

**Supplementary table 2: Human-specific, overlapping across all genera, and overlapping only between non-human primates genes located nearest to consensus peaks**

Human-specific	Overlap across all genera	Overlap only between non-human primates			
n = 437	n = 82	n = 710			
AC004585.2	ACTB	ABCB1			
AC004687.1	ACTR3	ACTA1			
AC005083.1	ADORA2A	ACTG1			
AC006064.1	AGBL5	ACTRT3			
AC006064.4	AKAP13	ADA			
AC006359.1	ALOXE3	ADAP1			
AC007325.4	ASTL	ADGRE5			
AC007326.4	BHLHE40	ADGRG1			
AC007384.1	BIRC3	ADO			
AC007639.1	BTG2	ADORA3			
AC008012.1	CARM1	ADPRH			
AC008103.1	CCDC107	AEN			
AC008443.9	CD74	AGBL3			
AC008670.1	CDKN1A	AGO2			
AC008738.1	CHI3L2	AIM2			
AC008764.7	CIITA	AIMP1			
AC008764.9	CLDND1	AKNA			
AC008894.2	DPP9	AKT1S1			
AC010186.2	DUSP2	ALCAM			
AC010186.3	DUSP22	ALOX5AP			
AC010761.6	ECE1	AMZ1			
AC010768.2	FCMR	ANG			
AC011195.1	FGR	ANKRD28			
AC011195.3	FMC1	AP4E1			
AC012506.4	GADD45B	APOC2			
AC018755.1	GCSAM	APOM			
AC020651.1	GTF2A1	ARHGAP30			
AC022182.1	HES7	ARHGAP45			
AC022210.1	HEXIM1	ARHGDIA			
AC022210.2	HMGN4	ARID5A			
AC022616.6	HSPA6	ARID5B			
AC022726.1	HVCN1	ARL6IP5			
AC023424.2	IER5	ARMC2			
AC024051.1	IKBKB	ARPC2			
AC024051.10	IL10	ARPC3			
AC024051.11	IL16	ARRB2			
AC024051.12	ILF2	ARRDC2			

AC024051.2	IQCD	ARRDC3			
AC024051.3	IRF4	ASB2			
AC024051.4	ISG20	ASMTL			
AC024051.5	ITGAL	ASXL1			
AC024051.6	IZUMO4	ATAD1			
AC024051.7	KLK1	ATAD2B			
AC024051.8	LAT2	ATF4			
AC024051.9	MED26	ATF6			
AC025164.2	MOB3A	ATP5MC2			
AC025171.4	MPZL1	ATP5PB			
AC034102.7	NCF2	ATP5PD			
AC040904.1	NEK6	ATP5PF			
AC040970.1	NPR1	ATP5PO			
AC051619.6	OGDH	B2M			
AC051619.7	PARP15	B4GALT1			
AC067752.1	PIGR	B4GAT1			
AC068228.4	PLXDC1	BAG6			
AC073957.1	POLR2A	BASP1			
AC084026.2	POLR3E	BATF			
AC084082.1	POU2F2	BAX			
AC084398.2	PPP1R9B	BAZ2A			
AC087286.4	PTGIR	BCAT1			
AC090617.9	PTPN6	BCL2			
AC091045.1	RAB8A	BCL2A1			
AC091144.1	RGS1	BCL2L1			
AC092053.6	RNASET2	BCL3			
AC093627.11	RPL23	BCL9L			
AC103591.3	RPL24	BDH2			
AC104024.1	RPS29	BHLHA15			
AC104046.1	SACM1L	BIRC2			
AC105046.2	SCIMP	BMF			
AC105105.1	SF3A3	BMP2K			
AC108134.2	SLAMF1	BNIP1			
AC109326.1	SLC35G6	BOLA2B			
AC110749.1	SPN	BORCS6			
AC111170.1	TEX14	BRD2			
AC113208.3	TIA1	BST2			
AC114498.2	TMSB4X	BTB			
AC116348.1	TNFAIP3	BTG1			
AC124068.2	TSPOAP1	BUB1			
AC129492.7	VOPP1	BUB1B			
AC132938.7	ZFP36	BUD31			
AC133552.2	ZFP36L1	C11H11orf54			

