

Supporting information 2 Fig: MAFFT Sequence alignment without gaps

Hsa1C	LRSWKRSRFW	NDFLTGVFPA	SPLSWLFLFS	AIQLAWFLQL	DPSLGLMEKI	KELLDPWRLA	AALFASCLWG	ALIFLLEPHG	AMSSPTKTWL	ALVRIFSGRH	100
Ssc1C	.....I.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....T.....	.....V.....	.....V.....	100
MmulC	.....W.V.....	.....A.V.....	.....T.....	.....T.....	.....CL.....	.....Q.S.....	.....V.....	.....V.....	.....V.....	.....V.....	100
Hsa1A	.H...K.I..K	.G.II...Y..	.S...IVVV	GVMSTMAYAKI	...IIA..	NRT.ETAKVS	GV..GTG..V	..VMFTE..	K..RA..I..M	GM.K...K	100
MmulA	.H...K.I..K	.G.II...Y..	.S...IVVV	GVISSMHTKV	...MIA..	NRT.DTTKVS	GV..GTG..V	..IMFAE..	K..RS..RI..M	.M.KV...K	100
MdolA	.H...K.I..K	.G.II...Y..	.S...IVVV	GVMSTMAYAKV	...IIA..	NQT.DMTKVS	GI..GTG..V	T..VMFAEY.	KL.RG.RI..M	GM.K...K	100
GgalA	VH...K.I..K	.G.II...Y..	.S...IVVV	GVMSTMAYAKI	...IIA..	NRT.DTTQVS	GI..GTG..V	..VMFAE..	KL.AG..L..M	T..KL...K	100
FpelA	VH...K.I..K	.G.II...Y..	.S...IVVV	GVMSTMAYAKI	...IIA..	NRT.DTTQVS	GV..GTG..V	..VMFAE..	KL.AG..F..M	..KL...K	100
AcalA	.Y...K.I..K	.G.II...Y..	.S...IVVV	GVMSTMAYAKI	...IIA..	NRT.DITQVS	GV..GTG..V	...MFAE..	KL.TG..I..M	T..KL...K	100
XtrlA	.H...K.I..K	.G.I.....S	.S...IVVV	GVTSSMYTKV	...F.II..	NNA.SATQVS	GV..GTG..V	S..AMF.E..	KL.AS.RI..M	GM.KLL...K	100
LchlA	.H...K.I..K	.G.II...Y..	.S...VVV	GVTSSMYTRV	...MIAR.	SQR..VTQVS	GV..GTG..V	..FMFIE..	KVPFG.RI..I	R..KL..VCK	100
Ler1A	.....KR.YK	.G.I.....Y	.S...VVV	VIATMYARV	...MI..	RCH..TNE.S	GL..STG..I	..V.MFV..	KTPTS.V.L..M	LI.K...K	100
XtrlC	.....KA.VK	.S.I.....Y	.S...VVV	MGTLYARV	...M.MI..	..H..ASQVS	.L..STG..F	..MMY.Q..	K..AT..L..	..K...N	100
Ler1C	I...KN.IK	.N.M...Y..	.S...I.VV	TVVGTMYTRV	...M.IAML	R.HI.LRQVS	.M...TG..L	...MF.E..	KV..T..V.F	T..K...K	100
CmilC	V..A..KA.IR	.NIV...Y..	.S...VAL	TVVGTMYTRV	...M.MIG..	..H..VKQMS	.L...TV..L	..YMF.E..	KA.NM.RI..F	TM.K...K	100
AcalC	V...KNQLR	.G.V...Y..	.S...MVT	LVTFQYSR	...M.MID..	..H..VSM.S	..T.STV..L	...MMY.E..	K..NT..I..	..KM.A..K	100
LchlC	Q...KA.LK	.S.I..MY..	.S...VI	MATLYARV	...M.MID..	..H..VKI.C	TN.YQCGIYS	EILLMF.Q.N	RV.LT..I..I	T..K...K	100
Tnl1A	.H...K.I..K	.G.VM...Y.G	..AGFMIVVG	SYMSNKYNR	...M.VV.L	GQYI..IGQVG	GV..VGTG..V	TI.MMH.R.	SV.WTSRA.M	L..KV...K	100
TrulA	.H...K.I..K	.G.VM...Y.G	..GGFMIVVG	SYMSNKYN..	...M.FVV.L	GQYI..ISQVG	GV..VGTG..V	TI.MMY.R.	SI.WTSRA.M	L..KV...K	100
OnilA	IH...KV..K	.G.IM...Y.G	..AGFSIVVG	SYMANK.K..	...FT.L	GQHI..ISQVG	GI..VGTG..V	TI.MMQ.R.	SL.WSSRI.M	V..KV...K	100
GaclA	.H...K.I..K	.G.VM...Y.G	..GGFMVVVV	SYMSNKYQ..	...IA.L	GQHM..ISQVG	GV..VGTG..V	SI.MMYTS..	SVAWS.RL.M	V..KV...K	100
DrelAa	IH...K.I..K	.G.VM...Y.G	..SGLVVVVL	GYMSTKYAKI	...ILT.L	STH..VSQVG	GV..VGTG..I	..VT.MFQ..	TL.LK..I..	V..KL...PK	100
TfulA2	.H...K.I..K	.G.VM...Y.G	..TGL.GVVG	GYLITKYANI	..T.VVA.L	APH..VCQVG	GI..VGTG.V.T	V..MYNR..	T..IR..I..	..KL...PK	100
DrelAb	IH...K.I..K	.G.I.N...Y.G	..APGFVLVLA	GYLQ.YY.KV	...LF.L	GNYV..ISQVG	GVMVGTG..I	..I..MFAS..	R.TWKIRL..	VF.KV...QT	100
TfulA1	.H...K.I..K	.G.IM...Y.G	..APGLMLVLA	GYMG.KYA.V	...VFR.	GKYV..ISQVG	GI..VGTG..V	VI..MR.R.	SLTWQ.QI..	V..KV...MK	100
OlalCa	V...KL.IK	.S.VI...Y..	.S...VVI	LATMYTRS	...M.IIA..	Q.H..VSQVS	..V..STM..L	L..MF.Q..	K..TT..I..V	.....K	100
OnilCb	M...KV.VK	.S.VI...Y..	.S...VVI	LATMYTRS	...M.IA..	Q.H..VSQVS	..V..STM..L	M..MF.Q..	K..TT..I..V	.....K	100
AmelC	.....KV.LK	.NVI...Y..	.S...VVI	LATMYTRS	...M.IA..	Q.H..ASQVS	..V..STL..L	S..MF.Q..	NV..TT..V.V	M.....Q	100
GaclC	V...K.IK	.S.VI...Y..	.S...VVI	LATMYTRS	...M.IA..	Q.H..RPY.S	..S.AVTM..L	L..MF.K..	K..NT..V.V	VS.ASHPS.K	100
TrulC	VN...K.IK	.S.VI...Y..	.S...VVI	LATMYTRS	...M.IA..	Q.N..VSK.S	..VI.STM..L	L..MF..	K..TT..V.V	.....K	100
Tnl1C	VH...K.IK	.S.VI...Y..	.S...VVI	LATMYTRS	...M.IA..	Q.N..VSK.S	..VI.STM..L	L..MF..	K..TT..V.V	.....K	100
OlalCb	V...K..MR	.RVIK..Y..	.S...VAI	G.LATIYM.S	...M.IAE.	QQR..LSQVS	.LV.STL..L	S..LMF.Q..	RV.NT..V.V	T..L.LL...K	100
OnilCa	V...K..VR	.SLIK..Y..	.S...VAI	G.LATIYM.S	...M.IT..	QQH..LSQVS	.LV.STL..L	S..LMF.Q..	RI.NT..V.V	P..LL.S.K	100
Gac_0	V...K..MR	.RVIK..Y..	.S...VVI	LATMYMRS	...M.IKM.	QQH..LRQ.S	.LV.STL..L	S..LMF.Q..	RV.NT..V.V	T..L.LL.S.K	100
TrilC	V...K..VR	.SLIK..Y..	.S...VSI	LATMYMRS	...M.IT..	QHH..LSQ.S	.LV.STL..L	S..LMF.Q..	RV.NF..V.V	T..LGLL.S.K	100
DrelC	.....K..IK	.RIIK.AY..	.S...IVI	LATMYM.S	...M.IA..	Q.H..LSQ.S	..L..STL..M	S..LMF.Q..	H..TK..V.A	T..KLL.S.K	100
DrelB	VT...K..K	.S.VI...Y..	.S...VVI	MSTMYARI	...M.TID..	..TS..VSQ.S	..I..TG..L	SV..IF.S..	K..YS..V..	S..KLL...R	100
OnilB	VTA..KIQ.K	.GV.A..Y..	.S...IVVI	MMSSLYIHI	...M.DA..	..N..YR..S	..I..TG..L	F..YIF.S..	K..TS..V..	C..KM...R	100
GaclB	VTA..KIQ.K	.GV.A..Y..	.S...IVVI	MMSSLYIRI	...M.AL	Q.N..HR..S	..I..TG..L	F..YIF.S..	K..RS..V..	S..KM...R	100
OlalCa	.TV..KIQ.K	.SV..Y..Y..	.S...IVVI	MMSSLYTNT	..L..MID.A	..N..HR..S	..I..GTG..L	F..YIF.S..	K..S..L..	Y..KM...R	100
