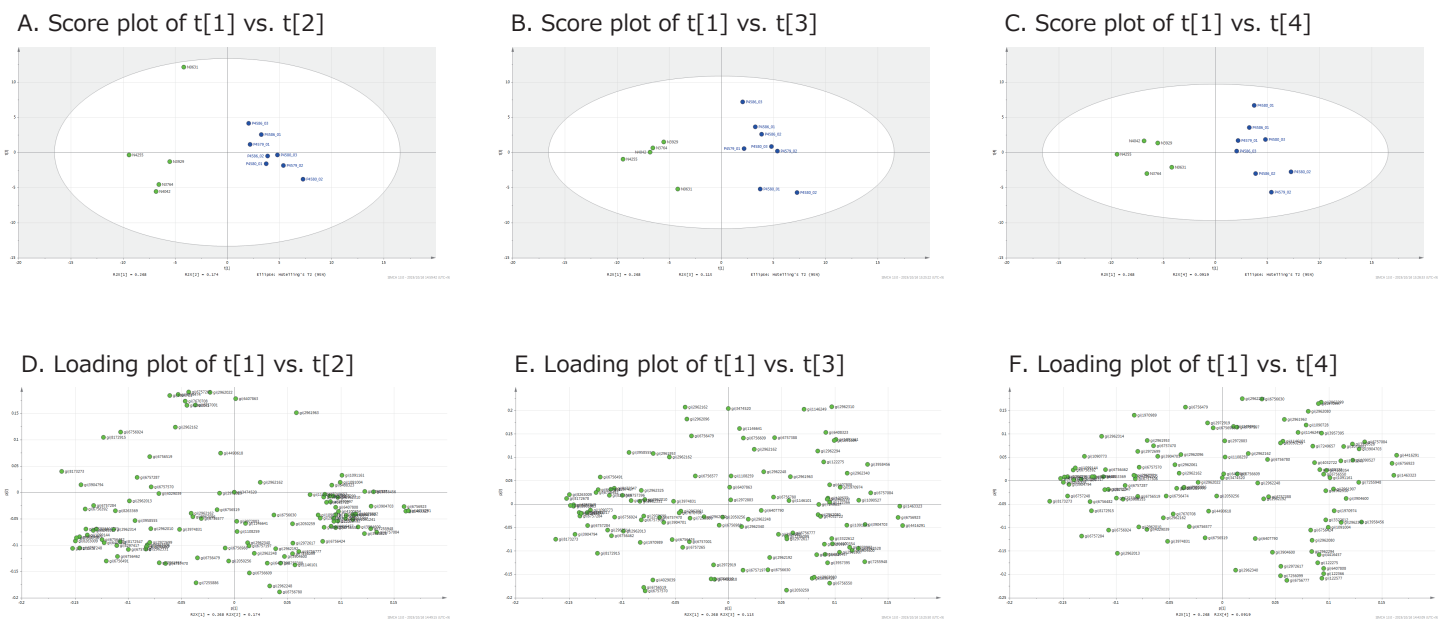


Supplementary Information

Human PZP and common marmoset A2ML1 as pregnancy related proteins

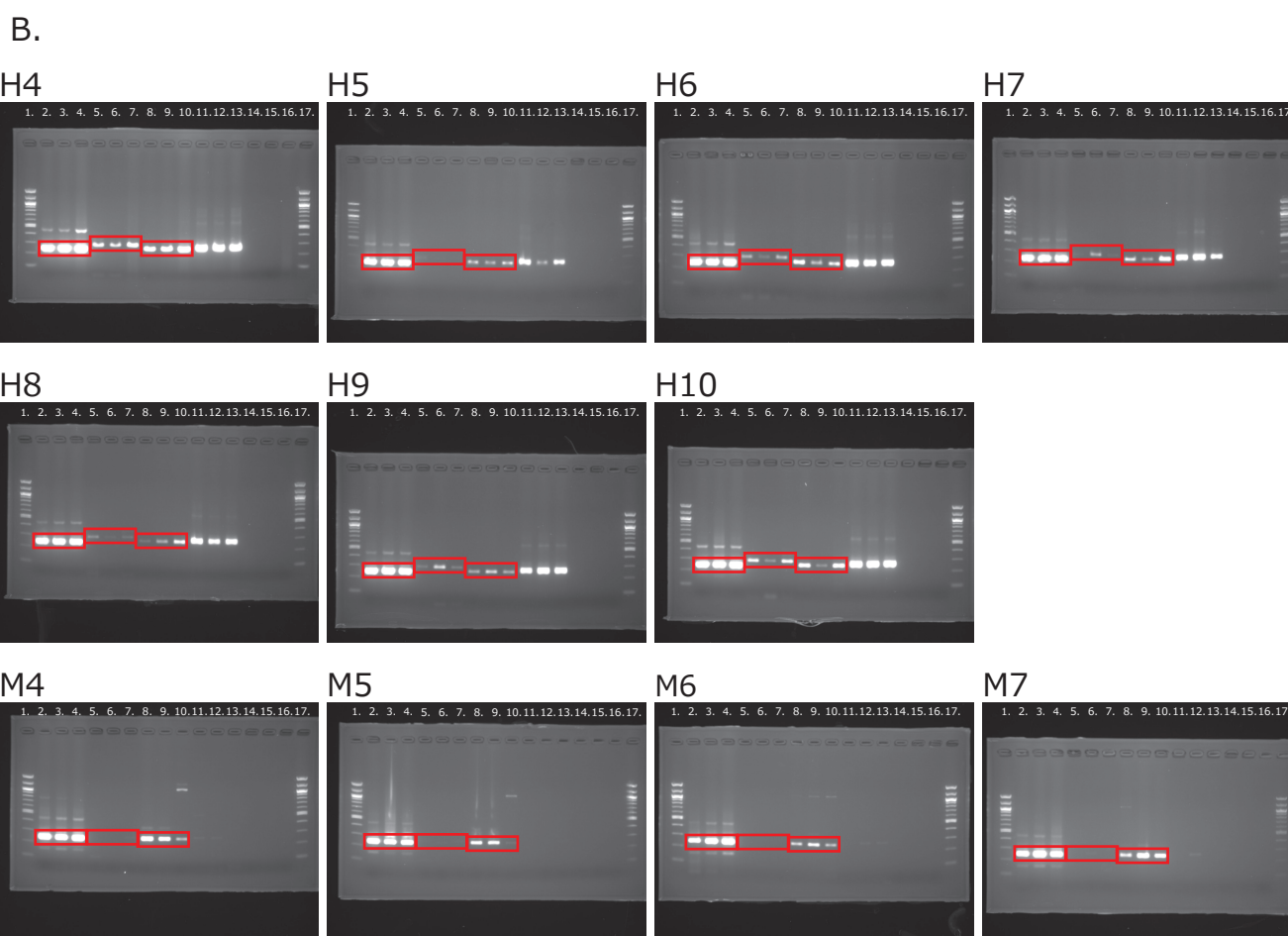
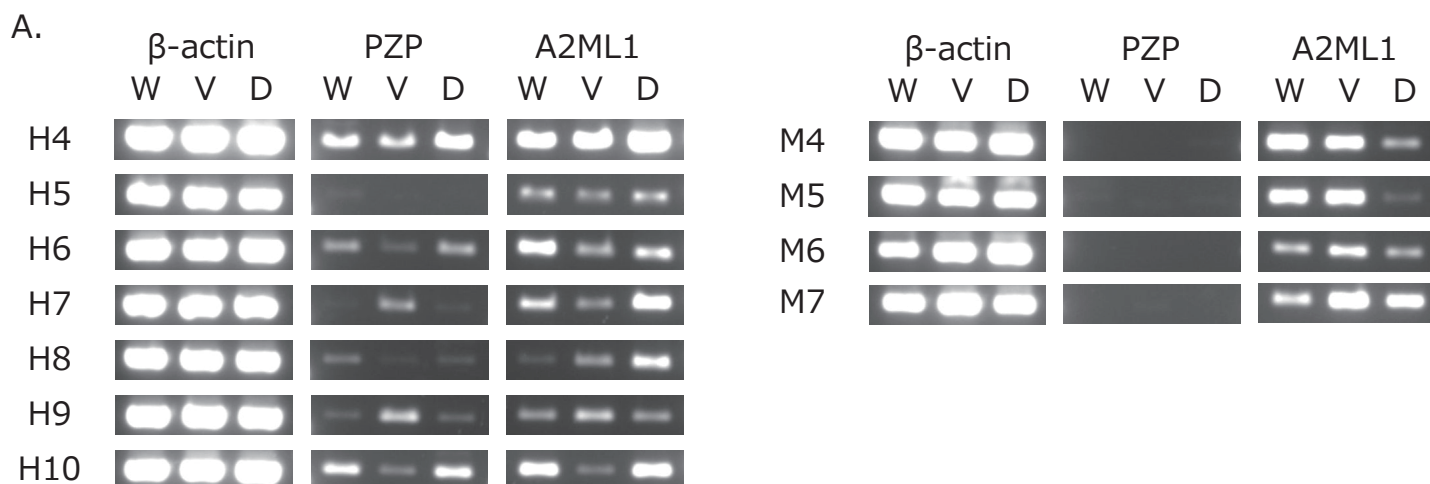
Hirofumi Kashiwagi, Hitoshi Ishimoto, Sunichiro Izumi,
Toshiro Seki, Rihito Kinami, Asako Otomo,
Kazumi Takahashi, Fuyuki Kametani, Noriaki Hirayama,
Erika Sasaki, Takashi Shiina, Kou Sakabe,
Mikio Mikami, Yoshie Kametani*

Supplemental Fig. 1



Supplemental Fig. 1. Principal Component Analysis. *t*-Predicted score scatterplot showing the results for samples prepared from pregnant and non-pregnant marmoset sera. Blue: pregnant samples; Green: non-pregnant samples. $R^2X[1] = 0.268$; $R^2X[2] = 0.174$; $R^2X[3] = 0.115$; $R^2X[4] = 0.0919$; Ellipse: Hotelling' s T² (95%). Each sample name conforms to Supplemental Table 3. Principal component analysis was performed using SIMCA 13.0 (Sartorius Stedim Biotech Goettingen, Germany).

Supplemental Fig. 2



Supplemental Fig. 2. Tissue-specific expression of PZP and A2ML1 mRNA detected by semi-quantitative RT-PCR.

A. Comparison of the band intensity of PZP and A2ML1

W: whole placenta; V: villi; D: decidua; β -actin: positive control

B. Full images of gel electrophoresis

Lane1: 100bp DNA Ladder Maker; Lane2: whole Placenta β -actin; Lane3: villi β -actin; Lane4: decidua β -actin; Lane5: whole Placenta PZP; Lane6: villi PZP; Lane7: decidua PZP; Lane8: whole Placenta A2ML1; Lane9: villi A2ML1; Lane10: decidua A2ML1; Lane11: whole Placenta PSG; Lane12: villi PSG; Lane13: decidua PSG; Lane14: whole Placenta Negative control; Lane15: villi Negative control; Lane16: decidua Negative control; Lane17: 100bp DNA Ladder Maker. PSG: pregnancy specific beta-1-glycoprotein 5, data not used in this study.

