

AtDOG1	1	-----	
AtDOGL1	1	-----	
AtDOGL2	1	-----	
AtDOGL3	1	-----	
AtDOGL4	1	-----	
AtDOGL5	1	-----	
BdDOG1L1	1	-----	
BdDOG1L2	1	-----	
BdDOG1L3	1	-----	
BdDOG1L4	1	-----	
BdDOG1L5-1	1	-----	
BdDOG1L5-3	1	-----	-MESRRGGG-
BdDOG1L5-4	1	-----	-MESRRGGG-
BrDOG1	1	-----	
HvDOG1L1	1	-----	
HvDOG1L2	1	-----	
HvDOG1L3	1	-----	
HvDOG1L5-2	1	-----	
HvDOG1L5-3	1	-----	-MESRRGGGG
LesadOG1	1	-----	
LsDOG1	1	-----	
OsDOG1L1	1	-----	
OsDOG1L3	1	-----	
OsDOG1L4	1	-----	
OsDOG1L5-1	1	-----	
OsDOG1L5-3	1	-----MAPSSLLIIF-----LLPTSRSSAL	
OsDOG1L5-4	1	-----	
SbDOG1L1	1	-----	
SbDOG1L2	1	-----	
SbDOG1L4	1	-----	
SbDOG1L5	1	-----	
SoDOG1	1	-----	
TaDOG1L1	1	-----	
TaDOG1L2	1	-----	
TaDOG1L4	1	-----	
TaDOG1L5-1	1	-----	
ZmDOG1L2	1	-----	
ZmDOG1L3	1	-----	
ZmDOG1L4	1	-----	
ZmDOG1L5-1	1	-----	
ZmDOG1L5-3	1	-----	-MELYSGYLDDHFNPHK
ZmDOG1L5-4	1	MGDTSSSSHSRQDPSLLGYGFHGAIANSTPPANFFDQGGGGTYFGELEEA FMHQVASLRR	

AtDOG1	1	-----
AtDOGL1	1	-----
AtDOGL2	1	-----
AtDOGL3	1	-----
AtDOGL4	1	-----
AtDOGL5	1	-----
BdDOG1L1	1	-----
BdDOG1L2	1	-----
BdDOG1L3	1	-----
BdDOG1L4	1	-----
BdDOG1L5-1	1	MDYAS-----PGG-----TDTSTDPGIAKKNQ-----
BdDOG1L5-3	9	--PAAAAAEDARGPMPGFGAPQHTIPTDVNIMQTSRVTDGFGALAQSA GFRIEDLANLSAN
BdDOG1L5-4	9	--PAAAAAEDARGPMPGFGAPQHTIPTDVNIMQTSRVTDGFGALAQSA GFRIEDLANLSAN
BrDOG1	1	-----
HvDOG1L1	1	-----
HvDOG1L2	1	-----
HvDOG1L3	1	-----
HvDOG1L5-2	10	PAAAAAAAGDPRGPMPGFGAPQHTIPTDVNIMQPSRVADFGALAHSA GFRIEDLANFSTN
HvDOG1L5-3	1	-----MAEASPR-----TETS-DDTDENLM-----
LesadOG1	1	-----
LsDOG1	1	-----
OsDOG1L1	1	-----
OsDOG1L3	1	-----
OsDOG1L4	1	-----
OsDOG1L5-1	1	-----MADASSR-----TDTSTVLDTDDKN-----
OsDOG1L5-3	22	VTHATVSSTVAFQELLLCPNPSSKSSSNLTAGGHLPLAVAAAAAAAQQHGVAVVGMAAH
OsDOG1L5-4	1	MFVASSPRKCPQGPCQAARTANQLQPGSSGSHR-----
SbDOG1L1	1	-----
SbDOG1L2	1	-----
SbDOG1L4	1	-----
SbDOG1L5	1	-----MADASPR-----TETSTDDTDDNHG-----
SoDOG1	1	-----
TaDOG1L1	1	-----
TaDOG1L2	1	-----
TaDOG1L4	1	-----
TaDOG1L5-1	1	-----MADASSR-----TDNSTVLDNDGKIY-----
ZmDOG1L2	1	-----
ZmDOG1L3	1	-----
ZmDOG1L4	1	-----
ZmDOG1L5-1	1	-----MADASPR-----TETSTDDTDDNNG-----
ZmDOG1L5-3	17	LSIAGSAVSPPEYMASASPAQFAAAPLRMGYGRPAPAPPPPPVMGMWSSEPFRVDSGSAHA
ZmDOG1L5-4	61	TQQAATVSAPHHGDTKPFPTAAGATAATATATARPPPTLDIFPAWPMRSRLHTPKECSNV

AtDOG1	1	-----
AtDOGL1	1	-----
AtDOGL2	1	-----
AtDOGL3	1	-----
AtDOGL4	1	-----
AtDOGL5	1	-----
BdDOG1L1	1	-----
BdDOG1L2	1	-----
BdDOG1L3	1	-----
BdDOG1L4	1	-----
BdDOG1L5-1	23	-----
BdDOG1L5-3	67	TLFNLKPNNHTFISDPLQFGNYGK-----
BdDOG1L5-4	67	TLFNLKPNNHTFISDPLQFGNYGKSISPTDLATTAAAAAAAITTVDPQALLQQKGVQSN
BrDOG1	1	-----
HvDOG1L1	1	-----
HvDOG1L2	1	-----
HvDOG1L3	1	-----
HvDOG1L5-2	70	NLFNLKPNTTHAYTSDPLQFGNYGKSISPTDLATT---AAAAVTAVDPQALLQQKAVQPN
HvDOG1L5-3	20	-----
LesDOG1	1	-----
LsDOG1	1	-----
OsDOG1L1	1	-----
OsDOG1L3	1	-----
OsDOG1L4	1	-----
OsDOG1L5-1	21	-----
OsDOG1L5-3	82	QGMAAATAADRFCLPRMAAAAAAASQVEN-----
OsDOG1L5-4	34	-----
SbDOG1L1	1	-----
SbDOG1L2	1	-----