TrulB	.TA..KIQ.K	.GV.A..Y..	.S...IVVI	MMSSLYTRV	...M.AM	..N..YR..S	..I..TG..L	F..YIF.S..	K..TS..V..	T..KM...R	100
Tnl1B	.TA..RKIQ.K	.GV.A..Y..	.S...IVVI	MMSSLYI.V	..L..MI.AM	..N..YR.VS	..I..TG..L	F..YIF.S..	K..TS..V..	T..KM...R	100
Hsa1B	IN...K.IK	.GI.R..Y.G	.T...VVIM	TVGSS.CNV	..I...VSC.	QRC..QG..S	M.I.STGV.V	TG..MF.M..	KT.NL.RI..A	MCI.LL.S..	100
MmulB	IN...K.IK	.GI.R..Y.G	.T...VVVM	TVGSSYCKV	..I..M.VDC.	QRC..ERE.S	MVI.STGV.A	TG..MF.M.S	KT.HA..I..A	IC..LL.S.R	100
MdolB	IN...K.IK	.GI.R..Y.G	.T...VVVM	TMGSSYCNV	..I..M.MICC.	RKYI..EG.IS	VGI.STGV.V	TG..MF.M..	QT.RT..I..A	IC..LL.N.R	100
ShalB	IN...K.IK	.GI.R..Y.G	.T...VVVM	TMGSSYCNV	..I..M.MICH.	RKYI..EG.IS	VGI.STGV.V	TG..MF.M..	QT.RT..I..A	IC..LL.N.R	100
AcalB	VS...KA.LK	.S.I...G.T	.SG..AVVA	VTVG.TYFGI	..V.V.IFR.	QKR..NS.S	..LI.S.GA.M	LGVLMF...	KTRPS..I..A	SM..VM...	100
FpelB	IS...KV.AK	.S.I...Y..	.S...MVVVM	TAGSFYC.V	...MIAR.	RHC..ES.VS	TVI.STGA.L	SAVLMF...	K..RS.RI..V	.MKVL.I.K	100
XtrlB	.VACRKITLK	SSV.S..Y..	..ST.FAVVA	MTLGLSYLK	...IT..	NSI..GK..S	..VI.S.GV.V	SG.LMF...K	KT.MK..I..A	GCMK.M.S.Q	100
LchB	.MN.LHVFFQ	.SL...Y..	.S...VVVV	TIGTRYVKM	...IIDY.	RSAR..RS.S	..T..TGV.V	TG.LMF...	STRIR.RI..A	T..K...K	100
Dm	V...KA.AR	.GVRN..Y..	..HIQ.LWLISA	IALGLH.AGY	QAPFN.TNR.	LVH..SNWT.	CF.A.LVV.L	SIC.MY.SRS	RV.L..ML.V	..V.VL.SNK	100
ci	V...RKT..R	.RV.S...V	KYT.LVG.TA	IVL..S..SY	..ITW.FKNNR	TNII.PRNTS	YLVSSTL..L	LAVLMF..R	K..LK..L.A	SYLQLLCYTO	100
Hsa1C	PMLFSYQRSL	PRQPVPVQD	TVRKYLESVR	PILSDEDFDW	TAVLAQEFLR	LWYLRLKSWW	ASNYSVDWWE	EFVYLRSRNP	LVNSNYMMD	FLYVTPPLQ	200
Ssc1C	.....A.....	.....A.....	.....V.CE...E	ISA..R..K	...Q..Y..	.....S.....	.....S.....	.....S.....	.....N...V.	.....V.....	200
MmulC	.R...F..A..	.....A.E.....	.....V.G.DA..R	ATA..ND..	..L.Q...C	T.....T.....	.....GS.....	.....I..T.....	.....I.....	.....V.....	200
Hsa1A	...Y.F.T..	..L..A.K..	..NR..Q..	LMKE..KR	MTA..D.AV	G..K...T	.....YI..G.G	.....I.....A	..L..L..HI	.....200	
MmulA	...Y.F.T..	..L..A.K..	..SR.....	LMKGE..QR	MTA..D.AV	N..K...T	.....YI..G.G	.....I.....A	..E.M..I..HI	.....200	
MdolA	...Y.F.T..	..L..A.K..	..NR.....Q	L.N.KNDN.QR	MKG..ED.ST	N..K...T	.....YI..G.G	.....I.....A	..L..L..TI	.....200	
GgalA	...Y.F.T..	..L..A.K..	..NR.....	LMN..E.KR	MEG..KD.AF	N..K...T	.....YI..G.G	.....I.....FA..	..HLS..TI	.....200	
FpelA	...Y.F.T..	..L..A.N..	..NR.....	LMD..E.RR	MEG..KD.AF	N..K...T	.....YI..G.G	.....I.....FA..	..LS..T..	.....200	
AcalA	...Y.F.T..	..L...KN	..NR.....H	LMNE.Q.KR	MEA.GKD.AT	N..K...A	.....YI..G.G	.....I.....FA..	..F..F..SV	.....200	
XtrlA	...Y.F.T..	..L..P.K..	..KR..D..K	LMDK.K.ER	MEG..KD.AN	N..K...T	.....YI..G.G	.....I.....A	..L..HI	.....200	
LchlA	...Y.F.T..	..L..A.K..	..MTR.....	LMD..Q..RR	MTK..KD.EL	K..K...T	.....YI..G.G	.....I.....A	..L.....	.....200	
Ler1A	..LTY..F.T..	..L..T.K..	..M.....	L.N.KE.QR	MQA..KD.EL	K..K...T	.....YI..G.G	.....I.....A	..Y..IV..V	.....200	
XtrlC	...Y...AV	..L..G.KE	..QR..D..	LMN..EYKR	MTG..KD.EV	N..K...A	.....YI..G.G	.....I.....A	..V.....	.....200	
Ler1C	...Y.F.N..	..L..P..	..L.RF.....	LMN...RR	KA..KD.E	N..I.....	.....Y..QG.E	.....I.....A	.....TS	.....200	
CmilC	...Y.F.A..	..L..TI..	..MQR.....	LMN..E.HR	MEA..KD.EV	K..K...T	.....Y..G.E	.....I.....A	.....I	.....200	
AcalC	...Y...A..	..L..ALK.	..MQ.....I	LTT.AE.QR	M.A..RD.EQ	T..K...K	.....Y..G.G	.....I.....A	..I.....V	.....200	
LchlC	...Y...AC	..L..PIAK	..MQR.....H	LMD..K.KR	MTA..KD.EV	N..K...T	.....YI..G.G	.....I.....G	..I.AS..YI	.....200	
Tnl1A	...Y.F.N..	..L..DIS.	..C.RH.....	ALMD..Q.ER	MTA.TKD.EK	N..K...T	.....YI..G.G	.....I.....A	..I..SI	.....200	
TrulA	...Y.F.N..	..L..A.S.	..C.R.....H	LMDE.R.ER	MTA..KD.EK	N..K...T	.....YI..G.G	.....I.....A	..F..SI	.....200	
OnilA	...Y.F.N..	..L..IK.	..CER.....	LMD..QQ.ER	MKG.T.D.EK	N..K...T	.....YI..G.G	.....I.....A	..F..SI	.....200	
GaclA	...Y.F.N..	..L..IK.	..CKR.....	LME..QYQR	MEG.TKD.EK	N..K...T	.....YI..G.G	.....I.....A	..F..SI	.....200	
DrelAa	...Y.F.S..	..L..P.K..	..R...A..	LMD..QYKR	MEG..KD.EK	N..K...T	.....YI..G.G	.....I.....A	..N..S..	.....200	
TfulA2	...Y.F.S..	..L..P.EH	..KR.....	LMD..QYKR	MEA..KD.QS	N..K..AF	.....DY..V.G.G	.....I.....A	..F..H..	.....200	
DrelAb	...Y.F.N..	..HLF...KE	..T.R...Q	..L...EHQR	MQR..LD.E	N..K...T	.....YI..G.G	.....I.....V	..AF..NI	.....200	
TfulA1	..N.Y.F.T..	..NL..L..K	..MKR.....	L.D.TEYKK	MEE..SD.QS	T..K...K	.....YI..G.G	.....I.....A	..H.L.H..	.....200	
OlalCa	..L.Y...G..	..NL...AIK.	..KR.....	LMN..BEYER	MTK..T..EK	S..K..AL	.....Y..G.G	.....I.....G	..I.....I	.....200	
OnilCb	..L.Y...G..	..NL...TIK.	..KR.....	LMD..KEYER	MTK..A..ES	S..K..AL	.....Y..G.G	.....I.....G	..I.....I	.....200	
AmelC	..L.Y...G..	..NL...AIK.	..KR.....	LK..SE.ER	MTN..K..ED	S..K..AL	.....YI..G.G	.....I.....G	..I.....I	.....200	
GaclC	..L.Y...G..	..NL...LIK.	..NRH.....	LMD..TEYER	MTS.SED.ES	G..K..AL	.....Y..G.G	.....I.....G	..M...I	.....200	
TrulC	..R.Y...A..	..NL...A.K.	..KR.....	LMD..AQYEH	VTK..A..ES	S..K..AL	VT.....Y..G.G	.....I.....V	..I.....I	.....200	
