

>GmPERK1

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WFSYEELIKATNGFSTQNLGEGGFVYKGLPDGREIAVKQLKIGGGQGEREFKAEVEIISR  
IHHRHLVSLVGYCIEDNKRLLVYDYVPNNLTLYFHLHGEGQPVLEWANRVKIAAGAARGLTLYLHE  
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EKSDVYSFGVLLLELITGRKPVDAQPLGDESLVEWARPLLSHALDTEEFDSLADPRLEKNYVE  
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>GmPERK2

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MGPGGGGWGAPPPPPMMMSAEFSSNYSTGPAPLPPPSPNLALGLKGGTFTYEELA  
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LAYLHEDCHPRIIHRDIKAANVLIDDSFEAKVADFGGLAKLTDDNTHVSTRVMGTFG  
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EEDGNFGELVDAFLEGNYDPQELSRMAACAAGSIRHSAKKRPKMSQIVRILEGDVSL  
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SQKQQL\*

>GmPERK3

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APTSNSTPRSSPPSPSTTNLAPPPPSRVLSPLSPAQNGTKNPSPDGGGDGIGTGGVVAISV  
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VYTPSDPGGLGNSRSWFSEYELIKVTNGFSTQNLGEGGFVYKGLPDGRDIAVKQLKIGGG  
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>GmPERK4

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ELAAATKGFANENIIGQGGFGYVHKGILPNGKEVAVKSLKAGSGQGEREFQAEIDIISR VHHRH  
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FSFGVMLELITGKR PVDLTNAMEDSLVDWARPLL NKGLEDGNFGELVDPFLEGKYNPQEMTRM  
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YNADMIKFRQAIMSSQEFNDSSSELSSKEMGYH\*

>GmPERK5

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YEAQVADFG LARLTDDSNTHVSTRVMGTFGYMAPEYATSGKLTDRSDVFSFGVVLLELITGRKP  
VDPMQPIGEESLVEWARPLLLRAVETGDFGELVDPRLERQYADTEMFRMIETAAACVRHSAPKR  
PRMVQVARSLDSGDQQYDLSNGVKYQSTIYDSGQYNEDITIFKRMVNGSFDDSEFDMDSTTDY  
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>GmPERK6

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VPPPFMTPTLVTLPWF PALQSSAPEVNLPSTTRSGSLPVAVNVQKPSIFHVSSGLIVGFVIGAI  
VFVFVFTVGSVLRWNRKKNKHKNLSTPHWSHVIRVPSNPKLPPRPLTEGGGASC SFNSVSVKAI  
PNNAPRGAFGPVNGIFTYDELLLATKCFSES NLLGEGGFGYVYKGVLP CGKEIAVKQLKSGSQQ  
GEREFQAEVATINRVH HKHLVEFVGYS DTRAERLLVYEFVPNNTLEFHLHG NPAI IHRDIKASN  
ILLDFKFEPKVSDFGLAKIFPNNDSCISHLTTRVMGTFGYLAPEYASSGKLTDKSDLYSYGIML  
LELITGRPPITTAGSRNESLIDWARPLLAQALQDGD FDNLVDPR LWKSYEADEMERMITCAAAC  
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>GmPERK7

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SSGGSGSNYS GGEFLPPSPGIALGFSKSTFTYEELARATDGFSDANLLGQGGFGYVHRGILPN  
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HGRGRPTMDWPTRLRIALGSAKGLAYLHEDCHPKI IHRDIKAANILLDFKF EAKVADFG LAKFS  
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WARPLLTRALEEDDFDSIIDPRLQNDYDPNEMARVASAAACIRHSAKRRPRMSQVVRAL EGDV  
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>GmPERK8

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PPPPSSPPPPPPSSPPPPSSPAPPQSVPLRNNGNPSPPPPYPRKQSP PQFHAPPPSSSLPR  
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LGASFDSAQFKSAQIVFTYEMVMEMTNAFSTQNVIGEGGFGCVYKGWLPDGKAVAVKQLKAGGR  
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KIAIGAAGLAYLHEDCCQKI IHRDIKSANILLDNAYEAQVADFG LARLADASNTHVSTRVMGT  
FGYMAPEYATSGKLTDRSDVFSFGVVLLELV TGRKPVDQTQPLGDESLVEWARPLLLRAIETRD  
FSDLIDPRLKKHFVENEMLRMVEVAAACVRHSAPRRPRMVQVVRSLDCGDESSDL SNGVKYGHS  
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LSTCIGPVLNENRD\*