SbDOG1L4	1	-----
SbDOG1L5	21	-----
SoDOG1	1	-----
TaDOG1L1	1	-----
TaDOG1L2	1	-----
TaDOG1L4	1	-----
TaDOG1L5-1	22	-----
ZmDOG1L2	1	-----
ZmDOG1L3	1	-----
ZmDOG1L4	1	-----
ZmDOG1L5-1	21	-----
ZmDOG1L5-3	77	TSASTVN-----
ZmDOG1L5-4	121	TADSTDDSESSSKNHSNHSSDQLGAAAAAN-----

AtDOG1	1	-----
AtDOGL1	1	-----
AtDOGL2	1	-----
AtDOGL3	1	-----
AtDOGL4	1	-----
AtDOGL5	1	-----
BdDOG1L1	1	-----
BdDOG1L2	1	-----
BdDOG1L3	1	-----
BdDOG1L4	1	-----
BdDOG1L5-1	23	-----MFEQGHVA-ALKAFNSGDKS-
BdDOG1L5-3	91	-----FEQGHLA-APTGSDSSDKS-
BdDOG1L5-4	127	I VALRTRNSENWGESSMADTSPRTDTSTDPDIDVDERNQMFEQGHLA-APTGSDSSDKS-
BrDOG1	1	-----
HvDOG1L1	1	-----
HvDOG1L2	1	-----
HvDOG1L3	1	-----
HvDOG1L5-2	126	L VALRTRNNENWGESSMADTSPRTDTSTDPDIDIDERNQMFEQGQLA-APTASDSSDKS-
HvDOG1L5-3	20	-----LEPGNAA-LAVASDSSDRS-
LesDOG1	1	-----
LsDOG1	1	-----
OsDOG1L1	1	-----
OsDOG1L3	1	-----
OsDOG1L4	1	-----
OsDOG1L5-1	21	-----QMVDGQSG-AIVPSNSSDRSD
OsDOG1L5-3	111	----WGDSGVIVSSPFTDDTSTDLDSDADKHHLHALVGGGDDGDDAGEQRGADSSAVS-
OsDOG1L5-4	34	-----IDSMLGFA-AESARRIRSAR-
SbDOG1L1	1	-----
SbDOG1L2	1	-----
SbDOG1L4	1	-----
SbDOG1L5	21	-----LEPGPGA-LGVASDSSDRS-
SoDOG1	1	-----
TaDOG1L1	1	-----
TaDOG1L2	1	-----
TaDOG1L4	1	-----
TaDOG1L5-1	22	-----RLEQGQSGGAIMASNSSDRSD
ZmDOG1L2	1	-----
ZmDOG1L3	1	-----
ZmDOG1L4	1	-----
ZmDOG1L5-1	21	-----LEPGRGG-L-VASDSSDRS-
ZmDOG1L5-3	84	-----TKLEETRLEDDAQVALEPARSTE
ZmDOG1L5-4	151	-----MASQFEQASQQQLQHKNMATSSTP

AtDOG1	1	-----
AtDOGL1	1	-----
AtDOGL2	1	-----
AtDOGL3	1	-----
AtDOGL4	1	-----
AtDOGL5	1	-----
BdDOG1L1	1	-----
BdDOG1L2	1	-----
BdDOG1L3	1	-----MPTSLQRDAAAAAVSKERRAVRQP-----
BdDOG1L4	1	-----
BdDOG1L5-1	42	--KAKLGQNTLRRLAQNR-----DAARKSRLRK--KAYVQKLESSSLKLAQLEQE
BdDOG1L5-3	109	-RDQ-LDHKSLRRLAQNR-----EAARKSRLRK--KAYIQNLETSRLKLTQLEQE
BdDOG1L5-4	185	-RDQ-LDHKSLRRLAQNR-----EAARKSRLRK--KAYIQNLETSRLKLTQLEQE
BrDOG1	1	-----
HvDOG1L1	1	-----
HvDOG1L2	1	-----
HvDOG1L3	1	-----
HvDOG1L5-2	184	-RDK-LDHKSLRRLAQNR-----EAARKSRLRK--KAYIQNLESSRLKLTQLEQE
HvDOG1L5-3	38	-RDRNGDQKTMRRRLAQNR-----EAARKSRLRK--KAYVQQLENSRLKLTQLEQE
LesadOG1	1	-----
LsDOG1	1	-----
OsDOG1L1	1	-----
OsDOG1L3	1	-----MRTPAAPCARACPPHAKKPRPIYAGPGWE
OsDOG1L4	1	-----
OsDOG1L5-1	41	RSDKPMDQKVLRLRLAQNR-----EAARKSRLRK--KAYVQQLESSSKLKLASLEQE
OsDOG1L5-3	165	-KERRGDQKMQRRLAQNR-----EAARKSRMRK--KAYIQQLESSRSKLMHLEQE
OsDOG1L5-4	53	--HTNFSRLLISAQAQEFNMVYASPGTDASTDPDIDKNIRMAYVQQLED SRMKLTQLEQE
SbDOG1L1	1	-----
SbDOG1L2	1	-----
SbDOG1L4	1	-----
SbDOG1L5	39	-KDKHGDQKTLRRLAQNR-----EAARKSRLRK--KAYVQQLENSRLKLTQLEQE
SoDOG1	1	-----
TaDOG1L1	1	-----
TaDOG1L2	1	-----
TaDOG1L4	1	-----
TaDOG1L5-1	43	RSDKPLDQKTLRRLAQNR-----EAARKSRLRK--KSYVQQLESSSKLKLAQLEQE
ZmDOG1L2	1	-----
ZmDOG1L3	1	-----
ZmDOG1L4	1	-----
ZmDOG1L5-1	38	-KDKHGDQKTLRRLAQNR-----EAARKSRLRK--KAYVQQLENSRLKLTQLEQE
ZmDOG1L5-3	107	QETSRPPERAQRRLAQNR-----EAARKSRLRK--KAYIQQLETSRMKLSQLELE
ZmDOG1L5-4	175	RTGKALDPKVIRRLAQNR-----EAARKSRLRK--KAYIQQLESCKLKLSQMEQD