Tnl1C	..R.Y...G..	..NL...A.K.	..KR.....	LMD..AQYER	V.K..A..ES	S..K..AL	VT.....Y..G.G	.....I.....V	..I.....I	.....200	

OlalCb	.L.Y...T	.HL...A.R	.LTR.....	.L.T.PEYKR	MTD..N..ES	SR..K..AL	.T.....	.YI...G.G	I.....G	.....SV	200
OnilCa	.L.Y...S	.HL...AI	.SR.....	.L.T.LE.KR	MTD..N..ES	NR..K..AL	.T.....	.Y.....G	I.....G	.....SV	200
Gac_0	.L.Y...T	.HL...PIK	.SR..T.A	.L.T.PE.ER	MTK..GQ.EA	NR.....AL	.T.....	.YI...G.G	I.....G	.....V	200
TrilC	.L.Y...T	.HL...AIK	.LSR..R	.L.N.LEYKR	MSE..SD.EK	NR..K..AL	.T.....	.YI...G.G	I.....G	.....SV	200
DrelC	.L.Y...T	.HL...PIK	.LER.....K	.L.DLDG.QR	MRR.TS..EK	SR.....AL	.T.....	.Y.....S	I.....G	.....N	200
DrelB	.L.Y.F.G	.HL...ID	.I.R.....	.L.D.QYKQ	METV.ND.KK	DKH.K.....	.T.....	.YI...G.D	I.....F.T	L...I..YR	200
OnilB	.L.Y.F.A	.L...D	.IHR.....	.L.DN.QYNK	MEL..SD.KE	NRC.I.....	.T.....	.YI...G.S	I.....F.I	L.....HR	200
Gac1B	.L.Y.F.A	.L...D	.IHR.....H	.L.NSDQY.Q	MER..ND.KD	SR..I.....	GT.....	.YI...G.S	I.....F.I	L...I..HR	200
OlalB	.L.Y.F.A	.L...R.D	.I.R.....	.L.DK.QYSQ	MET..ND.KE	SR..I.....	.T.....	.I...G.G	I.....F.I	L...I..HR	200
TrulB	.L.Y.F.A	.L...D	.IHR.....	.L.VSDEY.Q	MVT..K..KD	SR..I.....	.T.....	.YI...G.S	I.....F.I	L...I..HR	200
TnilB	.L.Y.F.A	.L...D	.IHR.....	.L.VSGEYNQ	MVA..N..KD	SR..I.....	.T.....	.YI...G.S	I.....F.I	L...I..HR	200
HsalB	.Y.F.T	.KL...R.SA	.IQR.....	.L.D.EYR	MEL..K..QD	KK..V.....	.T.....	.YI...G.S	I.....V	LVLIKN.DV	200
MmulB	.Y.F.T	.KL...PA	.IHR..D...	.L.D.AYR	MET..K..QD	KK..V.....	.T.....	.Y.....S	I.....A	VLIKN.NV	200
MdolB	.Y.F.T	.KL...K.AA	.HR.....	.L.D.QYR	MEM..KD.QE	KK..V.....	.T.....	.YI...G.S	I.....V	VFTQH.NI	200
ShalB	.YTF.T	.KL...K.SA	.IKR.....	.L.D.EYR	MEM..KD.QE	KK..V.....	.T.....	.YI...G.S	I.....V	VLTPEH.EV	200
AcalB	.Y.F.T	.KL...R.A	.IQR.....	.L.DE.R.LD	MEA..LD.QQ	RK..L.....	.T.....	.YI...G.S	I.....V	T...H..	200
FpelB	.L.Y.F.T	.KL...R.EA	.ITR.....	.LMD.KYSK	MEA..K..KE	KK..I.....	TT.....	.QYI..HG.S	I.....A	.....SHI	200
XtrlB	.Y.F.M	.KL...PLE	.IER..Q...	.L.D.DK.SE	MKI..E..QK	DK..H.....	.L.....	.YI...G.G	I.....A	Y...STN	200
LchB	.Y.F.TC	.HL...E	.LHR.....	.L.N.LQYKR	MEA.TIQ.KH	QK..L.....	.T.....	.Y.....T	I.....A	L..I..SSV	200
Dm	.G.Y.F.G	.L.L...E	.MTR..R...	.L.D.NYTR	MER..K..EQ	T..I.....	ST.....	.Y.....G.S	I.....F.GT	AIFMNL.DK	200
ci	NVM.LLVCLL	TKTNIK.EG	LGI..YKELK	RFIYEKSYEK	NVLRSJH.TS	NKL.ITNPDF	I.IHS.NR..	QY...AG.G	I.....G	L.HN..V	200

HsalC	AARAGNAVHA	LLLYRHRLNR	QEIPPTLGM	PLCSAQYEKI	FNTTRIPGVS	KDYIRDSQHV	AVFHRGRFFR	MGTHSRNLSP	RALEQQFQRI	LDDPSPACPH	300							
SSclC	.....T	.....L	.....S	.....RM	.....E	.HL..R..	.....V	.....QS	.....D	.....L	300				
MmulC	.....I	.....L	.....S	.....RM	.....E	.HL..R..	.....V	.....P	.....D	.....L	300				
HsalA	.....I	.....L	.....S	.....RM	.....E	.HL..R..	.....V	.....P	.....D	.....L	300				
MmulA	.....TI	.....I	.....RTVD	E.LK.IR.TI	.....W.RL	.....S	.....EE	T.T.Q..R.I	V.Y...Y.K	VWLYHDG.R	E...M.Q	T.EPQ.G	300		
MdolA	.....I	.....S	.....I	.....K.K.D	E.LK.I.TV	.....W.RM	.....S	.....EE	T.T.Q..R.I	V.Y...Y.K	VWLYHDG.K	EI...M	.....EPQAG	300	
GgalA	.....II	.....I	.....K.K.D	.....K.I..TV	.....W.RM	.....S	.....EE	S.TLQ..K.I	V.Y...Y.K	VWLYHDG.K	EI...I	.....D.EPQAG	300		
FpelA	.....VI	.....I	.....K.K.D	.....K.I..TV	.....W.RM	.....S	.....EE	S.VLQ..K.I	V.Y...Y.K	VWLYHDG.K	EI...I	.....N.D.EPQAG	300		
AcalA	.....I	.....I	.....RK.D	.....Q.Q.I..TV	.....W.RM	.....S	.....EE	T.T.Q..K.I	V.Y...Y.K	VWLYYDG.K	EI...M.W	.....K.KPQ.G	300		
XtrlA	.....I	.....I	.....RK.D	.....E.K.IQ.TV	.....W.RM	Y.S.....	EE	T.T.Q..K.I	V.Y...Y.K	VWLYYDG.K	EI.H.M.K	I..T.SPQ.G	300		
LchlA	.....TI	.....I	.....RK.D	.....E.K.LMNTI	.....M.S...RM	.....S	.....EE	T.TLQ..K.I	V.Y...Y.K	VWLYYDG.K	EI...M	.....D.KPQ.G	300		
Ler1A	.....TI	.....I	.....RK.D	.....E.H.LM.QI	.....M.S...RM	.....S	.....LE	T.TM.Q..K	V.Y...Y.K	VWLYHSG	CEIQL.M.K	.....Q.LPQTG	300		
XtrlC	.....A	.....T	.....I	.....RKVT	E.LK.LMDCL	.....M.....HM	.....D	T.T.Q..K.I	V.Y...Y.K	VWLYYDG.N	KE..L..N	.....N..PQ.G	300		
Ler1C	.....L	.....R	.....A	EQVQ.ST.PI	.....W.RM	.....S	.....L	EE	T.RLQ..K	M.Y...Y.K	VWLYQSGQ	SE.QK..Y	.....A.IPQ.G	300	
OnilC	.....LT	.....R	.....K.T	E..K.ST.PV	.....S.W.RM	.....S	.....T	QE	T.HLQ..K.I	V.Y...Y.K	VWVYQGG.R	E..V...	.....A.T.LPQ.G	300	
AcalC	.....L	.....Y	.....M	MM.RK.VQ	E..K.M..CL	.....M.....W.RM	.....ME	G.S.Q..R.I	..Y.A...	VLLYHNG.R	E.QA...S	.....G..T.PS.G	300		
LchlC	.....T	.....I	.....Y	.....C.Q	.....RKVT	E.LK.LDCL	.....M.....H.HM	.....S	.....IE	T.TLQ..K.I	V.Y...Y.K	VWVYHGG.K	E..I..IEK	.....A.K.SPL.G	300
TnilA	.....I	.....I	.....M	.....RK.D	.....AQ.K.LMNTI	.....M.....RM	.....V	.....E	T.TLQETK.I	V.Y...Y.K	VWVYFDG.L	EI...MEK	.....A.Q.APQ.G	300	
TrulA	.....I	.....I	.....M	.....RK.D	.....AQ.K.I.NKV	.....W.RM	.....V	.....E	T.TLQETK.I	V.Y...Y.K	VWVYFDG.L	EI...ME	.....A.Q.EPL.G	300	
OnilA	.....I	.....I	.....S	.....M	.....RK.D	.....AQ.K.LMHTI	.....M.....RM	.....V	.....E	T.TLQE.K.I	V.Y...Y.K	VWVYFDG.L	EI...ME	.....A.K.EPL.G	300