Supplemental Fig.3

PZP_h_NP_002855.2	-MRKDRLLHLCLVLLLLILLSASDSNSTEPQYMLVPSLLHTEAPKKGCVL	49
PZP_CM_XP_009001820.1	-MGKDRRLHLCLMLLLLLSANDSDAEPQYMLVPSLLHTETPEKGCVL	49
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1		
A2M_h_NP_000005.2	MGKNKLLHPSLVLLLLVLLPTDASVSGKPQYMLVPSLLHTETTEKGCVL	50
A2M_CM_XP_009001819.1	-MGKNKLLHLSLVLLLLVLLPTEASDSGKPQYMLVPSLLHTETAEEKCIL	49
PZP_h_NP_002855.2	LSHLNETVTVSASLESARGNRSRLFTDLVAEKDLFHCVSFTLPRISASSEV	99
PZP_CM_XP_009001820.1	LSHLNETVTLSASLESARGNRSRLFTDLVAEKDLFQCVSFTLPRISASSEV	99
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1		
A2M_h_NP_000005.2	LSYLNETHVTVSASLESVRGNRSRLFTDLAENDVLHCVAFVAVPKSSSNEEV	100
A2M_CM_XP_009001819.1	MSYLKETVTVSASLESIRGNSSLFTDLVAETDVLHCVAFVAVPKISSSEEV	99
PZP_h_NP_002855.2	AFLSIQIKGPTQDFRKRNTVLVLNTQSLVFVQTDKPMYKPGQTVRFRVVS	149
PZP_CM_XP_009001820.1	AFLSIQIKGPTQDFRKRNTVLLKNAQSLVFVQTDKPIYKPGQTVRFRIVS	149
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1		
A2M_h_NP_000005.2	MFLTQVQKGPTEQEFKKRTTVMVKNEDSLVFVQTDKSIYKPGQTVKFRVVS	150
A2M_CM_XP_009001819.1	MFLTQVQKGPTEQEFKKRTSVIVKNEDSLVFVQTDKSIYKPGQTVKFRVVS	149
PZP_h_NP_002855.2	VDENFRPRNELIPLIYLENPRNRRIAQWQSLKLEAGINQLSFPLSSEPIQ	199
PZP_CM_XP_009001820.1	VDENFHPQNELIPLIYIENPRNRVAQWQSLKEGGLNQLSFPLSSEPIQ	199
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	-----MVELQDPNSNRIAQWLEVPEQGIVDLSFQLAPEAML	37
A2M_h_NP_000005.2	MDENFHPNLNELIPLVYIQDPKGNRIAQWQSFQLEGLKQFSFPLSSEPFQ	200
A2M_CM_XP_009001819.1	LDETFFHPNLNELIPLVYIQDPKGNRIAQWQSFQLEGLKQFSFPLSSEPFQ	199
PZP_h_NP_002855.2	GSYRVVVQTESGGRIQHPFTVEEFVLPKFVEVKVQVPKIIISIMDEKVNITV	249
PZP_CM_XP_009001820.1	GSYKVVVHTESGGRIEHPFAVEEFVLSKFEVEIQVPKIIISIMDEKVNITV	249
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	GTYTVAVAEG---KTFGTFSVEEYVLPKFKEVVEPKELSTVQESFLVKI	84
A2M_h_NP_000005.2	GSYKVVVQKKSGGRTHEPFTVEEFVLPKFVEVQVTPKIIITILEEEMNVSV	250
A2M_CM_XP_009001819.1	GSYKVVVQKESGGRRHEPFTVEEFVLPKFVEVQVTPKIIITILEEEMNVSV	249
PZP_h_NP_002855.2	CGEYTYGKPVPGLATVSLCRKLSRVLNCCKQE----VCEEFSSQQLNSNG	294
PZP_CM_XP_009001820.1	CGKYTYGKPVPGLATVSLCRKYFPVSYCAPKE----ICEEFSSQQLNSNG	294
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	CSRYTYGKPMGLTVQVSVCGKAHTYWYREVEREQLSDKCRNLSGGTDTKTG	134
A2M_h_NP_000005.2	CGLYTYGKPVPGHVTVSLCRKYSASDCHGEDSQA--FCEKFSGQLNSHG	298
A2M_CM_XP_009001819.1	CGLYTYGKPVPGHVTVSVCRKYNDASDCFGEESSQV--YCEKFSGQLNSHG	297
PZP_h_NP_002855.2	CITQQVHTKMLQITNTGFEMKLREARIREEGTDLEVTANRISEITNIVS	344
PZP_CM_XP_009001820.1	CITQQVQANLLQIKNTGFEMKLREARIREEGTDVVVTNTNGISEITNVAS	344
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A2ML1_CM_XP_009001807.1	CFSAPVDMATFNLGYAYSHEINIVATVVEEGTGVEANATQSVYISPENG	184
A2M_h_NP_000005.2	CFYQQVKTQVFLKQKREYEMKLHTEAQIQEEGTVELTGRQSSEITRTIT	348
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PZP_h_NP_002855.2	KLKFVKVDSHFRQGIPIFFAQVLLVDGKGVPINPKLFFISVNDAN--YYSN	392
PZP_CM_XP_009001820.1	KLIFVKVDSHFRRGIPFFGQVLLVDGKGVPINPKLIFISVNEAN--YHFN	392
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	SMTFEDTNDFYHPNPFPSGKISVRGHDDSLKNHLVFLVIYGTNGVLKQT	234
A2M_h_NP_000005.2	KLSFVKVDSHFRQGIPIFFGQVRLVDGKGVPINPKVIFIRGNEAN--YYSN	396
A2M_CM_XP_009001819.1	KLSFVKVDSNFRQGIPIFFGQVRLVDGKGVPMPNKKVLRANEAN--HHSN	395
PZP_h_NP_002855.2	ATTNEQGLAQFSINTTISVKNLFVRVFTVHPNLCFHYSWVAEDHQGAQH	442
PZP_CM_XP_009001820.1	TTTNEQGLVQFSIDTTNLANLFTVSSERPSFCFPYSWITEVHQHAQH	442
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	LVTNDNDGLASFTLDTSSWNGTDVSLGFRQMEDLVYNPGQVPRYYQNAYL	284
A2M_h_NP_000005.2	ATTDEHGLVQFSINTTNVMGTSLTVRVNYKDRSPCYGYQWVSEEEHAAH	446
A2M_CM_XP_009001819.1	ATTDEHGLVQFSINTTNVMGTSLSVRVRYKDRHPCYTYQWVLEENEEAAH	445
PZP_h_NP_002855.2	TANRVFSLSGSYIHLEPVAGTLP CGHTETITAHYTLNRQAMGELSELSFH	492
PZP_CM_XP_009001820.1	TASHVFSLSGSYVDLEPVAGTLP CGHTQTIRAHYMLKQAVRELSEFSFH	492
A2ML1_h_NP_001269353.1		
A2ML1_CM_XP_009001807.1	HLRPFYNTTRSFLGIHRLSGPLKCGQPQEVLDVYYIDPADASPDQEISFS	334
A2M_h_NP_000005.2	TAYLVFSPSKSFVHLEPMSHELPCGHTQTVAHYILNGGTLLGLKKLSFY	496
A2M_CM_XP_009001819.1	IAHLVFSPSKSFVHLEPIHELPCGQTQRIQAHYILKGDVLQGLKKFTFY	495