AtDOG1	1	-----MGSSSKNIEQ-----AQDS- <b>Y</b> LEWMSLQSQRI <b>P</b> ELKQLLA
AtDOGL1	1	-----
AtDOGL2	1	-----MSLQTKHIDDLKEALM
AtDOGL3	1	-----MATSSSSYGIEQ-----LQKGC <b>Y</b> EWMSVQAKHIVDLKEALM
AtDOGL4	1	-----MSKMRNLVEEK-----FLE <b>F</b> Y <b>E</b> SWVIQLELYLHQLLIAHN
AtDOGL5	1	-----MSQETAIA-----SFKKFQ <b>Q</b> SWIEQLRNHLNHLRSAQN
BdDOG1L1	1	-MTAAS---RPQS-NG--EPLVDG-E-----PFTK <b>F</b> GCW <b>I</b> SEQSRDLAALREAAA
BdDOG1L2	1	-----MSAGMEAELE-----AAQRR <b>F</b> RLWFRGLRSLRRDLRSARW
BdDOG1L3	26	-----ARIMAHVA-----DMAAF <b>Y</b> DAWVGREEEIVADLTAALS
BdDOG1L4	1	-----MDMT-----RYFACH <b>Q</b> QW <b>I</b> AGQEAGLGELTAAAA
BdDOG1L5-1	88	LLRARQQGYVTST--LGEQPH <b>P</b> ANGNG-----ALALDVE <b>Y</b> GRWLEEHN <b>K</b> QIDELRAAIS
BdDOG1L5-3	155	LQRARQQGIFISS--SGDQSHSTSGNG-----ALAFDME <b>Y</b> ARWLEEHNKHINELRAGVN
BdDOG1L5-4	231	LQRARQQGIFISS--SGDQSHSTSGNG-----ALAFDME <b>Y</b> ARWLEEHNKHINELRAGVN
BrDOG1	1	-----MENKGKNIEQ-----AQAS <b>C</b> Y <b>Q</b> QWMSIQSQRVPELKQALA
HvDOG1L1	1	-MTATS---RPQHNGSLARASDGGE-----SFAK <b>F</b> FE <b>C</b> WILEQSRDLAALR-AAA
HvDOG1L2	1	-----MELE-----AARR <b>F</b> QLWLRGLRSLRRDLRTARW
HvDOG1L3	1	-----MAHAG-----DMTAF <b>Y</b> GAWVGREEEIVSDLTAAALG
HvDOG1L5-2	230	LQRARQQGIFISS--SGDQAHSAGNG-----AVAFDME <b>Y</b> ARWLEEHNKHINELRAAAN
HvDOG1L5-3	85	LQRARQQGIFISS--SADQSHSMSGNG-----ALAFDTE <b>Y</b> ARWLEEHN <b>R</b> QVNELRAAVN
LesDOG1	1	-----MGSSSKNIEE-----AQES <b>C</b> Y <b>Q</b> EWNNLQSQRV <b>P</b> DLKHLA
LsDOG1	1	-----MAKQMKHQ-----QFQ <b>C</b> YKNWVAQQQLDLDELLOTLT
OsDOG1L1	1	-MPPPPSP--HPPHRNGNHVPAPSG-E-----SFAK <b>F</b> FE <b>C</b> WILEQSRDLAALRSAAAS
OsDOG1L3	30	GQRMPASYLQPRRG <b>T</b> NGRRIMEHGAGE-----EMVAF <b>Y</b> EAWVGREERIVADLTDAAL-
OsDOG1L4	1	-----MGAA-----RHVAC <b>Y</b> QRW <b>I</b> AGQEAGLGLEEAASSA
OsDOG1L5-1	89	INKARQQGIYISS--SGDQTHAMSGNG-----AMTFDLE <b>Y</b> ARWLEE <b>Q</b> NKQINELRTAVN
OsDOG1L5-3	212	LQRARQQGIFIATGGSGDHGHSIGNGG-----TLAFDLE <b>Y</b> ARWLDEHQ <b>R</b> HINDLRVALN
OsDOG1L5-4	111	LQRARQQGIIIST--SGDQQRSTSENE-----ALAFNME <b>Y</b> MRWLEEHN <b>K</b> QINELRS <b>A</b> VH
SbDOG1L1	1	-MPATFPPPPPPPPPSHNLPPLLSSNE-----SFSK <b>F</b> FE <b>S</b> WIGEQSRDLEELRAAAS
SbDOG1L2	1	-----MELELE-----AATRR <b>F</b> HLWFRGLRSLRRDLASARW
SbDOG1L4	1	-----MDMA-----RYESC <b>Y</b> RHW <b>I</b> AGQEAGLAELEEAASA
SbDOG1L5	86	LQRARQQGIFISS--SVDQSHSMSGNG-----ALAFDME <b>Y</b> ARWLEEHN <b>R</b> QISELRAGVS
SoDOG1	1	-----MEDKVKNIEQ-----AQES <b>C</b> Y <b>V</b> KWMSLQSQRI <b>P</b> ELKQALA
TaDOG1L1	1	-MTATS---RPQHPNGSLAPASDGGE-----SFAK <b>F</b> FE <b>C</b> WILEQSRDLAALR-AAA
TaDOG1L2	1	-----MELE-----AATRR <b>F</b> QLWLRGLRSLRRDLRTARW
TaDOG1L4	1	-----MAMA-----RYVAFH <b>Q</b> QW <b>I</b> AGQQAGLGELAEAAA
TaDOG1L5-1	91	LQKARQQGIFISS--SGDQTHAMSGNG-----AMTFDLE <b>Y</b> TRWLEDQ <b>N</b> KQINELRTAVN
ZmDOG1L2	1	-----MELELE-----AAARR <b>F</b> HLWFRGLRSLRRDLASARW
ZmDOG1L3	1	-----MAAF <b>Y</b> DAWVGREEQIVAE <b>L</b> TAALA