Gac1A	.....I	.....I	.....M	.....RK.D	.....AQ.K.I.NKV	.....W.PM	.....V	.....LE	T.TLQ..K.I	V.Y...Y.K	VWVYFDG.L	EI...MA	.....A.TEPM.G	300	
DrelAaSIIMMRK.DAQ.K.LMNTIM.....RMSVE	T.VLQE.K.I	..Y.K..YK	VWVYFDG.L	EI...MEA.K.EPQ.G	300		
TfulAaVISMRK.DAQ.K.LMNTIM.....RMSVE	E.F.KE.K.I	V.Y...Y.K	VWVYFDG.L	EI...MEA.T.MPQ.G	300		
DrelAb	.....VI	.....I	.....M	.....RK.D	.....AQ.K.LMNTI	.....M.....RM	.....S	.....IE	T.SVQ..R.I	V.Y...Y.K	VWVYFDG.L	EI...ME	.....A.T.EPQ.G	300	
TfulA1	.....TI	.....S	.....I	.....M	.....RK.D	.....AQ.K.L.NTI	.....M.....RM	.....S	.....IE	T.T.Q..R.I	V.Y...Y.K	VSMFYDG.L	EI...IE	.....A.T.EPQ.G	300
OlalCaSIISIP.FRK.K	E..K.SR.VIA.C.RRE	T.TVQ..DY	..Y.K..Y	LRVYQAGE.I.F.IA.PSKG	300		
OnilCb	.....SI	.....S	.....F	.....R	.....K	E..K.W.SAV	.....C..Y.F.RM	.....D.C	.....IL	T.TVQ..DYI	V.Y...Y	LRVYQAG	.....E.I.F.I	.....PSKG	300
Ame1C	.....TL	.....V	.....M	.....R	.....K	E..K.SR.FI	.....A.C.R	.....R	.....EE	T.TVQ..EY	..Y..Y	LWVYQAG	.....E.I.Y.I	.....PA.G	300
Gac1C	.....SI	.....Y	.....F	.....R	.....K	E..K.R.VI	.....A.C.R	.....M	.....EE	T.TVQ..DYI	..Y..Y	LRMYHAG	.....E.I.S.I.K	.....PSKG	300
TrulC	.....TI	.....Y	.....M	.....C	.....K	E..K.PARAV	.....C..Y.F.RM	.....C	.....TL	T.T.Q..DFI	V.Y...Y	LVVYQDG.C	.....E.I.F.I	.....SKG	300
TnilC	.....TI	.....Y	.....M	.....C	.....K	E..K.PARAV	.....C..Y.F.RM	.....C	.....TL	T.TVH..ECI	V.Y...Y	LCVYQEG.C	.....E.I.F.I	.....APSKG	300
OlalCb	.....TI	.....T	.....I	.....T	.....I	.....T	.....E	.....T	.....E	T.VLQ..EF	..Y..Y	LWVYRAG	.....E.I.H.I.W	.....PL.G	300
OnilCa	.....TI	.....T	.....I	.....T	.....I	.....T	.....E	.....T	.....E	T.VLQ..EF	..Y..Y	LWVYRAG	.....E.I.Y.I	.....L.G	300
Gac_0	.....TI	.....T	.....I	.....T	.....I	.....T	.....E	.....T	.....E	T.VLQ..EF	..Y..Y	LWVYLAG	.....E..H.I	.....PQ.G	300
TrilC	.....TI	.....T	.....I	.....T	.....I	.....T	.....E	.....T	.....E	T.VLQ..EF	..Y..Y	LWVYRAGM	.....E..Y.I.K	.....PQ.G	300
DrelC	.....TI	.....T	.....I	.....T	.....I	.....T	.....E	.....T	.....E	T.VLQ..EF	..Y..Y	LWVYRAG	.....EIQF.I	.....PS.G	300
DrelB	.....V	.....M	.....Q	.....R	.....K	E.G.LT.LR.IV	.....M..F...RM	.....I	.....E	T.FVQ.RK.L	V.Y...Y	VWLYYGG.W	.....S.E.L	.....K.EPQ.G	300
OnilB	.....V	.....M	.....Q	.....R	.....K	E.G.LA.LR.TV	.....M..T.M.RM	.....I	.....E	T.FVQ.RK.L	V.Y...Y	VWLYTGG.L	.....S.E.T	.....N.T.EPQ.G	300
Gac1B	.....V	.....M	.....Q	.....R	.....K	E.G.HA.LR.TV	.....M..T.M.R	.....I	.....E	T.IVQ.RK.L	V.Y...Y	LWLYTGG.L	.....S.E.T	.....N.T.EPQ.G	300
OlalB	.....I	.....M	.....Q	.....R	.....K	E.G.HA.LR.TV	.....M..T.M.RM	.....I	.....E	T.FVQ.RK.L	I.Y...Y	VWLYTGG.L	.....S.E.M	.....N.TEPEQ.G	300
TrulB	.....M	.....M	.....Q	.....R	.....K	E.G.HA.LR.TV	.....M..T.M.RM	.....L	.....IE	T.AVL.RK.L	I.Y...Y	VWLYTGG.L	.....S.E.L	.....N.T.EPQGG	300
TnilB	.....T	.....M	.....Q	.....R	.....K	E.G.HA.LR.TV	.....M..T.M.RM	.....I	.....E	T.VVQ.RK.L	I.Y...Y	VWLYTGG.L	.....S.E.L	.....S.T.EPQGG	300
HsalB	.....L	.....I	.....M	.....M	.....R	E..K.VM.IV	.....M..Y.M.RM	.....K	.....D	T.VLQ..R	..Y.K..K	LWLYEGA.K	.....QD..M	.....PQ.G	300
MmulB	.....L	.....I	.....M	.....M	.....R	E..K.VM.V	.....M..Y.M.RM	.....K	.....E	T.LLQE.R	..Y.K..K	VWLYEGS.K	.....D.M	.....PQ.G	300
MdolB	.....L	.....S	.....V	.....M	.....R	E..K.VM.IV	.....M..Y.M.RM	.....L	.....KD	T.VLQ..R	..Y.K..YK	LWLYQGS.K	.....D.M	.....PQ.G	300
ShalB	.....L	.....V	.....M	.....M	.....R	E..K.VM.IV	.....M..Y.M.RM	.....K	.....E	S.VLQ..R	..Y.K..YK	VWLYQGT.K	.....D.M	.....TC.IQ.G	300
AcalB	.....S	.....I	.....R	.....D	.....E	DLA.VM.VV	.....Y.M.R	.....K	.....A	R.LL..R.L	..K..K	VWLYHAG.P	.....D.M	.....PETG	300
FpelB	.....M	.....M	.....I	.....M	.....R	E.G...MM.IV	.....M..Y.S.RM	.....K	.....E	T.TLL..K.L	..Y.K..YK	VWLYYGG.Q	.....C.D..L	.....PQ.G	300
XtrlB	.....VI	.....M	.....R	.....K	.....E	GL...VM.IV	.....M..N.MVRM	.....V	.....E	T.CLQE.R	..Y.K..YY	LALYENG.T	.....Q.QA.I.Y	.....S..PQ.G	300
LchB	.....T	.....A	.....M	.....R	.....K	E..K.MMCLV	.....M..N.V.RM	.....L	.....E	TGTVKQ.AL	YIYNKAV.VD	CMLY.LS.VK	LDIL.KQK	KIIT.YKYK	300
DmAVISLNF.RLIEHLQ.IM..IWRTA.V..LE	T.R.I..N.I	V.L.K.CYK	LIYYK.R	CE.QV.IEEKGTAPPVEG	300		
ciSAILSMFAST.DK	EL.K.IK.VVRVSC.TE	A.R.C.C.R.I	..Y.Q..W.K	TCYKNG.E	SEM.I.IESN.T.P.EG	300

HsalC	EEHLAALTA	PRGTWAQVRT	SLKTQAAEAL	EAVEGAAFFV	SLDAEPAGLT	REDPASLDAY	AHALLAGRGH	DRWFDKSFTL	IVFSNGKLGL	SVEHSWADCP	400		
SSclC	.....DM	.....K	.....E	.....S	.....DA	SG.S.....	.....S	.....I	.....A	.....A	400	
MmulC	.....SM	.....E	.....V	.....H	.....T	.....S	.....S	.....S	.....I	.....A	400	
HsalA	.....AR	.....G	D.VP..RC.Q	AYFGRGKQS	.....D..K.....	T.ETEE.YR	S...T.M.S	.....K.S..H.CY	.....F	V..K..M	NA.....A	400
MmulA	.....AK	.....D	VP..KC.Q	TYFARGKQS	.....D..K.....	T.ESEQ.YR	E...I.S	.....K.S..H.CF	.....I	F..V..K.S.I	NA.....A	400
MdolA	.....K	.....G	D.VP..KA.Q	TYFSRGKQS	.....D..K.....	TM.DTEQ.YS	KK..T.M.S	.....K.S..H.KCY	.....T	F..K..M	NA.....A	400