PZP_h_NP_002855.2	YLIMAKGVIVRSGHTLTPVESGDMKGSFALSFPVESDVAPIARMFIFAIL	542
PZP_CM_XP_009001820.1	YLIMAKGGIVRSGHTLTPVESGDMKGTALSFSPVESDIAPARMFLFAIL	542
A2ML1_h_NP_001269353.1	-MLIGKGLVMEGQKHLNSKKKGLKASFSLSTFTSRLAPDPSLVIYAIF	49
A2ML1_CM_XP_009001807.1	YYLIGKGNLVMGQKHLNPKKKGPKGSFSLSLIFTSRLAPDPSLVIYAIF	384
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A2M_CM_XP_009001819.1	SVIMAKGGIVHTGTGYGLFVKEGDMKGHFSISIPVKSDFAPVARLLIYAIL	545
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A2M_CM_XP_009001819.1	PTGDVVGDYAKYKVENCLANKVDLSFRPSQSLPASQAHLQVTAAPQSVCA	595
PZP_h_NP_002855.2	LRAVDQSVLLMKPEAELSVSSVYNLLTVKD-----LTNFPDNDV	631
PZP_CM_XP_009001820.1	LRAVDQSVLLMKPEELSRSSVYNLLTVKD-----LTSFPDNDV	631
A2ML1_h_NP_001269353.1	LRAVDQSVLLRPDRELSNRSVYGMFPFWYGHYPYQVAEYDQCPVSGPWD	149
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A2M_h_NP_000005.2	LRAVDQSVLLMKPDAELSSSVYNLLPEKD-----LTGFPGPLN	635
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A2ML1_h_NP_001269353.1	KPVDCSHRSPEYSTAMGAGGG-----HPEAFESSTPLH	231
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A2M_CM_XP_009001819.1	KPNICSRPEPLAMYAPEG-----LRRHYDSEVMLSGNALMMHVEE	724
PZP_h_NP_002855.2	GPVPETVRSYFETWIELVAVNSSGVAEVGVTPDITTEWKAGAFCLSE	780
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A2ML1_CM_XP_009001807.1	RAEDSHVRQYFETWLWDLFPIGNSGKEAIVHVTVPDITTEWKAMSFCTSQ	619
A2M_h_NP_000005.2	P-HTETVRKYFETWIELVAVNSSGVAEVGVTPDITTEWKAGAFCLSE	774
A2M_CM_XP_009001819.1	PPHTETIRKYFETWIELVAVNSSGAEVEVTVPDITTEWKAGAFCLSK	774
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PZP_CM_XP_009001820.1	DAGLGISPTASLRAFQPFVVELTMPYSVIRGEVFTLKATVLNLYPKCIRV	830
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A2ML1_CM_XP_009001807.1	SRGFLSPTVGLTAFKPFVVDLTPYSVVRGESFRLTATIFNYLKDCCIRV	669
A2M_h_NP_000005.2	DAGLGISSTASLRAFQPFVVELTMPYSVIRGEAFTLKATVLNLYPKCIRV	824
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PZP_h_NP_002855.2	SVQLKASPAFLASQNTKGEESYCI CGNERQTLSTWTVPKTLGNVNFVSVA	880
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A2M_h_NP_000005.2	SVQLEASPAFLAVPVEKEQAPHCI CANGRQTVSWAVTPKSLGNVNFTVSA	874
A2M_CM_XP_009001819.1	SVQLEVSPAFLAVPVEKEGGPHCI CVNGRQTVSWAITPKSLGNVNFTVSA	874
PZP_h_NP_002855.2	EAMQSLELCGNEVEVEPEIKRKDTVIKTLLVEAEGIEKEKTFSSMTCASG	930
PZP_CM_XP_009001820.1	EAMQSLELCGNEVAEVPEIKRKDTVIKTLLVEAEGIEKEKTFNSMTCASG	930
A2ML1_h_NP_001269353.1	KILDSNEPCGGQKGFVPQKGRSDTLIKPVLVKEPGLVEKTHSSLLCPKG	431
A2ML1_CM_XP_009001807.1	KILDSNEPCGGQKGFVPQKQSDMLIKPVLVKEPGLVEKTHSSLLCPKG	769
A2M_h_NP_000005.2	EALQSLELCGTEVPSVPEHGRKDTVIKPLLVEPEGLEKETTFNSLLCPSG	924
A2M_CM_XP_009001819.1	EALQSLELCGTEVTSVPEYGGKDTIKPLLVEPEGLEKETTFNSLLCPSG	924
PZP_h_NP_002855.2	ANVSEQLSLKLPPNVVKESARASFSVLGDILGSAMQNIQNLLQMPYGCGE	980
PZP_CM_XP_009001820.1	AEVSEQLSLKLPPNVVKESARASFSVLGDILGSAMQNIQNLLQMPYGCGE	980
