

1 10 20 30 40 50 60  
Consensus MRAVKMAWVPYVPLEDRSTLKHLETERVRKFDYCMPIYMP LQPI EDEDDTIIISFVYPREPPIVGEFDWQ  
PgIPK1\_284  
PgIPK1\_475 MRAVKMAWVPYVPLEDRSTLKHLETERVRKFDYCMPIYMP LQPI EDEDDTIIISFVYPREPPIVGEFDWQ  
SiIPK1  
ZmIPK1\_299  
BradIPK1  
OsIPK1  
GmIPK1  
PvIPK1b  
PvIPK1a  
AthIPK1

70 80 90 100 110 120 130  
Consensus RVSYKDYADELQDLPEDEKERFKDFLKEKVRERKRELOQAKEVRKKAIDDMDPTMKEVFESIRFYKFYP  
PgIPK1\_284  
PgIPK1\_475 RVSYKDYADELQDLPEDEKERFKDFLKEKVRERKRELOQAKEVRKKAIDDMDPTMKEVFESIRFYKFYP  
SiIPK1  
ZmIPK1\_299  
BradIPK1  
OsIPK1  
GmIPK1  
PvIPK1b  
PvIPK1a  
AthIPK1

140 150 160 170 180 190 200  
Consensus VTTPTDPNVNSVKQQLLVPMEVEGVLQEGDAKDWVYKGE GAANLILSYTGSSPSMLGKVLRVKKXLKDK  
PgIPK1\_284  
PgIPK1\_475 VTTPTDPNVNSVKQQLLVPMEVEGVLQAGDAEDWVYKGE GAANLILSYTGSSPSMLGKVLRVKKVLNDK  
SiIPK1  
ZmIPK1\_299  
BradIPK1  
OsIPK1  
GmIPK1  
PvIPK1b  
PvIPK1a  
AthIPK1

210 220 230 240 250 260 270  
Consensus ---SQPAPNCMVFSSEQLLWGHIPELVSSVKQDCLAQAYVMHVMSPHLGNHVDGGVRVXVSRDFLE  
PgIPK1\_284  
PgIPK1\_475 ---SQPAPTICMVFSSEQLLWGHIPELVD SVKQDCVAQAYVMHVMSKHLGNHVDGGVRVGVSRDFLE  
SiIPK1  
ZmIPK1\_299  
BradIPK1  
OsIPK1  
GmIPK1  
PvIPK1b  
PvIPK1a  
AthIPK1

280 290 300 310 320 330 340  
Consensus LVEKNVLDXRP AWRVNASSIDNTADAXALLISDHSLFS -GNPRGSSCIAVEIKAKCGFLPSSEYISKENS  
PgIPK1\_284  
PgIPK1\_475 LVEKNVLD SRPAWRVNASSIDNTADAALLIADHSLFS -GNPRGN SCIAVEIKAKCGFLPSSEYISKENS  
SiIPK1  
ZmIPK1\_299  
BradIPK1  
OsIPK1  
GmIPK1  
PvIPK1b  
PvIPK1a  
AthIPK1