GgalA	.....K	.....G	D.VP..KA.Q	AYFSRGKQS	.....D..K.....	T.DDEQ.YS	K...S	.....K.S.IH.CY	.....T	V..K..M	NA.....A	400
FpelA	.....K	.....G	D.VP..KA.Q	AYFSRGKQS	.....D..K.....	T.DIEQ.YR	KD..K	.....K.S.IH.CY	.....T	.....K.RI	NA.....A	400
AcalA	.....K	.....G	D.VP..KA.Q	TYFARGKQS	.....D..I..K.....	T.DTAQ.YR	E...TTMET	.....K.S..H.KCY	.....T	.....K..M	NT.....A	400
XtrlAKG	D.VP..KA.K	AYFANGKQSMD..K.....	T.ETEQ.YN	K..N..SK.S..H.KCYTTMSF	V..K..M	NA.....A	400
LchlAKG	D.VP..KA	TYFCRGKLSD..K.....	T.DTEQ.FR	K...T..RK.S..H.KCYTLSF	V..K..M	NS.....A	400
Ler1AKG	D.VP..KA.Q	YFS.GKLSD..I..K.....	T.DTEQ.FR	K.E.S..NK.S..H.KCYTLSF	I..K..I	NA.....A	400
XtrlCKG	E.TA..KA.K	TYFRSGLQDL.R.....	T.QDDEE.R	T..NGKS..H.KCYTFK..I	NA.....A	400

Ler1C .KY.....G K.IP..K.K .YFSSGKT.M DS..K..... T..EDTPE.F VDNQK...Q. .KS..H.KCYF ...A...V.. NA.....A 400
CmilCG N.IP.GKA.K .FFSNRGRSS. DC..K.....L T..GDKP..Q V..K..... .KL..H.KCYE...V.. NA.....A 400
AcalC .K.P.....G E.DP..RA.N AFFQTGEQS. SI..K..... T..TSEQ..R EPN.Q..... .KS..H..CCYR...S.. NA.....A 400
LchlCP.....G D.VP..KA.R DYFQSGRQS. DL..K..... T..ESEQ..K TD..K..... .KL..H.KCYV..K..... NA.....A 400
Tnl1A .K.....G T.TP..NA.D TYFSRQKQ.. D.I.K..... T..DTEQRVD TNN.V...S. .KC..H.KCYN...K..TM.. NA.....A 400
TrulA .R.....G D.TP..NA.D TYFSRQKQ.. D.I.K..... T..DTEQCYD TNN.T...S. .KS..H.KCYN...K..TM.. NA.....A 400
OnilA .R.....G D.TP..KA.E .FFSRGKQS. D...K.....L T..DTEQRVD TKN.K...I. .KS..H.KCYLNM...K..TM.. NA.....A 400
Gac1A .K.....G D.TP..NA.E TYFSRQKQS. D.I.K...C. T..DTEQRVE SDN.Q..VS. .KS..H.KCYN...IYK..TM.. NA.....A 400
DrelAa .F.....G D.VP..KA.S QFFIRGKQS. D..K..... T..DTEQRVE PDN.Q...S. GKS..H.KCYLN...K..TM.. NA.....A 400
TfulA2 .T.....G D.VP..KA.E .EFFSTGRKS. D...K..... T..DTEQRVE PDN.Q...S. .KS..H.KCYN...I.K..TM.. NA...T...A 400
DrelAb .T.....G D.VP..CA.N AYLRHGKKS. DS..K..... T..DTEQRFD QKN.E...R. .KS..H.KCYIN...I.K..TM.. NA.....A 400
TfulA1 .K.....G D.VP..CA.D AYLR.GRQS. D..K..... T..DTEQRHN SDS.E...RSF GKS..H.KCYN...IYK..ATI.. NA.....A 400
OlalCa .AK.G....D.VS..EA.V KYFSSGKRS. DVI.R..... T..D.EQ.TM .D.Q...N. .KS..H.KCYSV.YYK...S.I NG.....A 400
OnilCb .AK.G....D.IP..KA.. KYFSSGKRS. DCI.K..... T..D.EQ.MM GD...R. .KS..H.KCYV.VYK...N.I NA.....A 400
Ame1C .K.G.F..G.D.IP..KA.K .EFFSSGKRS. DCI.K..... T..DDEQ.MM GD...NV.R. .KS..H.KCYSV.VI..K...N. NA.....A 400
Gac1C .AK.G....D.IP..KA.A KYFSSGKRS. DFI.K..... T..DDEQ.GV AD..TRI.S. .KS..H.KCYSV.VY.K...M. NG.....A 400
TrulC .AR.G....D.IP..KA.A KHFNNGKKS. DCI.K..... T..D.EQSIV GDNLE...C. IKS..H.KCY N.....SV.VFYK...S.. NG...G.A 400
Tnl1C .AK.G....D.TP..RA.A KYFSSGKRS. DCI.K..... T..D.EQ.IM GDNLE..H. IKS..H.KCY K.....SV.VFYK...S.. NG...G.A 400
OlalCb .K.G....G.D.VP...I.K .EHFSSGKRS. DII.K..... T..D.AQ.MK GD..GN..R. .KS..H.KCYSI.VIYK...S.. NA.....A 400
OnilCa .K.G....G.D.IP...M.K .QYFSSGKRS. DCI.R..... T..D.EQ.MR GD..GN..S. .KS..H.KCYSV.VIYK...S.. NA.....A 400
Gac_0 .K.G....G.E.VP..F.M.E RHFSSGKRS. DCI.R..... T..D.EQ.MR G...GN..R. .KS..H.KCYSI.VIYK...S.. NA.....A 400
TrilC .K.G....G.D.IP...K .QYFSSGKRS. DVI.K...I.T. T..D.EQ.MR G...GN..R. .KS..H.KCYSI.VIYK...N.. NA.....A 400
DrelC .K.G....G.N.TP..R.K .QYFSSGKQS. DCI.K..... T..DQAE.MK G.N.EN..R. .KS..H.KCYSV.V.YK...N. NA.....A 400
DrelB .LK.PS..G.N.VP..RA.L KYFEGGRAS. .I.T...L T..D.AH.YD P.NIR...L. .KS..H.KCYN...YK...M.V NT.....S 400
OnilB .LK.....G.Y.IP...A.I KYFS.GKVS. D.I.S...L T..D.Q.YD PAKSN...S. .KS..H.KCYSYP...M.V N. NA.....A 400
Gac1B .LK.....G.H.VP...S.I KYFG.GKVS. D.I.S...L T..D.Q.YD PAKAK...S. .KS..H.KCYSYP...V.V NA.....A 400
OlalB .LK.....G.N.VP...A.I KHFSHGKTS. D.I.S...L T..D.SQ.YD GVKK...S. .KS..H.KCYSYP...M.V N. NA.....A 400
TrulB .LK.....G.N.VP..RA.S KYFS.GKVS. D.I.S...L T..D.Q.YD QAR.R...S. .KS..H.KCYSYP...M.I N. NA.....A 400
Tnl1B .LK.....G.N.VP...A.A KYF..GKAS. D.I.S...L T..D.Q.YD HARSR...S. .KS..H.KCYSYP...M.I N. NA.....A 400
HsalB .K.....G.G.VE...A.Q AFFSSGKA.. .I.R..... A.E.SYSYD P..E..SL. GK..H.NCY N.....S.K..Q... NA..A..A 400
MmulB .K.....G.G.VE..EA.Q TFFSSGKMS. D.I.R..... T..EDSHCYN PD.ET..SL. GK...H.NCY N.....SCK..L... NT.....A 400
McolB .K...F..G.G.VQ..EA.Q TYFNTGKAS. .I.K..... T..E.SH..D P.NE...SL. GKS..H.NCY N.....N..S.K.A... NT.....A 400
ShalB .K.....G.G.VQ..EA.Q TYFNTGKAS. .I.K..... T..E.SH..YD P..E..SL. GK...H.NCY N.....VA.K... NT..A..A 400
AcalB .R.....G.E.LP..EA.E KYFSRQKAS. DC..R..... T..E.EH.FD PDKED...R. SKS..H.QCCS.V.YR...A NA.....A 400
FpelB .R.....G.E.VP..EA.A RHFSSGKVS. D.I.R...L T..E.EH.YV AGKEGCM.T. .KS..H.QCYV.YK...A NA.....A 400
XtrlB .K.....G.N.VH...A.. NFFSNGRT.. SC..R.V..I .E.E..YD E..K.S..S. SK...H.NCY N.....S.V..R... NA.....A 400
LchlB RKGSVRISLS C.IP..KA.S .EFFSHGKIS. T.I.R...M T..D.EQAV K.N.TT..S. .KS..H.KCFF...K...I NT.....A 400
DmW.N.SK..EA.N TFFSWGQTS. RTI.S...VL .D..FEPD LAR.EL..NF GKK..H.N.Y N.....C.V.C.GT..RV.F NA..T.S.AA 400
