i>			XP_014332357
Chiru	<i>Pantholops hodgsonii</i>			XP_005983898
Goat	<i>Capra hircus</i>			XP_013821401
Pig	<i>Sus scrofa</i>	ENSSSCG00000026305	Q4QTK0	NP_001020391
Wild Bactrian camel	<i>Camelus ferus</i>			XP_014415932
Arabian camel	<i>Camelus dromedarius</i>			XP_010991730
Yangtze River dolphin	<i>Lipotes vexillifer</i>		A0A340X676	XP_007454585
killer whale	<i>Orcinus orca</i>			XP_004279193
Horse	<i>Equus caballus</i>	ENSECAG00000020578		XP_005605049
Ass	<i>Equus asinus</i>			XP_014716221
Brandt's bat	<i>Myotis brandtii</i>			XP_014391175
Black flying fox	<i>Pteropus alecto</i>			XP_006918437
African savanna elephant	<i>Loxodonta africana</i>			XP_023401133
	<i>Trichechus manatus</i>			
Florida manatee	<i>latirostris</i>		A0A2Y9QY77	XP_023584363
Opossum	<i>Monodelphis domestica</i>	ENSMODG00000015349	F6WY92	XP_007499609
Tasmanian devil	<i>Sarcophilus harrisii</i>	ENSSHAG00000004176	G3VNK0	XP_012399521
Platypus	<i>Ornithorhynchus anatinus</i>			XP_007653790
Chicken	<i>Gallus gallus</i>			XP_004949124
Turkey	<i>Meleagris gallopavo</i>			XP_010723930
Japanese quail	<i>Coturnix japonica</i>			XP_015704465
Swan goose	<i>Anser cygnoides domesticus</i>			XP_013052854
Zebra finch	<i>Taeniopygia guttata</i>			XP_002193013
Tibetan ground-tit	<i>Pseudopodoces humilis</i>			XP_014107710
Hooded crow	<i>Corvus cornix</i>			XP_010391172
Peregrine falcon	<i>Falco peregrinus</i>			XP_013157997
Brown kiwi	<i>Apteryx australis mantelli</i>			<u>XP_013812991</u>
Western clawed frog	<i>Xenopus tropicalis</i>			XP_017946447
Rock pigeon	<i>Columba livia</i>		A0A2I0MG20	XP_005499831
Chinese alligator	<i>Alligator sinensis</i>		A0A1U8CUP6	XP_014372758
Western painted turtle	<i>Chrysemys picta</i>			XP_005296857

List of species and NCBI GenBank accession numbers for sequences used to construct the datasets for hypothesis testing.

**Supplementary Table 7. List of primers used for mRNA expression in qPCR of representative vertebrate species.**

Species		5'-3'	TM
<i>Gallus gallus</i>	GgPD1-F	CAGCCACGTAACTCGTCCT	57.5
	GgPD1-R	GTTCCGGATGATCCCAGCAA	57.8
	GgPDL1-F	CTCATTGTGAGTGCCCTCGT	57.6
	GgPDL1-R	CATGCGCGCCCTTATCTTTC	57.3
	GgPDL2-F	CGCAATGGGAAAGCACTCAC	57.4
	GgPDL2-R	CGCATCTGTGATCTTGACGC	56.9
<i>Eumeces chinensis</i>	EcPD1-F	CTGTTTCTGGTGCTCCCAGT	61.6
	EcPD1-R	TGGTGGCATATTCGGTCTGG	61.7
	EcPDL1-F	TGTATTGGTGTCTGTTGGCA	56.6
	EcPDL1-R	GGTCATTCACTGGAAACCTGC	56.6
	EcPDL2-F	CGCTACCAGGGAAGAGCAAC	58.9
	EcPDL2-R	TGAGACAGCGGTAAGACCCT	58.1
<i>Acipenser schrenckii</i>	AsPD1-F	CAGAGATGGCCACTGCGTAA	61.7
	AsPD1-R	GTCTGTCTGGGAACGGGATG	61.7
	AsPDL1-F	TAATCCCCGTCGCCCTTTTC	57.8
	AsPDL1-R	TGGTGATGCGCTCTGTTAGG	57.7
	AsPDL2-F	TTGTACCCTTTCACTGCGCT	56.9
	AsPDL2-R	CCATTAAGGGCACCGTCTCA	57.5
<i>Manis javanica</i>	MjPD1-F	GAGGACGAGCCTCTGAAGGA	61.5
	MjPD1-R	CGTGGCATACTCGGTCTGTT	62.5
	MjPDL1-F	GTGAAAGTGGAGGAAGA	47.7
	MjPDL1-R	AGGATGGTCAGGAATTG	47.9
	MjPDL2-F	CCATCGGACGGTCTTTCCTA	60.2
	MjPDL2-R	GCCAGCTCCACACTCTAGCA	59.2
<i>Atelerix albiventris</i>	AaPD1-F	GGCTCTCTTGCTTCTGCCTG	59.2
	AaPD1-R	CGACTGTGAGATGTTGGGGG	58.6
	AaPDL1-F	GTGGTGCCGACTACAAGC	56.8
	AaPDL1-R	TGGGGTAGCCCTCAGCCT	59.1
	AaPDL1-F	GGAGGGCCTGTTGACTTAGG	61.5
	AaPDL1-R	TCTGACTTCCAGGGTCAGGT	61.7