AC142472.1	ZNF395	C12H12orf57			
AC145613.1	ZNF710	C1H1orf56			
AC213203.2		C5H5orf15			
AC215217.1		C8H8orf37			
AC233714.1		CACYBP			
AC239868.1		CALR			
AC245014.3		CAMK2D			
AC245407.2		CCDC102A			
AGBL5-AS1		CCDC115			
AL009179.1		CCDC58			
AL009179.3		CCDC97			
AL021917.1		CCM2			
AL021918.1		CCR4			
AL021918.5		CCR7			
AL031777.2		CCT8			
AL031846.1		CD22			
AL035588.1		CD40			
AL109741.1		CD44			
AL109758.1		CD47			
AL121935.1		CD48			
AL121956.4		CD55			
AL132780.1		CD58			
AL136181.1		CD68			
AL136961.1		CD70			
AL138756.1		CD79A			
AL138930.1		CD80			
AL139099.1		CD82			
AL157831.3		CD83			
AL158207.1		CD86			
AL162581.1		CDC42BPG			
AL163195.1		CDC42SE1			
AL163636.1		CDC5L			
AL353644.1		CDK12			
AL353644.2		CDK6			
AL353644.3		CELF2			
AL355994.4		CETP			
AL356585.1		CFLAR			
AL360012.1		CHCHD5			
AL391832.2		CHD2			
AL391832.3		CHRNA2			
AL512631.1		CHRNA2			
AL592295.4		CLCF1			
AL592295.5		CLDN14			

ANGPTL6		CLEC16A			
AP000223.1		CLEC17A			
AP000424.1		CLEC2D			
AP000424.2		CLIC1			
AP000550.2		CLK2			
AP000757.2		CLNK			
AP000769.2		CLPTM1			
AP000769.3		CMAH			
AP000769.5		CMTM6			
AP000942.5		CNN2			
AP000944.4		CNPY3			
AP001107.9		COPS4			
AP001630.1		CORO1A			
AP002761.2		COX18			
AP003721.1		CPED1			
AP003721.3		CPSF4L			
AP003721.4		CREM			
AP003900.1		CRYZ			
AP004609.4		CSK			
AP005131.3		CTNND1			
BX284668.6		CTSH			
C12orf57		CWC25			
C8orf37		CX3CL1			
CASP16P		CXCL16			
CCL3L1		CXCR5			
CECR3		CYTH1			
COX5BP7		DALRD3			
CXXC5		DAPP1			
CYBC1		DARS			
DDX11L1		DBF4B			
DDX11L16		DCAF11			
DDX11L8		DDIT4			
DGCR6		DDX17			
DINOL		DDX5			
DUX4		DDX6			
DUX4L15		DENND2D			
DUX4L16		DENND5A			
DUX4L17		DEPP1			
DUX4L18		DEXI			
DUX4L19		DHRS3			
DUX4L20		DHX16			
DUX4L50		DHX8			
ECE1-AS1		DMXL2			

FAM167B		DNAJB14			
FAM230A		DNAJB4			
FAM230B		DNAJC18			
FMC1-LUC7L2		DNASE1L3			
FO538757.1		DNM2			
FP236383.1		DNTTIP2			
FP236383.10		DOCK10			
FP236383.11		DOCK8			
FP236383.12		DTX3L			
FP236383.13		DUSP10			
FP236383.2		DUSP5			
FP236383.3		E2F7			
FP236383.4		EAPP			
FP236383.5		EBF1			
FP236383.6		EED			
FP236383.7		EEF1A1			
FP236383.8		EGR2			
FP236383.9		EGR3			
FP671120.10		EHD1			
FP671120.11		EIF2D			
FP671120.12		EIF4A2			
FP671120.2		EIF5A			
FP671120.4		ELF1			
FP671120.5		ELF2			
FP671120.7		EML2			
FP671120.8		ENO1			
FP671120.9		ENTPD1			
FRG1HP		ERAP2			
GABBR2		ERCC5			
H1-2		ERH			
H1-3		ETFB			
H1-4		ETFBKMT			
H1-5		ETV6			
H2AC11		EXOSC1			
H2AC12		EYA3			
H2AC13		FAM120A			
H2AC14		FAM129A			
H2AC15		FAM222B			
H2AC16		FAM71B			
H2AC17		FANCA			
H2AC18		FBXO25			
H2AC19		FCHSD2			
H2AC20		FCRL4			