A2ML1_h_NP_001269353.1	KVASESVSLELPVDIVPDSTKAYVTVLGDIMGTAQLNDGLVQMPSGCGE	481
A2ML1_CM_XP_009001807.1	KVVSESVSLEVPEDVVDSTKAYVTVLGDIMGTAQLNDGLVQMPSGCGE	819
A2M_h_NP_000005.2	GEVSEELSLKLPPNVVEESARASFSVLGDILGSAMQNTQNLLQMPYGCGE	974
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PZP_CM_XP_009001820.1	QNMVLFAPNIYVLSYNETQQLTEEI KAKAIGYLSGYQRQLNYKHQDGS	1030
A2ML1_h_NP_001269353.1	QNMVLFAPNIYVLQYLEKAGLLTEI IRSRAVGFLIEGYQKELMYKHSNGS	531
A2ML1_CM_XP_009001807.1	QNMVLFAPNIYVLQYLEKAGLLTEI KSRAVGFLIEGYQKELMYKHSNGS	869
A2M_h_NP_000005.2	QNMVLFAPNIYVLDYNETQQLTPEI KSKAIGYLNTRYQRQLNYKHQDGS	1024
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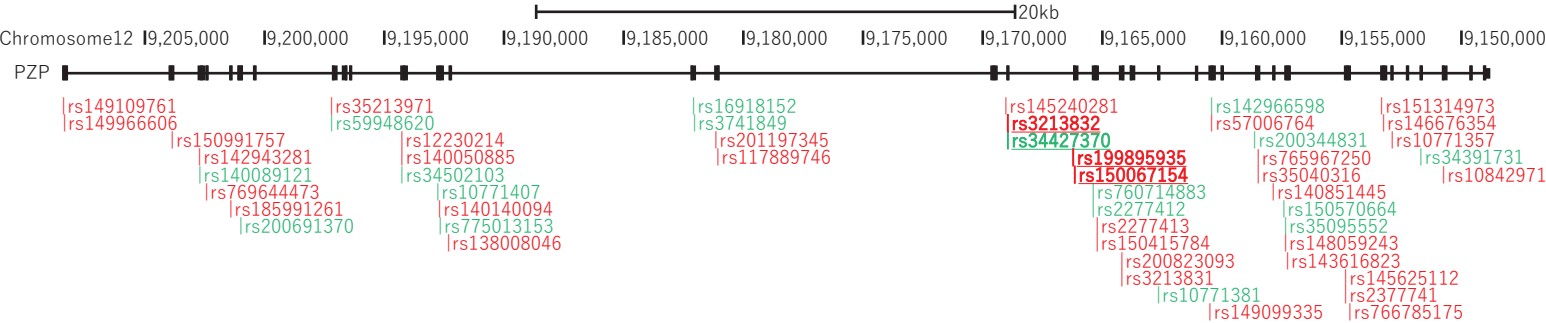
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A2M_h_NP_000005.2	KDNG CF RSSGSLNNAIKGGVEDEVTL SAYVTIALLEIPLTVTHPVVRNA	1124
A2M_CM_XP_009001819.1	KDTG CF RSSGSLNNAIKGGVEDEVTL SAYVTIALLEIPIPVSNHVVVRNA	1124
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PZP_CM_XP_009001820.1	VF C LESAWNVAKEGTHGSQVYTKALLAYAFSLVGNQNRILREILNSLDAEA	1180
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A2M_CM_XP_009001819.1	AAQVTVIQSSGTFSKNFQVDNDRLLLLQQVSLPQLPGEYSTKVTGEG CVY	1324
PZP_h_NP_002855.2	LQTSMKYNILPEKEDSPFALKVQTPQT CD GHAHTSFQISLTSYTGNR	1379
PZP_CM_XP_009001820.1	LQTSMKYNILPEKEDSPFALKVQTPQT CD GHAHTSFEISLTSYTGSR	1379
A2ML1_h_NP_001269353.1	VQTVLRYNLPPTNMKTFSLSVEIGKAR CE QPTSPRSLTLTIHTSYVGSR	868
A2ML1_CM_XP_009001807.1	VQTVLKYNILPPKNMKTFTLSVEMGKAR CE QLTSPRSLTLTIHTSYVGSR	1206
A2M_h_NP_000005.2	LQTSKYNILPEKEEFPFALGVQTLPT CD EPKAHTSFQISLSVSYTGSR	1373
A2M_CM_XP_009001819.1	LQTSKYSILPEKEEFPFALEVHTLPQT CD EPKARTSFEISLNVSYTGSR	1374
PZP_h_NP_002855.2	PASNMIIVDKMVSIGFIPLKPTVKMLERSSSVSRTEVSNNHVL IYVEQV-	1428
PZP_CM_XP_009001820.1	PASNMIIVDKMVSIGFIPLKPTVKMLERSSSVSRTEVSNNHVL IYVEQVR	1429
A2ML1_h_NP_001269353.1	SSSNMAIVEVKMLSGFSPMEGTNQLLLQQPLVKKVEFGDTLNIYLDL I	918
A2ML1_CM_XP_009001807.1	SSSNMAIVEVKMLSGFNPMEGTSQSLLQQPLVKKVEFGDTLNIYLIET	1256
A2M_h_NP_000005.2	SASNMAIVDKMVSIGFIPLKPTVKMLERSNHVSRTVESSNNHVL IYLDKVS	1423
A2M_CM_XP_009001819.1	SASNMAIADVKMISGFIPLKPTVKMLERSNHVSRTVEVNNNHVL IYLDKVS	1424
PZP_h_NP_002855.2	-----TNQTL SFSFMVLQDIPVGDLPKPAIVKVYDYYETDESVAEYI	1470
PZP_CM_XP_009001820.1	ALTSWL RVTNQTL SFSFTVLQDVPVRDLKPAIVKVYDYYETDESVAEYI	1479
A2ML1_h_NP_001269353.1	KN-----TQTYTFTISQSVLVTNLKPATIKVYDYYLPDEQATIQYS	959
A2ML1_CM_XP_009001807.1	KN-----TQTYTFTISQSVLVTNLKPAAIKVYDYYLPDEQATIQYS	1297
A2M_h_NP_000005.2	-----NQTL SFLFTVLQDVPVRDLKPAIVKVYDYYETDEFAIAEYN	1464
A2M_CM_XP_009001819.1	-----NQTL SLSFTVLQDVPVRDLKPAIVKVYDYYETDEFAIAEYN	1465
PZP_h_NP_002855.2	AP C STDTEHGNV	1482
PZP_CM_XP_009001820.1	AP C STDTEHGNV	1491
A2ML1_h_NP_001269353.1	DP C E-----	963
A2ML1_CM_XP_009001807.1	DP C E-----	1301
A2M_h_NP_000005.2	AP C SKDLGNA--	1474
A2M_CM_XP_009001819.1	AP C SKDLGNA-1475	