ciG.E.IP..KA.N TYFVDGKKS. H.I.K...IL V..D.EHVVS D..S...SK. GRS..H.KCY N.....T.NC...K..RW.I NA.....A 400

HsalC ISGHMWEFTL ATECQLGYST DGHCKGHPDP TLPQPQRLQW DLPDIHSSIS LALRGAKILS ENVDCHVVPF SLFGKSFIR CHLSSDSFIQ IALQLAHPRD 500
Ssc1CAS.....H.....L.....QA.A I...F... .H.....K..... T..... 500
MmulC V...L.....AE.QP...T...G.I...F... .H.....KC...V.....LV..... 500
HsalA .VA.L..YVM SIDS...AEDIN. NI.Y.T... .I.GCQEV.E TS.NT.NL.A ND..F.SF.. VA...GI.KK .RT.P.A.V. L.....YK. 500
MmulA .V..L..YVM .DV...EDKN. NI.K.T... .I.GCQEV.E TS.SS.SF.A ND..L.SF.. DT...GL.KK .RT.P.A.V. L.....YK. 500
McolA .V..L..YVM .D...TEDTN. NI.Y.T... EI.ECQDV.E ES.SL.ST.A ND..F.SF.. DA...EL.KK .RT.P.A.V. L.....YK. 500
GgalA .V..L..NVM .YE...LEDTNQ NI.I.TK... EI.ECQDV.E RS.ST.RA.A DD..FYSFY. DV...GL.KK .AKT.P.A.V. L.....Y. 500
FpelA .V..L..NVM .YE...EDINQ NI.I.TK... EI.ACQEV.E RS.ST.IA.A DD..FYSFF. DA...GL.KK .AKT.P.A.V. L.....Y. 500
AcalA .V..L..NVM FSD...E...TEESSS GILM...S. EILECQEV.E RS.AV.RP.A DD..F.SF.. DT...GLMKK .AKT.P.A.V. L.....Y. 500
XtrlA .V..L..YVM .DKE...NEDVNG NI.P.S... .I.ECQNVVE ES.TV..A.A DD..F.SF.. NS...GL.KK .RT.P.A.V. LS.....Y. 500
LchlA .V..L..YV .DS...TE E...E.K. SI.F...R. EI.ECQEV.E IS.KV..A.A DD..F.SF.. DS...GL.KK .RT.P.A.V. L.....YV. 500
Ler1A .I..L..YV .DQ...TD E.N...E.N. QIQP..... .IEECQEV.H QS.SV.QQ.A DD..F.SF.. DK...GV.KK .WI.P.A.V. M.....Y. 500
XtrlC .V...YV .D...NE E.N...QV.S N..V... .EISECQEV.Q SS.AV.QA.A DD..F.TF.. KE...GL.KK .RT.P.A.V.Y. 500
Ler1C .I..L..YA .DT...KE .N...D.A. NV.L... .I.KCQEV.M SS.KV.QT.A ND..FYAF.. TR...GV.KK .RT.P.A.V.NY. 500
CmilC .I..L..YV .DS...ND Q...DAES .VLS... .I.ECQEV.. GS.KV.QS.A ND..F.TF.. TK...GL.KK .RT.P.A.V. L.....N.. 500
AcalC .V..L..YV .DAT...DA Y.N...DM. NV.P..K... EI.PCEAV.M QSF.V.YN.A SDI.F.AFT. KD...GL.KK .RT.P.G... L.....Y. 500
LchlC .I..L..YV .DT..I..KPEA.S .ILP... .I.ACREEV.K MS.AV.QT.A ND..F.FT. KD...GL.KK .RT.P.A.V.Y. 500
Tnl1A .V..L..QV .SMDPN...TER.A.H. N..G... .ISTCQOV.Q SS.TV.QK.A DD..S.II.. .E...GK.KK .RT.P.A.V.Y. 500
TrulA .V..L..HV .SMDPN...TE E...R.V.H. N..G..K... .I.ACQEV.E SS.TV.QN.A DD..S.II.. .E...GK.KK .RT.P.A.V.Y. 500
OnilA .V..L..HV .SMDPK...TEV.K.H. N..G... .TI.ACQEA.E SS.TV.RA.A DD...II.. TD...GL.KK .RT.P.A.V.Y. 500
Gac1A .V..L..HV .SMDPK...TE A...E.H. N..G..K.S. .I.ACQEV.. SS.KV.RT.A DD..S.IM.. .D...GL.KK .RT.P.A.V.Y. 500
DrelAa .V..L..QV .SSDR...TE E...N.H. NM.G... .I.ECQTV.. SS.KV.NT.A DD..M.IF.. ND...GL.KK .KT.P.G... L.....Y. 500
TfulA2 .V..L..HV .SMDPT...TER.K.H. N..G..L... .ISVQV.R SS.KV.NA.A DD..M.IF.. NN...GL.KK .KT.P.G... 500
DrelAb .V..L..QV .SMDPK...TEE.H.A N..G... .NI.TCQTM.T NS.SV.EA.A DD..S.II.. .D...GL.KK .RT.P.A.V. L.....Y. 500
TfulA1 .I..L..NV .S.DAK...TDA.QTHR N..G... .NI.PCQTM.A NS.SV.QA.A DD..MVII.. QE...GL.KK .KI.P.A.V.N.K. 500
OlalCa VVA.V..YV .DS...NE E...EV.A S...K.N. EISPCEEQ.. RS.AV.QA.A DD..F.LS. RD...GQ.KK .KV.P.A.V. MT...YY.E 500
OnilCb VLA.V..Y.. .NDS...NA E...DV.. S..R.VK.S. EI.PCEEQ.A QS.AV.QA.A DD..F.FS. QE...GKVKK .RV.P.G... M...Y..E 500
Ame1C .VS...YA .DS...NE E...DVN. S...T... .I.KCQEV.A QC.AV.QP.A DDI.F.FA. RD...GS.KK .IKM.P.G... L...FY. 500
Gac1C VLS.A.QYV .T.D...NA E...EV.S S..G.K.N. EI.PCEEQ.. GS.AV.QA.A DD..V.FS. EE...GK.KK .RV.P.A.V. LT...Y.N 500
TrulC VLT.L..Y.. .NA E...EV.A S.AE..K.N. EISSCEEQ.. QS.EV.QA.A ND..M..V. RD...AKVKK .RVNP.A... ..YY. 500
Tnl1C VLS.L..Y.. .NA E...EV.A S..K.K.N. EI.ECQEV.C QS.AL.QA.A ND..M..V. RD...AKVKK .RVNP.A... ..Y. 500
OlalCb TVA.L..Y.. .DA...TEEV.R S..P.H.S. EI.SVQDV.F SS.TL..A.A DD...F. RD...GK.KK .LRV.P.A.V. .S...Y.. 500
OnilCa TVA.L..Y.. .DA...TEEVE. S...V. NI.AVQAQV. SS.AV.QA.A DD...F. RE...GR.KK .RI.P.A.V. .S...YY. 500
Gac_0 TVA.L..Y.. .DA...TEDV.R S..P..A. .I.SVQAQA. SS.TV.RA.A DD...F. RD...GR.KK .LRV.P.A.V. .G...Y.. 500
TrilC TVA.L..Y.. .DAH...TEEVE. L..H...L. .I.LCNTQVQ. SS.AV.QA.A DD...I.H. RD...GR.KK .LRV.P.A.V. .S...YY. 500
DrelC .VA.L... .DTH...NS .N.R.DV.H S.H...S. .I.FVQTQ.. ES.AV.QA.A DE...F. RK...GL.KK .MK.P..V. L...YY. 500
DrelB .I...YV .D.H...TA E...DVNK .S.P...T... .I.KCQEI.E GSY.I..GIA DD..F.GCL. NE...GL.KK .RT.P.A.V. L...QY. 500
OnilB .V...YI .D.H...TE E...DVNK N..H..T... .QI.NCQNV.E TSYLS..QIA DD..F.GYL. AE...GL.KK .RT.P.A.V. L...Q. 500
Gac1B .V...YV .D.H...TE E...DVNK G..H..S... .QI.NCQEV.E TSYLS..LIA DD..F.GYL. HE...GL.KK .RT.P.A.V. L...Q. 500
OlalB .V...YV .D.H.C.E E...DANR G..F.T... .QISKQDV.E ASYLS..KIA DD..F.GHL. TE...GL.KK .RT.P.A.V. L...Q. 500
TrulB .V...YV .S.D.H...TE E...DVNK G..Y..S... .QI.VCK.I.E ASYVS..RIA DD..FYGCL. HE...GL.KK .RT.P.A.V. M...Q. 500
Tnl1B VV...V. .D.H...TE E...DVNK G..Y..S... .QI.VCQ.I.E ASYVS..QIA DD..F.GCL. HE...GL.KK .RT.P.A.V. M...Q. 500
HsalB .I..L..V. G.DSH...TE T...L.K.N. A.AP...T... .I.KCQAV.E SSYQV..A.A DD.ELYCFQ. LP...GL.KK .RT.P.A.V. 500
MmulB .I..L..V. G.DTH...TE T...V.E.NT .P...P... .I.ECREA.E NSYQV..A.A DD.ELYCFQ. LP...GL.KK .RT.P.A.V. 500
