

Tos3 11 ..LPRSSLLYNNASNSSSRRIKETRKVKLLYNPLTKR.....Q...ILNNFEILATLGNQG
Pak1 94 ..TPTTTSSFCSSGSSSKNKVKETNRISLTYDPVSKR.....K...VLNTYEI IKELGHGQ
CaMKKβ 121 CICPSLPYSPVSSPQSSPRLPRRPVESHHSVITGM.....QDCVQLNQYTLKDEIGKGS
LKB1 7 QQLGMFTTEGELMSVGMDFTHRIDSTEVIYQP..RR.....KRAKLI GKYLMDLLGEGS
Elm1 39 TSSFSSFSQQKPTYSTIIGENIHITLDEIRPYVKKITVSDQDKKTINQYTLGVSAGSGQ
Consensus 121 p ss s s ss rik tv l y pltkr q ilnny i lG Gq

Tos3 61 YGKVKLARDLGTGALVAIKILNRFEKRS....GYSL.....QLKV.EN.....
Pak1 144 HGKVKLARDILSKQLVAIKIVDRHEKKQRKFFTFIK.....SSKISEN.....
CaMKKβ 176 YGVVKLAYNENDNTYYAMKVLSK..KKLIRQAGFPR.....RPPPRGTRPAPGGCIQP
LKB1 60 YGKVKEVLDSETLCRRRAVKILKK..KKLRR.....I
Elm1 99 FGVVRKAYSSTLGGVAVKIIIPKPKPNAQQYSVNQVMRQIQLWKS KGIITNMSGNEAMR
Consensus 181 yGkVkla d t lvAiKil k kk k y k

Tos3 99PRVNQEI EVMKRCHHE.NVVELYEILNDPESTKVYL VLEYCSRGPVKWC PENKMEI
Pak1 187DKIKREI AIMKKCHHK.HVVQLIEVLDD LKSRKIYLVLEYCSRGEV KWCPPDCMES
CaMKKβ 227 RGP I E Q V Y Q E I A I L K K L D H P . N V V K L V E V L D D P N E D H L Y M V F E L V N Q G P V M E V
LKB1 89 PNGEANVKK E I Q L L R R L R H K . N V I Q L V D V L Y N E E K Q K M Y M V M E Y C V C G M Q E M . L
Elm1 159 LMNIEKCRWEI FAASRLRNNVHIVRLIECLDSPFSES I W I V T N W C S L G E L Q W K R D D E D I
Consensus 241 drvk EI vmkrlhh nvv LievLddp s kvylVleycs g v wc mei

Tos3 154 .KAVGPSILTFQQ....SRKVLDVVS GLEYLHSQGI THRD IKPSNLLISNGTV .KISD
Pak1 242 .DAKGPSLLSFQE....TREILRGVVL GLEYLHYQGI IHRDIK PANLLISGDGTV .KISD
CaMKKβ 279 .PTLKP..LSEDQ....ARFYFQDLIKGIEYLHYQKIIHRDIKPSNLLVGEDGHI .KIAD
LKB1 141 .DSVPEKRFVVCQ....AHGYFCQLIDGLEYLHSQGI VHKDIKPNLLLTGGTL .KISD
Elm1 219 LPQWKKI V I S N C S V S T F A K K I L E D M T K G L E Y L H S Q G C I H R D I K P S N I L L D E E K V A K L S D
Consensus 301 v p ils q ar vv dvv GLEYLHsQgiiHrDIKPsNllis dgtv KisD

Tos3 208 FG..VAM.STATGSTNIQSSHEQLLKSRALGTPAFFAPEL CSTEKEY.....
Pak1 296 FG..VSLAASSTNSSDSSESLDELELAKTVGTPAFFAPEMCLGEDAFTRYNLTKENLFRG
CaMKKβ 331 FG..V.....SNEFKGS..DALLSNTVGT PAFMAPELS.....ETRKIFSG
LKB1 195 LG..VAEALHPFAADDTCRTSQ.....GSPAFQPEIANGLDTF S.....
Elm1 279 FGSCI FTPQS L P F S D A N F E D C F Q R E L N K I V G T P A F I A P E L C H L G N S K R D F V T D
Consensus 361 fG v t s d s l r vGtPAF aPElc y

Tos3 252 SC.SSAIDIWSLGV TIYCLLFGKLPFNANSGLELFD SIINKPLEFP SYEMLNGATSGIT
Pak1 354 SCISFMIDIWAVGVTLYCLLFGMLPFFSDFELKLF EKIVNDPLKFP TFKEIQSNKVS KVS
CaMKKβ 369 K...ALDVWAMGVTLYCFVFGQCPFMDERIMCLHSKIKSQALEFPDQPDIA.....
LKB1 233 ...GFKVDIWSAGVTLYNITGLYPFEGDN IYKLFENI GKGSYAI P.....
Elm1 332 ...GFKLDIWSLGV TIYCLLYNE L P F F G E N E F E T Y H K I I E V S L S S K I N G N T L N D L V I K R L
Consensus 421 f iDiWslGV TIYcllfg lPF ad l lfdkIi l fp em

Tos3 311 M.EEYT...DAKD L L K K L L Q K D P D K R I K L A D I K V H P F M C H Y G K S D A A S V L T N
Pak1 414 CEEYE...MAKD L L L K L L E K N P Q K R M T I P A I K K H P F V S . W D F D H V P E N D E K L L S S V
CaMKKβ 417E...DLKD L I T R M L D K N P E S R I V V P E I K L H P W V T R H G A E P L P S E D E N C T L V E V T E
LKB1 276 .GDCGP...PLSDLLKGMLE YEP AKRFSIRQIRQHSWFRK..KHPPAEAPVPIPPSPDT
Elm1 389 LEKDVTLRISIQDLVKVLSRDQP IDSRNHSQISSSS.VNPVRNEGPVRRFFGRLLTKK GK
Consensus 481 ee lkDlkkllleknP kri l Ik hpfv dh p d vl t

Tos3 359 LETFHELKVSPP.....SSCKRVELVSLPVNS SFASLDSVYMENFDHNNLRTGADRNS
Pak1 467 LE..QK L R F Q C N Q T D Q F E . P I S I S K H E L K N A V S G V G K K I K E S V
CaMKKβ 469 EEVENSVKHIPSLATVILVKT MIRKRSFGNPFEGSRREERSLSAPGNLLTKQG SEDNLQG
LKB1 329 KDRWRSMTVVPYLEDLHGADEDEDLFDIEDDI IYTDQDF TVPGQVPEEEASHNGQRRGLPK
Elm1 448 KKTSGKGKDKVLVSATSKVTPSIHIDE EPDKECFSTT V L R S S P D S S D Y C S S L G E E A I Q V T
Consensus 541 e lk p l rve pv s lks s lg