Supplemental Fig.3 Alignment of A2M family proteins.

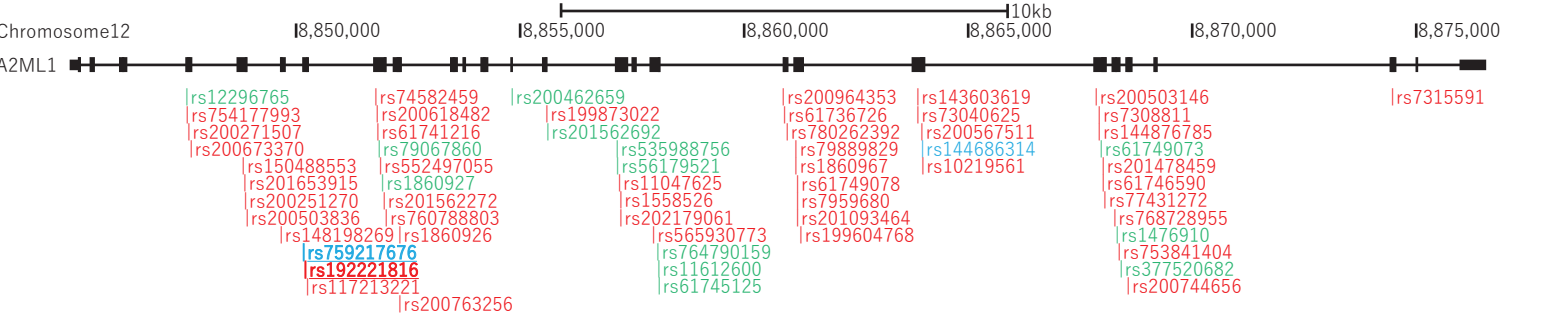
ClustalW2 was used for protein structure alignment. Grey: predicted bait region; Yellow: disulfide moiety; Green: thiol-ester site; Pink: cutting site (CS) of PE; Blue: CS of Asp-N E; Red: CS of LysC; Light blue: LysN.

Supplemental Fig.4

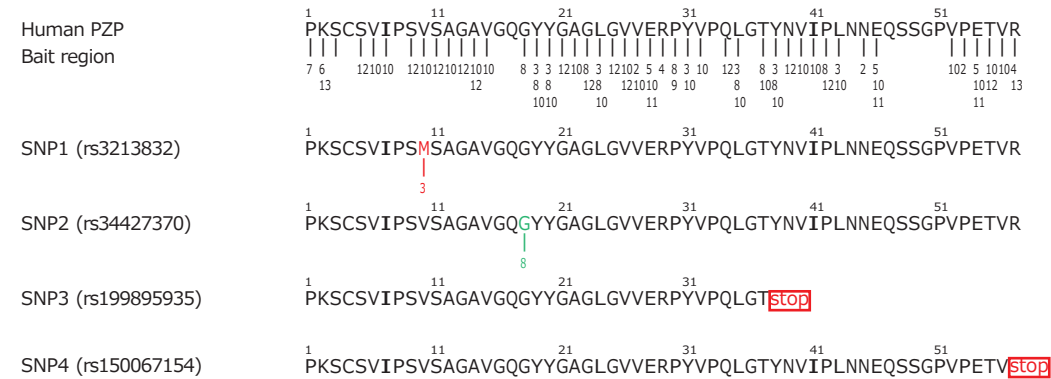
A.