ZmDOG1L4	1	-----MDMA-----RYESC <b>Y</b> RHW <b>I</b> AGQEAGLAELEEAASA
ZmDOG1L5-1	85	LQRARQQGIFISS--SVDQSHSMSGNG-----ALAFDME <b>Y</b> ARWLEEHN <b>R</b> QISELRAGVS
ZmDOG1L5-3	155	LQRARQQGAYANS--GSMGDSALGYRCPIDPGVSVFEID <b>Y</b> SHWVDEQKRHTAELTSALQ
ZmDOG1L5-4	223	MQRARTQGLFLGG-----DPGASTSSG-----AAMFDVE <b>Y</b> ARWLDNHSRR <b>L</b> AE <b>L</b> NGALH

Accession	Length	Sequence
AtDOG1	35	QRRSHG----DEDNDNKLRKLTGKIIGDFKNYAAKRADLAHRCSSNYYPATWNSPLEN-A
AtDOGL1	1	-----
AtDOGL2	17	CQ-----RNND-DKLEDLVGKIVNDYHTYAGKRSELSYRCCAHYFAPSWNTPIEN-S
AtDOGL3	38	SH-----RSKEDHKLEELVGKIVNDFQKYTEKRSELSRRSSSYFAPSWNSPLEN-G
AtDOGL4	36	NN-----TMSETELRHLISKLTTHHKAYYTAKWAAIREDVLAFFGGSVWLNPLEN-A
AtDOGL5	34	HHRN-S----ATGDEERLREAVDRVMEHFEYHRAKMAATDKDVIEWMASPWASALER-S
BdDOG1L1	44	AAS-----SSSADLRRLVDRVLGHYEHYYRAKSAAAAADVRAFAPSWISTTES-L
BdDOG1L2	36	AG-----DDPAQLGKLGGFVAHFSDYCAAR--AELDPVLLLSAPWASPAERGA
BdDOG1L3	59	LSLS-----ARRREALAPLVDAAMDHVATYYEHKARLADRDVVAALDPRWLNPLER-T
BdDOG1L4	30	NAAARR-----ATEAELRAVVERCLRGYEEYATRRMAPEDGAFFAPPWCTTFEKE-A
BdDOG1L5-1	140	-----ARATDGDHLHAIVENIMAHYDEIFRLKSVATKANAFHVLAGAWTTPVER-C
BdDOG1L5-3	207	-----AHAGDDDLRSIVDCIMAHYDEFFRLKGVAAKADVHFVLSGMWKTTPAER-C
BdDOG1L5-4	283	-----AHAGDDDLRSIVDCIMAHYDEFFRLKGVAAKADVHFVLSGMWKTTPAER-C
BrDOG1	36	QRRTHEGTADAAADDNKLRLELTQNIIGDFKNYAGKRADLSHRCSSSYYPAPSWNTPLEN-A
HvDOG1L1	47	TAR-----PHDADLRRLVDRVLGHYENYYRAKSAAAASADVLPMFAPSWISATES-L
HvDOG1L2	30	A-----DDPAQLAKLVAGYVSHFADYCAAR--AELDPVWTLAAPWASPVVERGA
HvDOG1L3	31	-----ARRRDALAPLVDAAMDHVATLYEHKASLADRDVVAALDQRWLNPLER-T
HvDOG1L5-2	282	-----AHAGDDDLRSIVDSIMAQYDEFFRLKGVAAKADVHFVLSGMWKTTPAER-C
HvDOG1L5-3	137	-----AHAGDTELRSVVEKIMSHYDEIFKQKGNAAKADVHFVLSGMWKTTPAER-C
LesDOG1	36	QRRSNK---ANTDNDNKLRLELLEKIIGDFKKYAGKRADLSHRCSSNYYPAPSWNTPLEN-A
LsDOG1	34	NYP-----TDVDYLQLITKKIVSHFENYHNSRAELAKHDGPSFLAPSWGSTFEN-S
OsDOG1L1	48	AATNPA---APPDDAELHRLVNRVLGHYEHYYRTKSAAASTDVLRMFSPSWTSTTEN-L
OsDOG1L3	81	-LPA-----RRRRDVLAPLVDAAVGHVSEYERKARLADRDVVAALDPRWLNPLER-T
OsDOG1L4	30	NAAAGR-----ATDGE LRAVVERCMRGYAEYVSTRRALAREDDGAALFAPPWCTSFEN-S
OsDOG1L5-1	141	-----AHASDSDLRLIVDGIMAHYDEIFRLKGVAAKADVHFHILSGMWKTTPAER-C
OsDOG1L5-3	267	-----AQMSDDELCELVDAMMMHYDQVFRLLKS FATKSDVFHVLSGMWMSPAER-F
OsDOG1L5-4	163	-----THAGDDDLQSIVSNFMAHHEEIFRIKGLAAKADALHVLSATWRTPLER-C
SbDOG1L1	52	AEP-----AAPEADLRRLVDQVMGHYAQYYSTKAAAAGDVSMFPTPSWTSTTEN-L
SbDOG1L2	32	SD-----DAAALPALVGRFVAHLESYCAAR--AGLDPVWTLAPWATPAERGA
SbDOG1L4	30	NAAAGR-----ATDAELRAVVERCMRGYQDYATRRLALSREDGAFFAPPWCTAFEN-S
SbDOG1L5	138	-----AHASDSDLRSVVDKIMSHYDEIFRLKGNAAKADVHFHVLSGMWKTTPAER-C
SoDOG1	36	QRRSHEGTAAASADDNKLRDLIQKIIGDFKDYAGKRSDLSTRCSSSYYPAPSWNTPLEN-A
TaDOG1L1	47	TAR-----PDDADLRRLVDRVLGHYEHYYRAKSAAAASADVLPMFAPSWISATES-L
TaDOG1L2	30	A-----DDPAQLAKLVAGYVSHFADYCAAR--AELDPVWTLAAPWASPVVERGA
TaDOG1L4	30	NAAAGR-----ATDAELKTVVERCMRGYQEYAAASRRAMARENGAFAFPWCTAFEN-S
TaDOG1L5-1	143	-----AHASDSDLRLIVDGIMGHYDEIFKVKGVAAKADVHFHILSGMWKTTPAER-C