H2AC21		FEN1			
H2AC4		FERMT3			
H2AC6		FHOD1			
H2AC7		FMNL1			
H2AC8		FMNL3			
H2BC10		FMOD			
H2BC11		FNTB			
H2BC13		FOSB			
H2BC14		FOXO3			
H2BC15		FTL			
H2BC18		GAPDH			
H2BC19P		GBA			
H2BC21		GBP5			
H2BC3		GCA			
H2BC4		GLRX			
H2BC5		GNG3			
H2BC6		GNG5			
H2BC7		GOLT1B			
H2BC8		GOSR1			
H2BC9		GPATCH11			
H3C10		GPR108			
H3C11		GPR15			
H3C12		GPR183			
H3C14		GPR25			
H3C15		GPR68			
H3C2		GPR82			
H3C3		GPX3			
H3C4		GRAMD2A			
H3C5P		GRK2			
H3C7		GRK3			
H3C8		GSE1			
H3C9P		H2AFZ			
H4-16		H3F3B			
H4C11		HERPUD1			
H4C12		HIVEP1			
H4C13		HMCES			
H4C14		HMGCR			
H4C15		HMHB1			
H4C2		HNRNPA1			
H4C3		HNRNPA2B1			
H4C4		HNRNPF			
H4C5		HNRNPL			
H4C6		HSP90AB1			

H4C7		HSPA4			
H4C8		HSPA5			
H4C9		HSPA8			
HNRNPA1P1		ICAM1			
IGHJ6		ICAM4			
IGHV1OR21-1		ICOSLG			
IL21R-AS1		ID2			
INAVA		IFI16			
IRF8		IFI6			
KIF5C		IFIH1			
LINC00324		IFIT3			
LINC01004		IFNAR2			
LINC01136		IFNLR1			
LINC01410		IKZF2			
LINC01585		IKZF3			
LINC01629		IL12RB2			
LINC01869		IL13			
LINC01986		IL15RA			
LINC02090		IL21R			
LINC02130		IL23A			
LINC02332		IL26			
LITAFD		IL2RA			
MAMDC2		IL2RB			
MAMDC2-AS1		IL6R			
MDM4		IL6ST			
MIR1244-1		IL7			
MIR1285-2		IL7R			
MIR142		ILDR1			
MIR146A		ING1			
MIR1538		INO80C			
MIR155		INSIG1			
MIR155HG		INSIG2			
MIR193A		INTS7			
MIR200CHG		IQSEC1			
MIR21		IRF1			
MIR3143		IRF2BP2			
MIR339		IRF5			
MIR3652		IRF9			
MIR378I		ISCU			
MIR4477B		ITGA1			
MIR4485		ITGAX			
MIR4521		ITK			
MIR4530		ITPR1			

MIR4537		IVNS1ABP			
MIR4736		JUNB			
MIR5196		KBTBD6			
MIR548AC		KCNK7			
MIR5692B		KCNQ5			
MIR6165		KHNYN			
MIR6724-1		KIAA0930			
MIR6724-2		KIF1BP			
MIR6724-3		KIF2C			
MIR6724-4		KLHDC7B			
MIR6881		KRTCAP2			
MIR8078		LAMP3			
MTATP6P1		LAPTM5			
MTATP8P1		LARGE2			
MTATP8P2		LASP1			
MTCO1P12		LCP1			
MTCO1P2		LDHA			
MTCO1P40		LDHC			
MTCO2P12		LGALS1			
MTCO2P2		LIAS			
MTCO3P12		LMAN1L			
MTCYBP13		LMNA			
MTCYBP18		LPXN			
MTCYBP35		LTA			
MTND1P23		LUZP1			
MTND2P28		LY75			
MTND3P25		LYN			
MTND4LP1		LYSMD2			
MTND4LP30		LYST			
MTND4LP5		MACF1			
MTND4P12		MAML2			
MTND4P24		MAP2K1			
MTND4P35		MAP3K14			
MTND5P11		MAP3K8			
MTND6P22		MAP3K9			
MTND6P4		MAPK14			
MTRNR2L12		MBNL1			
MTRNR2L9		MCL1			
MYO16-AS1		MCOLN2			
NCF1B		MCTP2			
NEAT1		MDFIC			
NIBAN3		MDM2			
NLRP3		MED1			