B.



C.



D.



Supplemental Fig. 4. Evolutional characteristics of human PZP and A2ML1.

A. Single nucleotide polymorphisms (SNPs) in human PZP; B. SNPs in human A2ML1;

C. Protease cutting sites in the bait region of human PZP; D. Protease cutting sites in bait region of human A2ML1.

Panels A and B: UCSC Genome Browser (<https://genome.ucsc.edu/>) was used for analysis of SNPs.

Only SNPs for which MAF was $\geq 1\%$ were included.

rs: reference SNP ID number; red: SNPs with amino acid substitutions (missense mutations, nonsense mutations);

green: synonymous mutations; blue: frameshift mutations; underlined rs IDs: SNPs in bait region.

Panels C and D: PeptideCutter analysis of protease cutting sites. Changes to cutting sites in each SNP are shown.

Positions of cuttings sites are indicated by the accompanying numerals: 1: Aspartic acid-N endopeptidase;

2: aspartic acid-N endopeptidase + N-terminal glutamic acid; 3: chymotrypsin; 4: clostripain;

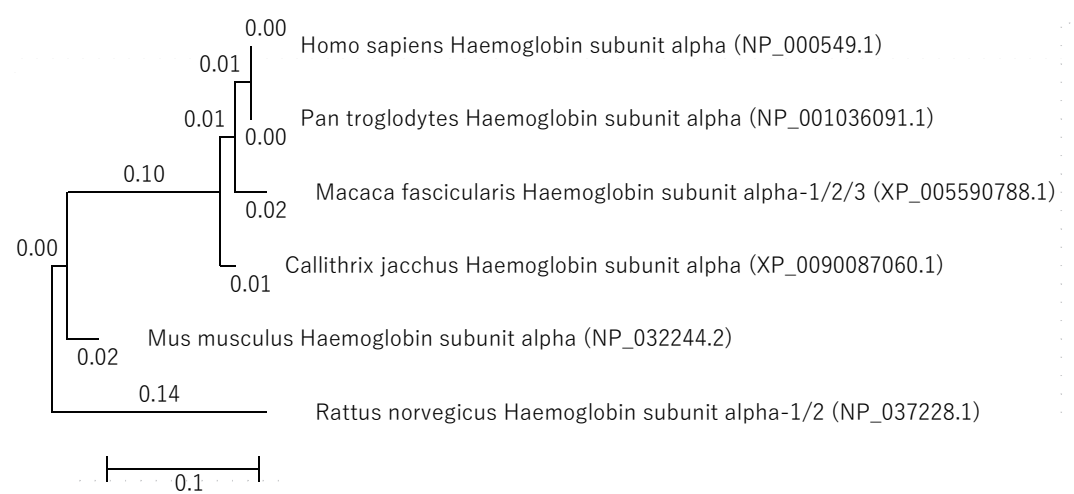
5: glutamyl endopeptidase; 6: lysyl endopeptidase C; 7: peptidyl-Lys metalloendopeptidase; 8: pepsin;

9: prolyl-endopeptidase; 10: proteinase K; 11: staphylococcal peptidase; 12: thermolysin; 13: trypsin;

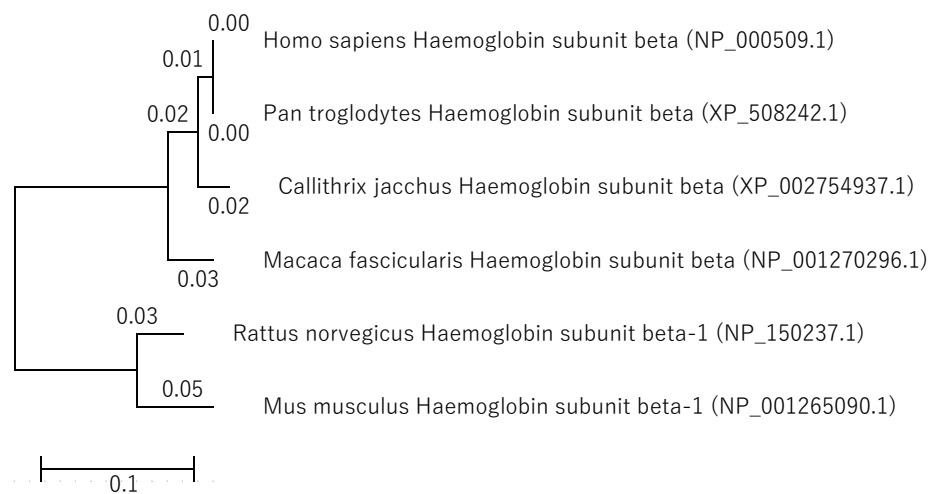
stop: stop codon.

Supplemental Fig.5

A.



B.



Supplemental Fig. 5. Phylogeny of haemoglobin α and β proteins from primates and rodents inferred using MEGA6.06.
A: Haemoglobin subunit α sequence; B: Haemoglobin subunit β sequence.
NCBI sequence accession numbers are indicated. Numbers at branches indicate bootstrap values.
Branch lengths represent the amount of change estimated to have occurred between nodes.