ZmDOG1L2	32	SD-----DPTAQLPAQVGRFVAHLESYCAAR--AGLDPVWTLAPWATPAERGA
ZmDOG1L3	25	-LQP-----RRRGDALALLVDGAVAHVAAYYEHKSRLADRDVVAALDPRWLNPIER-T
ZmDOG1L4	30	NAAAGR-----ATDAELRTVVERCMRGYQDYATRRLALSREDGVAFFAPPWCTAFEN-S
ZmDOG1L5-1	137	-----AHASDSDLRSVVDKIMSHYDEIFRLKGNAAKADVHFHVLSGMWKTTPAER-C
ZmDOG1L5-3	212	G-----QQTSELELRLLVETGLSNYEHFLFKIKAAAAANADVFYVMSGLWKTTPAER-F
ZmDOG1L5-4	272	-----AHLADGDLRAIVDDALTHHEDLFOLKAMAAKSDVFHLITGVWTTTPAER-C

AtDOG1	90	LIWMGGCRPSSFFRLVYALCGSQTEIRVTQFLRNIDGYESSGGGGG--ASLSDLSAEQL-
AtDOGL1	1	-MALGETR-----GGIGGG--ESMSDLTAEQL-
AtDOGL2	67	MLWMGGCRPSSFIRLIYALCGSQAETQLSQYLLKIDDDFDINHGG---FMSDLTATQL-
AtDOGL3	89	LLWMGGCRPSSFIRVIYSLCGSQAETQLSQYLLKIDENVEVNHGG---SMSDLNASQL-
AtDOGL4	86	CSWLTGWKPSMVFRMVDRLRKS RVLVLEA QVK-----
AtDOGL5	88	LQWVGGRPTTLFHLVYTESSILFESRIVDILRG---FRTGD-----LSDLSPSQFR
BdDOG1L1	94	YLWC GGWRPTAALHLLYSKSGAQL E AQLPAFLDGTGSLRGDD-----LGGLSADQL-
BdDOG1L2	83	AYWLAGWRPTTVVHLLYTESSRRFEAQLPDL L LG---VRSGN-----LGDLSPAQL-
BdDOG1L3	111	FLWAWG WKPALVFRFVDEAAVGS---AQQR-----
BdDOG1L4	83	VLWLGGCRPSLSIRLLYCVSSEGLEAQLQEF LSGHGRAGGDDMIRPTGSGLLG INAMQL-
BdDOG1L5-1	189	FLWLSGFRPSEL PKLLASQLEPLTEKQLAS-----
BdDOG1L5-3	256	FMWLGGFRSSELLKLLAGQLEPLTEQQLAG-----
BdDOG1L5-4	332	FMWLGGFRSSELLKLLAGQLEPLTEQQLAG-----
BrDOG1	95	LIWMGGCRPSSFFRLVYALCGSQTEIRVTQFLRNIDGYDYS GSGG--ASLSDLTAEQL-
HvDOG1L1	97	YLWC GGWRPTAAVQLLYSKSGVQLEAQLPAFLDG-GSLGDGD-----LGGLSAEQL-
HvDOG1L2	76	AHWLAGWRPTTLVHLLYTESGRRFEAQLPDL L LG---VRSGN-----LGDLSPAQL-
HvDOG1L3	79	FLWAWGWRPALVFRFVDGSGIG---PRQR-----
HvDOG1L5-2	331	FMWLGGFRSSELLKLLAGQLEPLTEQQLTG-----
HvDOG1L5-3	186	FLWLGGFRPSELLKLLSTQLEPLTEQQLSG-----
LesadOG1	92	LLWMGGCRPSSFFRLVYALCGSETEIRVTQYLRDIDGLESSGGMG--TSLSDLTAEQL-
LsDOG1	84	FLWIGGCRPALMIRLLYALCGSHLNTHLEEFLEG-----VRHGN-----IGEISLQL-
OsDOG1L1	103	YLWC SGWRPTAALHLLYSKSGAQL E TQLPVFLAG-GGLGAGD-----LGDLSAEQL-
OsDOG1L3	132	FLWAWG WKPALVFRFADGAVAGGSSHQQQR-----
OsDOG1L4	83	VLWIGGCRPSLTIRLLYSLSGEGLEEHIEEFISGRGALGAARG-----MGLLGITARQL-
OsDOG1L5-1	190	FLWLGGFRSSELLKLLVNQLEPLTEQQLLG-----
OsDOG1L5-3	316	FMWLGGFRSSELLKVLASHLEPLTDQQLMG-----
OsDOG1L5-4	212	FLWLGGFRPSDLLKLLADQLEPLTEQQLAS-----
SbDOG1L1	103	YLWC GGWRPTAAIQLLYTKCGMQLEHRLPVFLDG-GGLNKDD-----LSDLSVAQL-
SbDOG1L2	79	AYWLAGWRPTTLVHLLYTESGRRLEAQLPDL L LG---VRSGN-----LGDLTPAQL-
SbDOG1L4	83	LLWLGGCRPSLTVRLLYNISGEGLEAQVEEMLGGLTHGVIPTG-----ALGITS AQL-
SbDOG1L5	187	FLWLGGFRPSEVLKLLSTQLEPLTEQQLSG-----
SoDOG1	95	LIWMGGCRPSSFFRLVYALCGSQTEIRVTQFLRNIDGYDSS GSGG--VSLSDITAEQL-
TaDOG1L1	97	YLWC GGWRPTAAIQLLYSKSGVQLEAKLPAFLDG-GSLGDGD-----LGGLSAEQL-
TaDOG1L2	76	AHWLAGWRPTTLVHLLYTESGRRFEAQLPDL L LG---VRSGN-----LGDLSPAQL-
TaDOG1L4	83	VLWLGGCRPSLAIRLLYSISGEGLEEDIEEFVSGRGRGLAEEM-----GLIGITATQL-
TaDOG1L5-1	192	FLWLGGFRPSELLKLLVNHLEPLTEQQMLG-----
ZmDOG1L2	79	AYWLAGWRPTTLVHLLYTESGRRLEAQLPDL L LG---VRSGN-----LGDLTPAQL-
ZmDOG1L3	76	FLWAWG WKPALMFRFVESVGVG--LRLEQR-----