OR2B2		MED11			
OR6S1		MED18			
PPAN		MEF2C			
PPAN-P2RY11		MEF2D			
PSME2P6		MIA			
PTPA		MIA3			
PVRIG2P		MIDN			
RB1-DT		MKL1			
RGPD2		MLLT6			
RMRP		MOV10			
RN7SK		MPEG1			
RN7SL1		MRAS			
RN7SL116P		MREG			
RN7SL2		MRPL44			
RN7SL28P		MRPS18B			
RN7SL356P		MSC			
RN7SL573P		MSGN1			
RNA5-8SN1		MSH5			
RNA5-8SN2		MTERF1			
RNA5-8SN3		MTFP1			
RNA5-8SN4		MTHFD2			
RNA5S8		MYB			
RNA5SP184		MYCBP2			
RNA5SP284		MYLIP			
RNU1-1		MYNN			
RNU11		MYO1G			
RNU1-2		MYO9B			
RNU12		MZB1			
RNU1-27P		NABP1			
RNU1-28P		NACA			
RNU1-3		NAT10			
RNU1-4		NCLN			
RNU2-1		NCOR2			
RNU2-2P		NCR2			
RNU2-63P		NCR3			
RNU4-1		NDUFAF3			
RNU4-2		NDUFB7			
RNU4ATAC		NDUFS7			
RNU5A-1		NEK8			
RNU5B-1		NEMF			
RNU5D-1		NFAT5			
RNU5E-1		NFE2L2			
RNU5E-4P		NFE2L3			

RNU5E-6P		NFKB2			
RNU5F-1		NFKBIE			
RNU6-1224P		NFKBIZ			
RNU6-196P		NFX1			
RNU6-35P		NID1			
RNU6-362P		NINJ2			
RNU6-439P		NME1			
RNU6-450P		NMI			
RNU6-451P		NOL12			
RNU6-471P		NOL4L			
RNU6-510P		NOLC1			
RNU7-1		NR4A3			
RNU7-26P		NSMCE1			
RNU7-38P		NSUN3			
RNVU1-14		NT5C3A			
RNVU1-15		NUB1			
RNVU1-18		NUBP1			
RNVU1-19		NUP205			
RNVU1-27		ODF3B			
RNVU1-28		OGT			
RNVU1-29		ORAI3			
RNVU1-30		P2RX5			
RNVU1-31		P2RY10			
RNVU1-6		P2RY8			
RNVU1-7		P4HB			
ROCK1P1		PAFAH2			
RPL12P28		PAN2			
RPL17P22		PARP16			
RPL18AP8		PARP2			
RPL22P19		PARP9			
RPL23AP25		PAX5			
RPL23AP97		PCYOX1			
RPL38P4		PDAP1			
RPS23P10		PDCD4			
RRAGD		PDE4A			
SENP5		PEAK1			
SNORA73B		PELO			
SNORD118		PEX2			
SNORD13		PFN1			
SNORD3A		PGAM1			
SNORD3B-1		PHB2			
SNORD3B-2		PHC2			
SNORD3C		PIGV			

SNORD3D		PIK3C2B			
SNRPGP19		PIK3CG			
SP1		PIK3R6			
STAG3L5P-PVRIG2P-PILRB		PIM1			
TMPO-AS1		PKM			
TOB2P1		PLA1A			
TRAJ11		PLAC8			
TUBG1		PLEK			
Z82188.1		PLEKHG2			
Z93017.1		PLEKHO1			
Z93241.1		PLGRKT			
ZNF295-AS1		PLK1			
ZNF723		PNRC1			
		PNRC2			
		POLD4			
		POLDIP3			
		POLG			
		POLG2			
		POLR3B			
		POLR3GL			
		PPIA			
		PPP1R10			
		PPP1R15A			
		PPP1R18			
		PPTC7			
		PRAG1			
		PRDM1			
		PRDM2			
		PRDX2			
		PRKCB			
		PRMT1			
		PRMT5			
		PRND			
		PROB1			
		PRPF40B			
		PRPSAP2			
		PSD4			
		PSMA3			
		PSMA6			
		PSMB3			
		PSMB7			
		PSMB8			
		PSMB9			