McolB .V..L..V. .DAH.D.TD A...Q.K.NH S.AP...L. .I.ECQEL.E SSYQV..T.A DD.ELYCFH. AT...GL.KK .RT.P.A.V. 500
ShalB VV..L..V. .DAH.D.NE S...Q.K.NH S.AP... .EI.ECQKI.E SSYEV..A.A DD.ELYCFQ. LP...GL.KK .RS.P.A.V. 500
AcalB .I..L..M. .DAH.D.CS .H.V.NT A.P...T... .I.ECCND.E ASYAV..RA.A DDI.F.SFR. VE...GR.KK .RT.P.A.V. 500
FpelB .I..L..A. .K...TD R...R.E.NT Q.AP... .I.QCRDT.E SSYL..A.A DD..FCCFQ. .E...GL.KK .RT.P.A.V. .S..... 500

XtrlB .I.L.....D.E...TE .N.R.DAGS P.P.Y....I.PCREVE RSYVT..AIA DD..F.CLC .D...GL.KK .RS.P.A.F.Y.E 500
LchB VI..L...V. .D.E.S.TE S.....EMNK K..P.....ECKEM.Q QSYKV..A.A DD.NFCCF..MS...GM.K. FKT.P.A... 500
Dm .AS...NLI VDDLSD..DE T.NT..T.AF QP.T.T..T. .Q.KPCLAQ.E E.TIDVTK.I NE.NLRILVH QDY..G.MKK .RT.P.AY..M...YY.. 500
ci .MSYVV.EA. GF.YS...TQ .RV..R.TV QPIT.H....Q.TPCQEV.E TS.SV.NN.A DD.HLN.SA. KH...GLVKK FKM.P.A...A...I..L.. 500

Hsa1C RGQFCLTYES AMTRLFLEGR TETVRSCTRE ACNFVRAMED KKTDPQCLAL FRVAVDKHQQA LLKAAMSSGGQ VDRHLFALYI VSRFLHLQSP FLTQVHSEQW 600
Ssc1C ..R.....S.....H Q.....L.....Q..R.....D..... 600
MmulC ..Q.....DN .E..QH.....I.....M..L..M.....Q..Q.. 600
Hsa1A M.K.....A S.....R.....T. S.D.....V. PQ.VE.R.K. .KL.SE..H MYRL..T.S. I.....C..V ..KY.AVE...KE.L.P. 600
MmulA M.K.....A S.....R.....T. S.....L..M. PT.AE.RFK. .KI.CE...H .YRL..T.A. I.....C..V ..KY.AVD...KE.L.P. 600
Mdo1A M.K.....A S.....R.....M. S.....L..VN PESVENK.K. L.I.AE...H MYRL..T.A. I.....C..V ..KY.AVD...KE.L.P. 600
GgalA M.K.S...A S.....R.....I. S.....QT..N PESNENKMKKS .L.AT...H .YRL..T.A. I.....C..V ..KY.SVD...KE.L.P. 600
FpelA M.K.S...A S.....R.....V. S.....T... PESSENK.KF .I.AA...H .YRL..T.A. I.....C..V ..KY.AVD...KE.L.P. 600
AcalA M.K.....A S.....R.....TQ S.K.K..D. PE.LEKKI...KA.ATH..L .YRL..T.N. I.....C..V ..KY.AVE...KE.L.P. 600
XtrlA KEK.....A S.....R.....I. S.D..L..S. PQ.NEKR.Q. .KE.AE...Q MYRL..T.S. I.....C..V ..KY.GVD...KE.L.P. 600
LchlA K.K.Y...A S.....R.....V. S.....LS.V. PQ.NE.R.K. .KI.SE...N MYRL..T.A. I.....C..V ..KY.GVD...KE.L.P. 600
Ler1A K.K.....A S.....R.....SQ STQ..L..VN SQ.NEEK.K. .L.A...S MYRH..T.E. I.....C..V ..KY.GMD...KE.L.P. 600
XtrlC K.K.....A S.....R.....V. SSQ..K..MN PQ.NEER.K. .L.AE...M .YRH..T.G. I.....C..V ..KY.GVD...KE.L.P. 600
Ler1C K.T.....S.....R.....V. T...T.LDG .HSNEE..N. .I.AKN..H ISRL...C. I.....C..V ..KY.GVS...QE.L.P. 600
CmilC K.K.....S.....R.....IQ SS.....HLASE..K. .HL.AKT..H ISRLS.A.C. I.....C..V ..KY.GVH...QE.L.P. 600
AcalC KKK.....A S.....R.....I. S.....K..M. PQD.SAR.H. .AE...N .YRQ..T.A. I.....C..V ..KY.G.D...RE.L.P. 600
LchlC K.K.....A S.....R.....S. S.A..K..V. AY.NAAR.K. .K.AE...Q MYRL..T.A. I.....C..V ..KY.GVD...NE.L.P. 600
Tr1A K.K.....A S.....R.....V. S.A...S.IR DE.TEER.R. LKK.AE...N .YRL..T.E. I.....C..V ..KY.GED...KE.L.P. 600
Tru1A K.K.....A S.....R.....M. S.A...S.IR DE.TEER.R. LKK.AE...N MYRL..T.E. I.....C..V ..KY.GEE.A...KE.L.P. 600
Oni1A K.K.....A S.....M.R.....T. T.A...V.G DE.REER.R. LKL.AE...N .YRL..T... I.....C..V ..KY.GED...KE.L.P. 600
Gac1A KKK.....A S.....R.....S. S.A...IK GE.RDE..R. LKQ.AE...N MYRL..I.E. I.....C..V ..KY.GED...KE.L.P. 600
DrelAa K.K.....A S.....R.....N. T.A..H..M. EA.REER.K. LKA.TE...N .Y.L..T.K. I.....C..L ..KY.GED...KE.L.P. 600
TfulA2 KKK.....A S.....R.....M. T.D...M. EQ.REEK.R. LKL.AE...E .YRM..T.K. I...I.C..V ..KY.GDD.A...KE.L.P. 600
DrelAb K.K.....A S.....R.....T. S.A...NS NH.RE.K.Q. LKN.AE...Q MYRL..T.H. I.....C..V ..LKY.GQD...KE.L.P. 600
TfulA1 K.K.....A S.....R.....I. TSA..K..VN NE.REKK.R. L.H.AGN..H MYQM..T.K. I.....C..V ..QY.QQD...KK.L.P. 600
OlalCa .T.....A S.....R.....N. SSA...L.N. GQPADV.RR. .G.SE...Q .YRM..T.A. I...I.C..V ..KY.G.E...KE.L.P. 600
OnilCb .T.....A S.....R.....N. SSA..I..L.G GEATDV.KC. .SE...L .YRL..T.A. I.....C..V ..KY.GVE...KE.L.P. 600
Ame1C .M.....A S.....R.....SS. S.A..K..F.N GEDVEV.RR. I.N.SE...M .YRL..T.A. I.....C..V ..KY.GIE...KEAL.P. 600
Gac1C Q.R.....A S.....K.....N. S.A...L.G GEDADV.RR. .HE.SE...Q .YRM..T.A. I.....C..V ..KY.QVE...KE.L.P. 600
Tru1C QKR.S...S.....R.....N. S.A..I..L.G GE.TDV.RR. .T.SE...R .CRM.ST.A. I.....C..V ..KY.GVE...KELE.A. 600
TrilC QKR.S...S.....R.....N. S.A..I..L.G GE.TDV.RR. .T.CE...R .CRM.ST.A. F.....C..V ..KY.GVE...KE.L.A. 600
OlalCb .S.....A S.....R.....SNQ S.A..K..L.G GEGAD..KR. .Q.SE...N .YRM..T.A. I.....C..V ..KY.GVD...KE.L.P. 600
OnilCa .SG.....A S.....R.....SN. S.A..K..L.S GE.EEE.RR. .QL.SE...N .YRM..T.A. I.....C..V ..KY.GVE...KE.L.P. 600
Gac_0 .G.....A S.....R.....SN. SSA...L.T. EAVD..RH. .L.SER..N .YRM..T.A. I.....C..V ..KY.GVD...KE.L.P. 600
TrilC .S.....A S.....R.....N. SAA..K..L.N GEDEES.RH. .L.SET..N .YRM..T.A. I.....C..V ..KY.GVD...KE.L.P. 600
DrelC .T.....A S.....R.....SN. S.A..L..L.G GEDRE..RK. L.KTAE...N .YRL..T.S. I.....C..V ..KY.GVE...KE.L.P. 600
DrelB K.E.....S.....M.R.....C. STA...DT.NE.R...KQ.AE...N MYRL..T.A. I.....C...KVMGID...K.L.P. 600
Oni1B QRV.....S.....M.RD.....S. .VA.....AA.NA.R...K.AE...N MYRL..T.S. I.....C...KY.GVD...K.L.P. 600