ZmDOG1L4	83	VLWLGGCRPSLTVRLLYNLSGEGLEAQVEEMLGGLSNGVIPTG-----ALGITS AQL-
ZmDOG1L5-1	186	FLWLGGFRPSEVLKLLSTQLEPLTEQQLSG-----
ZmDOG1L5-3	262	FLWIGGFRPSEVLKILSPQLEPLAEAQRM L-----
ZmDOG1L5-4	321	FLWMGGFRPSDLLKTL L PQLDPLTEQQVVG-----



AtDOG1	147	-----AKINVLHVKIIDEEEKMTKKVSSLOEDAADIPIATVAYEM-----
AtDOGL1	25	-----FKINELHLKTVEAENKLTKVSAASLOEDTADTPIAFAAFYK-----
AtDOGL2	122	-----GKLNDLHLEVIKKEDKITKTSANFQDDVADLPPIA-----
AtDOGL3	144	-----AKINDLHIKVIKEDDKITKKSANLOENVADMPIAIAAYAT-----
AtDOGL4	118	-----KLEELRVKTKFDEQKIEREMERYQVAMADRKMMVELARLG-----
AtDOGL5	137	VPFVKGRTVSELQCETVKEENATEELSEWQDDASDLV-----
BdDOG1L1	145	-----HAADQLQRRITIGREREIEEAAAAAQESLATGKMVELAT-----
BdDOG1L2	131	-----AQIDELQRRRAVAEEDALSREMARLQEGHGVVG-----
BdDOG1L3	138	-----RGLEDLRASTAAAEEREVEVAAMQESLAGPRVLAALRRQ-----
BdDOG1L4	142	-----EQINNHLHGRTIHEEGILSERLASLOEKIADRPLLPIVRER---EQERARAAAL
BdDOG1L5-1	219	-----ICSLRQSSQQAEDTLSRDMEVLLQSAAEIVAS--GTSPTWY-----
BdDOG1L5-3	286	-----ICNLQSSQQAEDALSQGMEALQQSLAETLAS--GSLGPAGS-----
BdDOG1L5-4	362	-----ICNLQSSQQAEDALSQGMEALQQSLAETLAS--GSLGPAGS-----
BrDOG1	151	-----AKINVLHVKIIDEEEKMTKKVSSLOEDAADIPISTVAYAE-----
HvDOG1L1	147	-----QAADQLHRRITIRREIEEAAAASAQESLATTRMVELAGK-----
HvDOG1L2	124	-----AQIDELQRRITVAQEDLSREMARVQEGDGLVG-----
HvDOG1L3	105	-----RELEDLRATAAAEKEVDREVAAVQESLAGPRVLEALRQR-----
HvDOG1L5-2	361	-----ICNLQSSQQAEDALSQGMEALQQSLAETLAS--GSLGPAGS-----
HvDOG1L5-3	216	-----ICNLQSSQQAEDALSQGMEALQQSLAETLA--GSIGSSSGS-----
LesadOG1	148	-----AKINILHVKIIDEEEKMTKKVASLOEDAADIPIATVAYEE-----
LsDOG1	132	-----KRIDELHAKTIVSEDKLSSYMATLQEKIAGEPLVLLASGC-----
OsDOG1L1	153	-----QAADQLQRITVSKEREIENAAASAQVS-----
OsDOG1L3	162	-----RALERVRAATAEAEREVDREVAVVQESLAGPRVLAALRR-----
OsDOG1L4	137	-----ELVNDLHRRITLRDEDALSDRLATLQEDVADRPLLPIVRER---ATAAAAALGA
OsDOG1L5-1	220	-----LSNLQSSQQAEDALSQGMEALQQSLADTLA--GSLGPS--GS-----
OsDOG1L5-3	346	-----ICNLQSSQQAEDALSQGMEALQQTLGDTLVSAATTVVSGGGG-----
OsDOG1L5-4	242	-----ICNQSSQQAEEETLSQGMEITQDSLAKTVAS--QLGRAGS-----
SbDOG1L1	153	-----RAADQLQHRTISREREIEEVAATAQEAALTSKTMVELAGGG-----
SbDOG1L2	127	-----AQVDDLQRRITVAEEDALAREMALVQEGHGVVAAPSA-----
SbDOG1L4	135	-----LLINDLHSRTVHQENALTDRLATLQEDIDRPLLPIVRQRGELAAAAAR--QGGA
SbDOG1L5	217	-----IGNLQSSQQAEDALSQGMEALQQSLAETLA--GSLSSSGS-----
SoDOG1	151	-----AKINVLHVKIIDEEEKMTKKVSSLOEDAADIPISTVAYAE-----
TaDOG1L1	147	-----QAADQLQRRITIRGEREIEEAAAAGAQESLATTKMVELAGK-----
TaDOG1L2	124	-----AQIDELQRRITVAQEDLSREMARVQEGHGAVG-----
TaDOG1L4	136	-----QQINDLHRCITLRDEGYLTERLASLOENIADRPLLPIVREH---AVAATALVGQ
TaDOG1L5-1	222	-----LTNLQSSQQAEDALSQGMEALQQSLAETLA--GSLGSSAGS-----
ZmDOG1L2	127	-----AQVDDLQRRITVAEEDALAREMALVQEGHGVVVLPAAP-----
ZmDOG1L3	104	-----RALEELRGATAVAEREVDLQVAAVQESLAGPRVLAALRR-----
ZmDOG1L4	135	-----VLINDLHSRTVHQENALSDRLATLQEDIDRPLLPIVRQR--ELAAAAARLGAAAA
ZmDOG1L5-1	216	-----ISNLQSSQQAEDALSQGMEALQQSLAETLA--GSLSSSGS-----
ZmDOG1L5-3	292	-----VGGLQHTSAQAEDALSQGMEKLQQNLAE TLTA--EADPFPGP-----