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	PTMA			
	PTP4A1			
	PTP4A2			
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	PTRH2			
	PVRIG			
	RAB11A			
	RAB11FIP1			
	RAB21			
	RAB24			
	RAB35			
	RAB4B			
	RAC2			
	RAD23A			
	RAD9A			
	RAPGEF1			
	RAPGEF6			
	RASSF4			
	RASSF5			
	RBM39			
	RCSD1			
	RECQL			
	REL			
	REV3L			
	RFX7			
	RGL2			
	RGS13			
	RHOF			
	RHOH			
	RIC1			
	RIPOR2			
	RNF145			
	RNF167			
	RNF38			
	RNF43			
	ROMO1			
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	RPL13A			
	RPL31			
	RPL37			
	RPL38			

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	RPS12			
	RPS19			
	RPS19BP1			
	RPS6			
	RPS7			
	RPS9			
	RSRC2			
	RSRP1			
	RTKN2			
	RTP3			
	RXFP4			
	S1PR1			
	S1PR4			
	SAMD4B			
	SAMSN1			
	SCAMP3			
	SCGB1C1			
	SEC24C			
	SEC61G			
	SELPLG			
	SEMA7A			
	SERTAD2			
	SETD1A			
	SETDB1			
	SH3BP1			
	SIAH2			
	SIM1			
	SIT1			
	SLAMF7			
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	SLC25A11			
	SLC25A19			
	SLC26A8			
	SLC2A5			
	SLC35B2			
	SLC37A1			
	SLC38A2			
	SLC43A3			

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		SMIM3			
		SMU1			
		SNAPC5			
		SNX11			
		SNX22			
		SNX29			
		SOCS1			
		SOST			
		SPATA12			
		SPATA24			
		SRGN			
		SRI			
		SRP14			
		SRSF1			
		SRSF10			
		SRSF2			
		SRSF7			
		SSBP1			
		SSBP2			
		SSH2			
		ST7			
		ST8SIA4			
		STAMBPL1			
		STAT3			
		STAT6			
		STK10			
		STK17A			
		STK17B			
		STMN1			
		STX6			
		SUOX			
		SUPT4H1			
		SUSD6			
		SWAP70			
		SYS1			
		SYTL3			
		TAF11			
		TAF1D			
		TAGAP			
		TAGLN2			
		TANK			

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	TAPBP			
	TBCK			
	TCF25			
	TCF3			
	TCF4			
	TCTN1			
	TEX9			
	TFEB			
	THADA			
	TJP2			
	TLR1			
	TLR10			
	TMBIM4			
	TMEM107			
	TMEM138			
	TMEM216			
	TMEM242			
	TMEM243			
	TMEM252			
	TMEM259			
	TMEM69			
	TMPO			
	TNFAIP8			
	TNFRSF10B			
	TNFRSF13B			
	TNFRSF14			
	TNFRSF17			
	TNFRSF1B			
	TNFSF10			
	TNFSF4			
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	TNIP2			
	TNRC6B			
	TOR1AIP1			
	TOX2			
	TP53TG5			
	TPCN1			
	TPD52			
	TRA2B			
	TRAF1			
	TRAF3IP3			

		TRAF4			
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		TRIB1			
		TRIM22			
		TRIM41			
		TRIM7			
		TRIM8			
		TRPV2			
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		TSPYL4			
		TTC31			
		TTC32			
		TTF2			
		TTI2			
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		TUBG2			
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		USF1			
		USP6NL			
		UVRAG			
		VASP			
		VEGFA			
		VPS25			
		VSIR			
		VTA1			
		WBP4			



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		WHAMM			
		WIPF1			
		WNK1			
		WRAP53			
		XBP1			
		XPO6			
		YJU2			
		ZBTB10			
		ZBTB32			
		ZBTB37			
		ZBTB45			
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		ZC3H12D			
		ZC3H7A			
		ZC3HAV1			
		ZMIZ1			
		ZMIZ2			
		ZNF184			
		ZNF217			
		ZNF460			
		ZNF627			
		ZNF652			
		ZNF792			
		ZNF827			
		ZPBP2			
		ZRANB2			