Gac1B Q.V.....S.....M.RD.....T. .VA.....EA.KA.R...K.AE...N MYRL..T.S. I.....C..L ..KY.GVD...KK.L.P. 600
OlalB Q.V.....S.....M.RD.....S. .VA.....VA.NA.R.S. .QK.AE...N MYRL..T.S. I.....C...KY.GAD...NK.L.P. 600
TrulB Q.L.....S.....M.RD.....S. .VA...K..S AS.NA.R...K.A...N MYRL..T.S. I...LC...I.KY.NVD...KK.L.P. 600
TrilB Q.L.....S.....M.RD.....S. .VE...S AA.NA.R...K.A...N MYRL..T.S. I...LC...KY.GVD.L...KK.L.P. 600
HsalB .K.....A S.....M.R.....STA.Q..ME GH.KADLRD. .QK.AK...N MYRL..T.A. I.....C..L ..KY.GVS...AE.L.P. 600
MmulB K.K.....A S.....M.R.....N. SAA..Q..MK GHKKQDLQD. .K.SE...N MYRL..T.A. I.....C...KY.GVS...AE.L.P. 600
Mdo1B K.K.....A S.....M.RD.....T. .TA..Q..M. SYMK.DLQD. .K.AE...L .YRL..T.A. I.....C..V ..KY.G.H...A.L.P. 600
ShalB K.N.....A S.....M.RD.....T. TTA...T.Y SYMK.DLQD. .K.AE...H .YRL..T.A. I.....C..V ..KY.G.H...A.L.P. 600
AcalB K.R.....A S.....R.....S. .TA...S.A. PCSSSER.E. .H.AE...H .YRL..T.S. L.....C..V ..Y.GVE...DK.L.P. 600
FpelB K.C.....A S.....R.....A. STA...S.G. A.VTERQR. .KL.A...H MYRL..T.A. I.....C..V ..Y.GI...A.L.P. 600
XtrlB K.H.....A S.....RD.....TQ TSD..K... PQSQEKR...Y.A.AEH..L MYRW..T.K. I.....C...KY.GTD.A...QK.L.P. 600
LchB K.A.....S.....RD.....N. T.A..Q..L. T...KER.S. .K.SE...Y .YRL..T.A. I.....C..V ..K.GVH...N.LA.P. 600
Dm A.R.S...A S.....R.....P..I. SSAW..K..QN PT.NDERVKM MQA.C.R..L GYQD..C.R. I.....C..V ..KY.EVD...NE.L.P. 600
ci K.R.S...A S.....R.....S. M.A.AKS... DF.NKDRY. LKK...R.IN GY.E..T... I...I.C..V ..KY.K.E...QK.LQ.P. 600

Hsa1C QLSTSQIPVQ MDDPYVSSGG GFGPADDHGY GVSYIFMGDG MITFHISKK SSTIT 655
Ssc1C ..A.....E.....T.ED T.....R. 655
MmulC L.....V...T.....H...I.....EN A.....E. 655
Hsa1A R.....T.Q. V..E.....VA.D...LV.EN L.N...F .CPE. 655
MmulA R.....T.Q. V.....C...VA.D...IV.EN F.H...F .PE. 655
Mdo1A R.....T.Q. VN.E.....VA.D...IV.EN L.N..V..F .PE. 655
GgalA R.....T.QH I..EML.....VA.D...ILDEN S.H..V..F .CSE. 655
FpelA R.....T.QH I..EML.C...VA.D...ILDEN S.H..V..I .CSE. 655
AcalA R.....T.QH I..GME.....VA.D...IV..N L.N..V..Y .CPE. 655
XtrlA R.....T.Q. VQ.EN.....VA.D...IV.EN L.N...F .PE. 655
LchlA R.....T.Q. V..E.....VA.D...LV.EN L.NL.V..L .LE. 655
Ler1A K.....T...K.....VA.D...MV.EN L.NM...F .PE. 655
XtrlC R.....T.I. V..E...C...VA.D...IV.EN L.N...F .HE. 655
Ler1C C.....T.I. I..E.I.I...VA.D...IV..H L.N...C.V .PL. 655
CmilC S.....T.L. V..E.I.C...VA.D...FIV.EN L.N...C.V .QY. 655
AcalC R.....T.I. L.....C...V..N...IV.ED L.N..V.C.V .PE. 655
LchlC R.....T.I. A..E...C...VA.D...IV.ED L.N...G.I .GLD. 655
Tr1A R.....T.L. L..E..T...VA.D...IL.EN L.N...R .PE. 655
Tru1A R.....T...V..E...VA.D...IV.EN L.N...R .PE. 655
Oni1A K.....T.L. V..E...VA.D...IL.EN H.N...R .PE. 655
Gac1A R.....T.L. V..E...A...VA.D...IL.EN L.N...H .PE. 655
DrelAa R.....T.L. .E..T...VA.D...IL.ED L.N...H .HE. 655
TfulA2 R.....T.L. I..E..T...VA.D...IL.ED L.N...Y .IE. 655
DrelAb R.....T.L. G..E..T...VA.D...A.VIV.EK L.N...R .PE. 655
TfulA1 R.....T.L. P..E...VA.D...A..IV.EN L.N...C.Y .PEA. 655
OlalCa R.....TSI. V..E.I.C...VA.D...N.I.EN V.N...C.H .CPS. 655
OnilCb R.....T.I. V..E...C...VA.D...CVL.EN .N...C.H .CPD. 655
Ame1C R.....T.F. L...ITC...VA.D...SLI.EK I.S..V..H .CPD. 655
Gac1C R.....T.L. V..E...C...VA.D...CAL.EK .L.S...TC.H .CPN. 655
Tru1C R..S.H..YM I..E.LCY...VT.D...C.LML.GD VL.L...C.N .CPD. 655

Tn1C	..AS.HV.HM	I..E.LCY..	....VT.G..	..C.LML.GD	VL.L.V.C.N	.CPA.	655
OlalCb	R.....T...	....F.L.L..	....VA.D..	.....IV.ED	..N..V...H	.CGE.	655
OnilCa	R.....T...	....FI.L..	....VA.D..	.....IV.ED	.VN..V...Y	.CSQ.	655
Gac_0	R.....T...	....FI.L..	....VA.D..	.....IV.ED	..N..V...H	.CSE.	655
TrilC	R.....T.I.	I.....L..	....VA.D..	.....IT.ED	..N..V...H	.CNQ.	655
Dre1C	R.....T...	....EFI.L..	....VA.D..	.....I..ED	..N..V.C.H	.CKE.	655
Dre1B	R.....T.Q.	L..K...A..	....VA.D..	.....IV.EN	L.....F	..PE.	655
OnilB	K.....T.Q.	L..K..GG..	....VA.D..	.....IV.EN	L.....F	..PD.	655
Gac1B	R.....T.Q.	L..K...A..	....VA.D..	.....IV.EN	L.....F	..PD.	655
OlalB	R.....T.Q.	L..K..GA..	....VA.D..	.....IV.EN	L.....F	..PN.	655
Tru1B	R.....T.Q.	L..K..GA..	....VA.D..	.....IV.EN	L.....F	.CPH.	655
Tn1B	R.....T.Q.	L..K..GA..	....VA.D..	.....II.EN	L.....F	.CPH.	655
HsalB	R.....Q.	I..NHLGA..	....VA.D..	....MIA.EN	T.F.....F	..SE.	655
MmulB	S.....Q.	I..NHLGA..	....VA.D..	....MIA.EN	TMF.....Y	..SE.	655
MdolB	R.....AQ.	I..NHIAA..	....VA.D..	....MIA.EN	T.F..V...F	..SE.	655
ShalB	R.....TAQ.	I..NHLAA..	....VA.D..	....MIA.EN	T.F.....F	..SE.	655
AcalB	R.....T.Q.	I..ECA.....	....VA.D..	.....IA.EN	LV...V...F	..PE.	655
FpelB	R.....T.Q.	L...H.....	....VA.D..	.....IA.EN	L...V...F	..SE.	655
XtrlB	R.....T.Q.	L...H...A..	....VA.D..	.....A.EN	L..L.....F	..PE.	655
LchB	A.....T.Q.	TN.....	....VAED..	.....IV.ED	L.....Y	..PE.	655
Dm	R.....T.H.	T..NCI.A..	....VA.D..	.....IA.EN	L.F....A.T	TCQQ.	655
ci	R.....T.H.	A..NFL.G..	....VA.D..	.....ICHEN	L.M..V...Y	..SE.	655