ZmDOG1L5-4	351	-----ICSLQSSQQAEEALSQGLEQLHQSLADTMAG--GSLTDDAN-----

AtDOG1	187	-----ENVGE--PNVVVDQALDKQEEAMARLLVEADNLRVDTLAKIL-GT
AtDOGL1	65	-----EVIGQ--ADVVERALDKHEEDMGGLLVEADKLRMTTLTKIV-DI
AtDOGL2	156	-----DVVH--ADVAVEDALDKHEEGMAVLLAEADKLRFTLTKIV-DV
AtDOGL3	184	-----DLMN--GDVVVEDALDKYEEGMAVLMVEADKLRFTLTKIV-DV
AtDOGL4	157	-----CHVGGESVMVVEAAVRGLSMGLEKMKVKAADCVRCLKTLKGIL-DI
AtDOGL5	175	-----MGTSDDPDQIRIRRLAEIVHRTDDLRRLRTITRVV-EV
BdDOG1L1	183	-----GAMEAAG-LEREMEAKAEGMRRVLEMAADGLRLDTMRAVV-AL
BdDOG1L2	163	-----GDGD-LDVEGIVRRAGAVVAGADALRLRTLKRAV-EI
BdDOG1L3	178	-----LHSPRNG-EADEAVAAVGRSLRVLLAAGDALRERTVGRVV-GL
BdDOG1L4	192	PRGSASSNGLVGRFAAMGLAG-VDAEVDAAAMESYTAGLAKLLEADQLRLSTTRELATET
BdDOG1L5-1	258	-----PAGSSGDTGQMSAAIGKLGAVESLLQQADELRLRLRDLRVQ-RI
BdDOG1L5-3	326	-----SSNVANYMGQMAMAMGKLGTLLENFLRQADNLRRLQTLQQMQ-RI
BdDOG1L5-4	402	-----SSNVANYMGQMAMAMGKLGTLLENFLRQADNLRRLQTLQQMQ-RI
BrDOG1	191	-----EHVGE--PNAMVDQALDKQEEAMATLLAEADNLRVDTLAKII-EI
HvDOG1L1	186	-----GGMDAAEGMEREMDAKAEAMKRVLEMAADGLRLLETLRGVV-GL
HvDOG1L2	156	-----AGGELLDVGGLVGRVGAVVAGADALRLRTLTKRAV-EI
HvDOG1L3	145	-----RQHPRNGVQADEAVAAVGQSLRVLLARGDALRERTVGRVV-RV
HvDOG1L5-2	401	-----SGNVASYMGQMAMAMGKLGTLLENFLRQADNLRRLQTLQQMQ-RI
HvDOG1L5-3	257	-----TGNVANYMGQMAMAMGKLGTLLENFLRQADNLRQQLTLQQMQ-RI
LesadOG1	188	-----EHVGK--PNMVVDQALDKQEEESMAKLLGEADNLRVETLVKIV-EI
LsDOG1	172	-----KGEGESSEGEVVDKAMDTHAPDLYNVLLEADKLRMKTLKGIL-EF
OsDOG1L1	180	-----DG-----
OsDOG1L3	201	-----QHPRNG-EADEAVAAVGRSLRVLLAAADALRERTVDRDVV-GT
OsDOG1L4	187	GA-SCDGLATRTRLVVATPEGAVDHEVDAAIGRYKAGLGRLLLEEADELRMSTAQTLVTEI
OsDOG1L5-1	259	-----SGNVANYMGQMAMAMGKLGTLLENFLRQADNLRQQLTLHQM-Q-RI
OsDOG1L5-3	389	-----ADNVTNYMGQMAIAMAKLTTLENFLRQADLLRHQTLQQMH-RI
OsDOG1L5-4	281	-----SSSPSNAADHTAAALGKIGAMESLLQQAADMRMQSLQKMQ-RV
SbDOG1L1	193	-----GGGGGGMDAGAMDREMQTKAEGMRQVLEMAADGLRLETMRREV-AL
SbDOG1L2	163	-----DGSGLLDVAGLVRTARAVLDRADALRLRTLTKRAV-EI
SbDOG1L4	188	VRGSCGGAVRRRLGVGAAGPGGGADAAVDAALDSYEAALARLLVEADELRMATSRTLATEI
SbDOG1L5	256	-----TGNVANYMGQMAMAMGKLGTLLENFLRQADNLRRLQTLQQMQ-RI
SoDOG1	191	-----EHVGE--PNVAVDQALDKQEEAMAALLAEADNLRVDTLISKII-EI
TaDOG1L1	186	-----GGVDAAEGMEREMDAKAEAMKRVLEMAADALRLETLRGVV-GL
TaDOG1L2	156	-----AGGELVDVGGLVGRVGAVLAGADALRLRTLTKRAV-EI
TaDOG1L4	186	DR-SVKRDDIPGRLAAAESSGGLAAEVDAAAMESYSAGLARLLLEEADELRMSTARALATEI
TaDOG1L5-1	262	-----SGNVANYMGQMAMAMGKLGTLLENFLRQADNLRQQLTLHQM-Q-RI
ZmDOG1L2	164	-----DGSGLLDVAGLVRRARAVLDRADALRLRTLTKRAV-EI
ZmDOG1L3	143	-----QPLRNG-EAEDAVAVVGRSLRVLLAAADALRDRTLRGVV-GL
ZmDOG1L4	188	ASGSCDGAARRR-LRAARLG-AADAEVDAALDSYKAALSRLLEADELRMATARALATEI
ZmDOG1L5-1	255	-----TGNVANYMGQMAMAMGKLGTLLENFLRQADNLRRLQTLQQMQ-RI
ZmDOG1L5-3	331	-----PDPYMLQMATAVGILKELVNFTQADHLRLTLTLQQMH-KI
ZmDOG1L5-4	391	-----MSFMSQMALALGKLANLEGFVIQADNLRQQLTLHQM-Q-RI

AtDOG1	229	LSPVQ	QADFL	LAGKKL	LHLSM	HEWGT	MRDRRR	RRDCM	VDTEG	NAGGEE	GK-----			
AtDOG1L1	107	LTAV	QAADF	LLAGKKL	LHAMHEW	GKSREH	RR---LE	ASGGD	SGGNV	TRE-----				