Supplemental Table 2

		β -actin	PZP	A2ML1
H4	Whole Placenta	3	2	2
	Chorion	3	2	2
	Decidua	3	2	2
H5	Whole Placenta	3	0	1
	Chorion	3	0	1
	Decidua	3	0	1
H6	Whole Placenta	3	1	2
	Chorion	3	1	1
	Decidua	3	1	1
H7	Whole Placenta	3	0	1
	Chorion	3	1	1
	Decidua	3	0	2
H8	Whole Placenta	3	1	1
	Chorion	3	0	1
	Decidua	3	1	2
H9	Whole Placenta	3	1	1
	Chorion	3	1	1
	Decidua	3	1	1
H10	Whole Placenta	3	2	2
	Chorion	3	1	1
	Decidua	3	2	2

		β -actin	PZP	A2ML1
M4	Whole Placenta	3	0	2
	Chorion	3	0	2
	Decidua	3	0	1
M5	Whole Placenta	3	0	2
	Chorion	3	0	2
	Decidua	3	0	1
M6	Whole Placenta	3	0	1
	Chorion	3	0	2
	Decidua	3	0	1
M7	Whole Placenta	3	0	1
	Chorion	3	0	2
	Decidua	3	0	2

Supplemental Table 2. Tissue-specific expression of PZP and A2ML1 mRNA detected by semi-quantitative RT-PCR. Relative PZP and A2ML1 expression was divided into 4 stages (3,2,1,0).

Supplemental Table 3

A.

Sample name	Pregnant type	Tissue type	Samples					
			Blood				Placenta	
			non-P.	1st	2nd	3rd	Weeks	Delivery type
H1	singleton	Plasma	-	12w2d	20w2d	36w2d	-	-
H2	singleton	Plasma	-	14w3d	20w3d	35w3d	-	-
H3	singleton	Plasma	-	12w1d	21w1d	35w1d	-	-
H4	singleton	placenta	-	-	-	-	37w3d	Scheduled-C/S
H5	singleton	placenta	-	-	-	-	37w4d	Scheduled-C/S
H6	singleton	placenta	-	-	-	-	37w5d	Scheduled-C/S
H7	singleton	placenta	-	-	-	-	37w6d	Scheduled-C/S
H8	singleton	placenta	-	-	-	-	37w1d	Scheduled-C/S
H9	singleton	placenta	-	-	-	-	37w6d	Scheduled-C/S
H10	singleton	placenta	-	-	-	-	37w2d	Scheduled-C/S
H11	non-P.	Plasma	+	-	-	-	-	-
H12	non-P.	Plasma	+	-	-	-	-	-
H13	non-P.	Plasma	+	-	-	-	-	-

B.

Sample name	GFP	Pregnant type	Tissue type	Samples					Placenta	Delivery type
				Blood						
				non-P.	50days	100days	120days			
M1	-	triplet	Plasma	-	*P4580_01	*P4580_02	*P4580_03	-	-	
M2	-	twin	Plasma	-	*P4586_01	*P4586_02	*P4586_03	-	-	
M3	-	twin	Plasma	-	*P4579_01	*P4579_02	-	-	-	
M4	-	singleton	placenta	-	-	-	-	+	Scheduled-C/S	
M5	-	singleton	placenta	-	-	-	-	+	Scheduled-C/S	
M6	-	no data	placenta	-	-	-	-	+	Scheduled-C/S	
M7	-	singleton	placenta	-	-	-	-	+	Scheduled-C/S	
M8	+	singleton	placenta	-	-	-	-	+	Scheduled-C/S	
M9	+	twin	placenta	-	-	-	-	+	Scheduled-C/S	
M10	+	singleton	placenta	-	-	-	-	+	Scheduled-C/S	
M11	-	non-P.	Plasma	*N0631	-	-	-	-	-	
M12	-	non-P.	Plasma	*N3764	-	-	-	-	-	
M13	-	non-P.	Plasma	*N3929	-	-	-	-	-	
M14	-	non-P.	Plasma	*N4042	-	-	-	-	-	
M15	-	non-P.	Plasma	*N4255	-	-	-	-	-	

Supplemental Table 3. Human (A) and marmoset (B) samples.
Non-P.: Non-pregnant; C/S: Caesarean section. For marmoset, 50, 100, and 120 days correspond to the first, second, and third trimester, respectively. *: sample names conform to Supplemental Fig. 1. W: weeks; d: days.

Supplemental Table 4

Primer Name	Sequence
Human-PZP-F	5'-CACAGGAAACCGTCCTGCTT-3'
Human-PZP-R	5'-ACTCAGCAACCACAGACTCAT-3'
Human-A2ML1-F	5'-CTGTCGCTTGAAGCAGAACTC-3'
Human-A2ML1-R	5'-TTCACCCTCTACCACCGTCT-3'
Human-beta actin-F	5'-CCACGGCTGCTTCCAG-3'
Human-beta actin-R	5'-GGGTACATGGTGGTGC-3'
Marmoset-PZP-F	5'-ACTGTGCCCCAACTTGTGA-3'
marmoset-PZP-R	5'-CTCTCAGCCAGGACGTCAGA-3'
marmoset-A2ML1-F	5'-CCCCTATCAAGTGGCCGAAT-3'
marmoset-A2ML1-R	5'-GGGGTGCCGTAATTTGGAGA-3'
marmoset-beta actin-F	5'-CCACGGCTGCTTCCAG-3'
marmoset-beta actin-R	5'-GGGTACATGGTGGTGC-3'

Supplemental Table 4. List of primer sequences used for RT-PCR analysis in this study.
F: Forward primer; R: reverse primer.