350 360 370 380 390 400 410

Consensus I KKQVTRYKMHQHLKFFHQGEISXTSEYNPLDLFSGSKERICXAIKSFSTPQNNFRVFNGLSLVFGGMG

PgIIPK1\_284 I KKQVTRYKMHQHLKFFHQGEISITSEYNPLDLFSGSKERICIAIKSFSTPQNNFRVFNGLSLVFGGMG

PgIIPK1\_475 I KKQVTRYKMHQHLKFFHQGEISITSEYNPLDLFSGSKERICIAIKSFSTPQNNFRVFNGLSLVFGGMG

SiIPK1 I KKQVTRYKMHQHLKFFHQGEISSTPSEYNPLDLFSGSKERICIAIKSFSTPQNNFRVFNGLSLVFGGMG

ZmIPK1\_299 I KKQVTRYKMHQHLKFFHQGEISKSTSEYNPLDLFSGSKERICMAIKSLFSTPQNNLRIFVFNGLSLVFGGMG

BradIPK1 I KKQVTRYKMHQHLKFFHQGEVSKTSEYDPLDLFSGSKERICHTAIKSFSTPQNNFRIFVFNGLSLVFGGMG

OslIPK1 I KKQVTRYKMHQHLKFFHLGGEISKSTSEYDPLDLFSGSKERICHTMAIKSFSTPQNNFRIFVDGSLVFGGMG

GmlIPK1 I KRRITRFEMHQTLKLLQGEISQLSEYNPLDLFSGSKERICLKAIKGLLTPQNNFRVFNGLSLVFGGLG

PvIPK1b I KRRITRFEMHQTLKFLQGEISRLSEYNPLDLFSGSKERICKKAIKGLLTPQNNFRVFNGLSLVFGGLG

PvIPK1a VKRTITRFQMHQVLKLLQGEISLSEYNPLDLFSGSKERICTFKAIKGLLTPQNNFRVFNGLSLVFGGLG

AthIPK1 LKTSVSRFKMHQHLKLLQGEISSEYDPLDLFSGSKERICSVLEAIKALYSTPQNNFRVFNGLSLVFGGLG

420 430 440 450 460 470 480

Consensus GGADNVHPAETKKCLEDLISKVS --- GLXLPDFIELLSEAFKSGVLXKLLATQKLDHDIIEGAIHLYY

PgIIPK1\_284 GGADNVHPAERNKCLEDLISKVS --- GLXLPDFIELLSEAFKSGVLGKLLTQKLDHDIIEGAIHLYY

PgIIPK1\_475 GGADNVHPAERNKCLEDLISKVS --- GLXLPDFIELLSEAFKSGVLGKLLTQKLDHDIIEGAIHLYY

SiIPK1 GGADNVHPAETDKCLQDLISKVS --- GLXLPDFIELLSEAFKSGVLGKLLTQKLDHDIIEGAIHLYY

ZmIPK1\_299 GGADSVHPADTKCLEDLISKIS --- GLXLPDFIELLSEAFKSGVLEVLGNLLATQKLDHDIIEGAIHLYY

BradIPK1 GGADKVPNETKCLEDLISKVS --- GLXLPDFIELLSEAFKSGVLDKLLATQKLDHDIIEGAIHLYY

OslIPK1 GGADSVHPNETKCLEDLISKVT --- GLXLPDFIELLSEAFKSGVLGKLLATQKLDHDIIEGAIHLYY

GmlIPK1 GMAKNTDVCIKAFEDELKSIIRADDDLCTNNLSTLVTEALQKSGVLDKLLKVKQLDNDIEGVIHAYY

PvIPK1b GMAKNTDICIAKAFEDELKSFQVDDVLRRTENLFTLVTEALQKSGVLDKLLKVKQLDNDIEGVIHAYY

PvIPK1a GGAQNTNICIAKAFEDALKSVIRSDDGLRRTENLFTLVTEAVQKSGVLDKLLKVKQLDNDIEGVIHAYY

AthIPK1 ESTGRTPSEIYGAFEDALKGFIQSEDHRTCEFLQVSDAVYSGVLDKLLKVKQLDNDIEGAIHAYY

490 500 510 520 530 540 550

Consensus NIIISQPCLVCKXLTDAELLRKYTXLHSLPLDKSLKIVRDFLISATAKDCSLMISFRPRESGXTDSEYDS