AtDOG1L2	197	VTPL	QAVEF	LLAGKRL	QLSLH	DRGRV	R-----	ADVC	GGVG	GAAV-----				
AtDOG1L3	225	VTPV	QAAEF	LLAGKRL	LHLSL	HEWGR	VREEQ	RFGCV	RTDAAA	ATGGAGTEKSKRSSLLM-----				
AtDOG1L4	200	LTPP	QCVEFL	AAAAT	FQVQL	RRWGN	RNRHY	VTHS-----						
AtDOG1L5	210	LSPL	QAAEF	LVA	AAELRT	GVAGW	GTSHD	RRRS---	SEV-----					
BdDOG1L1	223	LRPP	QAVHF	LAAAE	LHLAV	HHLG	RKRDA	HAAHA	PE-----					
BdDOG1L2	198	LEPA	QAAEL	LVA	ADMEI	GFREF	GLKHG	DGGGE	PSRGA-----					
BdDOG1L3	219	LGPE	QAGAF	VAAAL	LRFHL	GVRR	AGRW	SSGQG	GGQRGL-----					
BdDOG1L4	251	LTPR	QAVEM	LAAAK	QLHLS	ICDWS	RRKE-	GAQS	ALLPP	AATASSSSSSGRPNA-----				
BdDOG1L5-1	300	LTTR	QSAR	ALLAI	ISGYF	SRLRAL	SSLWI	ARPST	GMN-----					
BdDOG1L5-3	368	LTTR	QSAR	ALLAI	ISDYF	SRLRAL	SSLWL	ARP	PRE-----					
BdDOG1L5-4	444	LTTR	QSAR	ALLAI	ISDYF	SRLRAL	SSLWL	ARP	PRE-----					
BrDOG1	233	LTPV	QAGDF	LMA	GKKLH	LSMHQ	WGAL	RDRR	RRECI	IDAGNDGGGEEEK-----				
HvDOG1L1	227	LRPA	QAVHF	LVA	AAELH	LAVHK	FGQHK	DGAAT	AE-----					
HvDOG1L2	192	LEPA	QASEL	LVA	ADMEI	GFREF	GLKY-	DGVG---	AGGS-----					
HvDOG1L3	187	VAPD	PE-----											
HvDOG1L5-2	443	LTTR	QSAR	ALLAI	ISDYF	SRLRAL	SSLWL	ARP	PRE-----					
HvDOG1L5-3	299	LTTR	QSAR	ALLV	ISDY	SSRLRAL	SSLWL	ARP	KE-----					
LesDOG1	230	LSPV	EANFL	LAGKKL	LHLSM	HEWGT	MRDRR	RRRECI	IEGGD	KAKGEEEEKKQ-----				
LsDOG1	216	LTPL	QAVEF	LVA	AKKLH	LSLHEW	STRD	TRMG	ITQLL	GGNNPSSSSGDP	PPPET-----			
OsDOG1L1														
OsDOG1L3	241	LAPD	QAGAF	LAA	MLRFH	LGVHRA	GRNW	GSGNG	GRRGL-----					
OsDOG1L4	246	LTPR	QAVET	LVA	AKQLH	LKVRS	WSRR	GE---A	AVTQ	PARSP	VTLP	PAPSS	NP-----	
OsDOG1L5-1	301	LTIR	QAA	RALLAI	IHDYF	SRLRAL	SSLWL	ARP	PRE-----					
OsDOG1L5-3	431	LTTR	QAA	RALLV	ISDYF	SRLRAL	SSLWL	ARP	PRD-----					
OsDOG1L5-4	323	LTTR	QSAR	ALLI	ISDYF	SRLRAL	NSLWI	ARP	QQ-----					
SbDOG1L1	237	LRPA	QAVHF	LAAAE	LHLAV	HDFG	RKRKD	GHAG	NAAAAA	AAPE-----				
SbDOG1L2	199	LEPA	QAAEL	LVA	ADLEI	GFREF	GLKH--	GSG---	RDG-----					
SbDOG1L4	248	LTPR	QAVEM	LAA	GKHLH	LAVRE	WSRR	EAGAA	AAQQ	LNGPS	AGTADS	SSTS	ATVRR	IGH
SbDOG1L5	298	LTTR	QSAR	ALLV	ISDY	SSRLRAL	SSLWL	ARP	KE-----					
SoDOG1	233	LTPL	QAADF	LLAGKKL	LHLSM	HEWGV	VLDR	RRRRE	CIIDA	VDDAG	GKEEK-----			
TaDOG1L1	227	LRPA	QAVHF	LVA	AAELH	LAVHK	FGRR	KDGA	AAAAE-----					
TaDOG1L2	192	LEPA	QAAEL	LVA	ADMEI	GFREF	GLKY-	DGVG---	AGGS-----					
TaDOG1L4	245	LTPR	QAVEM	LMA	AKQLH	LAVRD	WSRR	KEEGA	QONAR	LPRAA	AATTAP	SG-SNP-----		
TaDOG1L5-1	304	LTIR	QAS	RALLAI	IHDYF	SRLRAL	SSLWL	ARP	PRE-----					
ZmDOG1L2	200	LEPA	QAAEL	LVA	ADLEI	GFREF	GLKH--	GSG---	RMT-----					
ZmDOG1L3	183	LATD	QAGAV	VAA	MLRFH	LGVRR	AGRD	WSSGH	GAQ	ORRA-----				
ZmDOG1L4	246	LTPR	QAVEM	LAA	GKHLH	LSVRD	WSRR	EAA-	AAGA	QQQL	GGQS	AGTD	NTVR	PST
ZmDOG1L5-1	297	LTTR	QSAR	ALLV	ISDY	SSRLRAL	SSLWL	ARP	KE-----					
ZmDOG1L5-3	370	LTPR	QAARG	LLAL	GDYF	QRLRT	LSM	WAAR	PREA	AVS-----				
ZmDOG1L5-4	429	LTIV	ROA	ARCL	LAI	GEYHN	RLRAL	SSLWA	SRPRE	ILVT	DEGN	CEIS	IAAOP	SONOFSTF-----