

1

▼ 22

LmxMPK4	~~~~~	~~~~~	~~~~~MT	QLVPLAELPS	GKKIYSVRGQ
TbMPK2	~~~~~	~~~~~	~~~~~MD	IPQE..CPTE	DRRL.V....
TcMPK	~~~~~	~~~~~	~~~~~MD	KPQEV.T.AE	.RRL.L.Q..
CrMPK	MADPGAQVPV	APQSAEEPVT	GGLQESVEV.	ASGK.DSYNR	EYNQFL.C.S
DdERK1	~~~~~	~~~~~	~~~~~MPPP	PTSDTSNFND	NISYF-.Y.S
HsERK2	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~M....

23

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72

LmxMPK4	RFEVDRQYDL	VKVVGFGACG	TVCSAVVNGS	GERVAIKRLS	RVFGDLREGK
TbMPK2	T...G.SHK.	..FI.S.SY.	S.....DED.	.....IQ	...S..K...
TcMPK	...AKS.K.	I.L..C..Y.	S.....DIE..	.D.....KV.	...A.IK...
CrMPK	L..CPAK.LP	I.PI.K..Y.	V....KNLDN	Q.K....KIA	NA.DNVIDA.
DdERK1	Q.T.P.R.SI	..CI.H..Y.	VA...KD.LT	..K....KI.	KA.DN.KDT.
HsERK2	V.D.GPR.TN	LSYI.E..Y.	M....YD.VN	KV.....KI.	-P.EHQTYCQ

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II

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122

LmxMPK4	RILREMEIMT	SLKHNNLIRL	HHFMRPQSKE	TFEDIYLVMD	LYDSDLNRRI
TbMPK2	.....D.L.	..H.T..V.	RQ.I..VR.D	D.S...I...	.....H...
TcMPK	.....D.L.	T.H.T.....	RN.I..YG.D	D.D...M...	.....H...
CrMPK	.T...IKLLR	H.Q.E.IVQI	KDIIP.TNRD	A.K.L.V.YE	.M....HQ..
DdERK1	.T...IHLLR	HF..E...SI	KDILK.N...	Q...Y.I.SE	.M....HQ..
HsERK2	.T...IK.LL	RFR.E..I.GI	NDII.APTI.	QMK.V.I.Q.	.ME...YKLL

III

IV

V

123

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172

LmxMPK4	RSRQKLTDEH	LQYFMIQAFR	GLHYLHSAKV	MHRDLKPSNL	LVNADCALAI
TbMPK2	...S..N..	Y..L.....	..F..T..	I.....	.....T..
TcMPK	.....N..	Y.....	..C...G..	.....	.....
CrMPK	..P.A.SND.	S...LY.LL.	..K.I...NI	L.....	...N.D.K.
DdERK1	T.P.P.S.D.	C...VY.ML.	..KHI...N.	L.....	..I.E..L.K.
HsERK2	KT-.H.SND.	IC...LY.LL.	..K.I...N.	L.....	..L.TT.D.K.

VIa

VIb

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220

LmxMPK4	CDFGLARDDQ	VM--SSSDLT	QYVVTRWYRP	PEVLGMGSNQ	YTSAVDVWSL
TbMPK2	.....	CT--QT.A..	E.....	.....HR	..N.....
TcMPK	.....	WT--V.DA..	E.....	.....H.	..N.....
CrMPK	.....TST	SN--EREFM.	E.....A	..L.-LSCSG	..T.I...V
DdERK1	..L.....VED	AT--HQGFM.	E.A....A	..I-LSW.K	..K.I.I..V
HsERK2	.....VAD	PDHDHTGF..	E.A....A	..IM-LN.KG	..KSI.I..V

VII

VIII

IX

221

267

LmxMPK4	GLIFAEIMVG	RALLPGTDYI	GQIVMIVNLL	GSPSIDMEF	LSSE-AKAFI
TbMPK2	.....	KT....S...	H..I...H..	.T.ASE....	..E.-.N.L
TcMPK	.....	KT....P...	R..I..LH..	.T.TVE....	..D.-.RN.L
CrMPK	.C.....LGR	KP.F..K..V	H..SL.TKVI	...EELG.	IT..K..RY.
DdERK1	.C.....LGR	KP.FQ.K...	H.ITL.IETI	...EE.ICN	IAN.Q.RQ..
HsERK2	.C.L..MLSN	.PIF..KH.L	D..NH.LGI.	...QE.LNC	IINLK.RNYL

X

268

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318

LmxMPK4	LSQ--PHRPA	LSFRDLFPMA	TEEATDLLSK	LLVFHPARRL	TAKQVMEHPY
TbMPK2	.A.--.FQE.	RP.TE...A.	.P.A.....	.....DK..	...E.I..A.
TcMPK	CA.--.PQKT	RP.TEI...	.P.A.....	.....K..	...E.V....
CrMPK	R.--.RSER	VD.GQ.W.HV	.KT.L..ID.	M...D.TK.I	.VE.AL....
DdERK1	R..NMGNQ.K	VN.ANM..K.	NPD.I...ER	M.Y.D.SK..	.VEEALA...
HsERK2	..L--..KNK	VPWNR...N.	DSK.L...D.	M.T.N.HK.I	EVE.ALA...

XI

▼320

363

LmxMPK4	FSKYRDAEEE	ADAPDPFVWN	-HSHIETKEQ	LREDLWR-VV	EAHSQ <sup>U</sup> LNE
TbMPK2	.A.F.NP.A.	TG.KE.Y..R	-.NEGL.L.G	...EM.-II	L...PGPKGD
TcMPK	.A.F.NST..	PAPNE.Y..R	-.NEEL.P.S	..DEM.-II	VT..PEP
CrMPK	LASLH.VSD.	PVC.T..TFD	FD.EHL.PDV	V..VILQDMA	.L.T
DdERK1	.QSLH.PSD.	PICLHK.SL	FEAWDLNRDL	.K.LIYNEML	AY.PE (50)
HsERK2	LEQ.Y.PSD.	PI.EA..KFD	MELDDL <sup>U</sup> P..K	.K.LIFEETA	RFQPGYRS