PgIIPK1\_284 NIIISQPCLVCKKVTDAAELLRKYTLHSLPLDKSLKIVRDFLVSATAKDCSLMISFRPRESGTDTSEYDS

PgIIPK1\_475 NIIISQPCLVCKKVTDAAELLRKYTLHSLPLDKSLKIVRDFLVSATAKDCSLMISFRPRESGTDTSEYDS

SiIPK1 SIIISQPCLVCKNVTDAAELLRKYTLHSLPLDKSLKIVRDFLVSATAKDCSLMISFRPRESGTADSEYDS

ZmIPK1\_299 NIIISQPCLVCKNLTDMVELLRKYTLHSLPLDKSLKIVRDFLISATAKDCSLMISFRPRENGSTDTSEYDS

BradIPK1 NIIISQPCLVCKNI SDAELLRKYAVLHSLPLDKSCKIIRDFLISATAKDCSLMISFRPRECEKTDSEYDS

OslIPK1 NIIISQPCLVCKSITDTELLRKYSTLHSLPLDKSEKIVRDFLISATAKDCSLMISFRPRECSGTDTSEYDS

GmlIPK1 NIIISQPCMVCKEIS-EEQAKIYTPLHSAFLDESRLRIVKDYLIATTAATKDCSLMLCFRPRNEEDSGSVYDN

PvIPK1b NIIISQPCMVCKEIS-EEQAKTYASLHSAFLDESRLRIVKDYLIATAATKDCSLMLCFRPRNEEDSGSVYNN

PvIPK1a DIIHQQCMI CKHLS-ABQLKRYTSLHSAFLDESRLRIVKDYLIATAATKDCSFMICFRPRKEGDSGVSVCNS

AthIPK1 DLIHQPCPICKLEG---KPLAEELSLHALPLDES LKIVKEYLIATAATKDCS IMISFQSRNAWDS E P S G D Y

560 570 580 590 600 610 620

Consensus VFLDSVKQTYDYKAYFIDLVDKPLDKMEHYFKLDQKIVNFYXRNX - MVXGLKXS - XKGASXIXLQOXXX

PgIIPK1\_284 VFLDSVKQTYEYKANFIDLVDKPLDKMEHYFKLDQKIVNFYSRNE - IVP SLKSS - TKDASLIPLQO

PgIIPK1\_475 VFLDSVKQTYEYKANFIDLVDKPLDKMEHYFKLDQKIVNFYSRNE - IVP SLKSS - TKDASLIPLQO

SiIPK1 VFLDSVKQTYEYKANFIDLVDKPLDKMEHYFKLDQKIVNFYSRNEELVP SLKGSNTK DASLIPLQO

ZmIPK1\_299 VFLDSVKRTYEYKAYFLDLVDKPLDKMEHYFKLDQKIVNFYTRNG --- GGLAIS - KGQ\*

BradIPK1 VFLDSVNR IYDYKANFVDLVDKPLDKMMEHYFKLDQKIVNFYTKHG - EVGR IACDSSKGGSTDTKVPQ

OslIPK1 VFLDSVNC SYDYKAYFIDLVDKPLDKMMEHYFKLDQKIVNFYTRNG - EVGGDPRDPPKGCGR

GmlIPK1 VYLDSTEQSF DYKVFIDL DLKRLSKV EDY YELDKKIVNCRYQ I I KMDQGRNEETGLKASNAAY\*

PvIPK1b VYLDSTEKQAFHF KYVFIDL DLKRLSKL KDY YELDKKIVSR YRQ I KMDQARNE --- GLKACNASACYRDC

PvIPK1a VYLHSTKQTFDFKVFIDL DLKRLSKME EY YELDKKIVS CYKEMVKMDRGRD --- LRICKHHKLRT

AthIPK1 VSLKPTNQTFDYKVH FIDL SLKPLKRMESY YKLDKII ISEYNRKQKAENTAEQ --- IGN SKPSHS

630 640 651

Consensus XXXAVVADQTA AVTILKSPFQERHGGVLER

PgIIPK1\_284

PgIIPK1\_475

SiIPK1

ZmIPK1\_299

BradIPK1 QH\*

OslIPK1

GmlIPK1

PvIPK1b CSGAVVADQTA AVTILKSPFQERHGGVLER

PvIPK1a

AthIPK1