>GmPERK9

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SGSDFVYSPSEPGGVSSSRSWFTYEELIQATNGFSAQNLLGEGGFGCVYKGLLIDGR  
EVAVKQLKVG GGQGEREFRAEVEIISRVHHRHLVSLVG YCISEHQRLLVYDYVPNDT  
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ARVSDFG LAKLALDSNTHVTTRVMGTFGYMAPEYATSGKLTEKSDVYSFGVVLLELI  
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>GmPERK10

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SVLLILVIVCVVCNRKKKKKNTNTWNHNNYNSGQHPSYYGGPHGDHVVRMQQNGMG  
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TNGFNDANLIGQGGFGYVHKGVLPSPGKEVAVKSLKAGSGQGEREFQAEIDIISRHH  
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YLHEDCHPRIIHRDIKAANVLIDDSFEAKVADFGLAKLTDDNTHVSTRVMGTFGYL  
APEYASSGKLTEKSDVFSFGVMLLELITGKRVPDHTNAMDDSLVDWARPLLTRGLEE  
DGNFGEVLDAFLEGNYDAQELSRMAACAAGSIRHSAKKRPMKMSQIVRILEGDSVSLDD  
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KQQR\*

>GmPERK11

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APTSNSTPRSSPPSPSTTNLAPPPPSRVLSPLPSPAQNGTKNPSPDGGDGIGTGGVVAISV  
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VYTPSDPGGLGNSRSWFSEELIKVTNGFSTQNLLEGGGFGCVYKGCLPDGRDIAVKQLKIGGG  
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KIAAGAARGLAYLHEDCNPRIIHRDIKSSNILLDFNFEAKVSDFGGLAKLALDANTHITTRVMGT  
FGYMAPEYASSGKLTEKSDVYSFGVVLLELITGKRVPDASQPLGDESLVEWARPLLSHALDTEE  
FDSLADPRLEKNYVESELYCMIEVAAACVRHSAKRPRMGQVVRAFDSLGGSDLTNGMRLGESQ  
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>GmPERK12

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GVGFVLLVLVIVCFIWRCKKKKRKQKYYPDPSPQKASNYYNNGQHPLPSWQAGSGP  
HGGDHVMRVQQQGMGMGMGMGMGMGMGPHSGGWGAPPHPMSSGEMSSNYSLGMSS  
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GKGMPMDWPTRMRIAALGSAKGLAYLHEDCSPRIIHRDIKASNVLLDQSFEAKVSDF  
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>GmPERK13

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STPPQKQSPPKTTPSHASPPSVSESPPKPPSSDVHPPSTLPSDTSGSSPPATLPDP

TNTTAAQGPTVSLPSLPTEKPTARPTNDGTNSMSSNNTPSHSGGLSTGGSVAIGIVV  
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SGSDFVYSPSEPGGVSSSRSWFTYEELIQATNGFSAQNLLGEGGFGCVYKGLLIDGR  
EVAVKQLKVGGGQGEREFRAEVEIISRVRHRLVSLVGYCISEHQRLLVYDYVPNDT  
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ARVSDFGLAKLALDSNTHVTTRVMGTFGYMAPEYATSGKLTEKSDVYSFGVVLELI  
TGRKPVDASQPIGDESLVEWARPLLTEALDNEDFEILVDPRLGKNYDRNEMFRMIEA  
AAACVRHSSVKRPRMSQVVRALDSLDEFTDLNNGMKPGQSSVFDSAQQSAQIRMFR  
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>GmPERK14

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SHTNSTGSSPNQTSSGDNNGKYVGYTLAGIFAVALVAVAVLVFVFKKKKSRDAYTTPYMPFF  
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FSTQNVIGEGGFGCVYKGWLPDGTAVKQLKAGSGQGEREFKAEVEIISRVRHRLVALVGYC  
ICEQQRILIEYVYPNGTLHHHLHESGMPVLDWAKRLKIAIGAAGLAYLHEDCSQKIHRDIKS  
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VRHSALRRPRMVQVVRALDCGDESSDISNGMKYGHSTVYDSGQYDKAIMLFRRMANGNFDDSD  
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>GmPERK15

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IWRCKKKKRKQKYYPDPSPQKASNYNSGQHPLPSWQAGSGPHGGDHVMRVQQQGMGMGMGM  
GMGMGMGPHSGGWGAPPHPMSSSGEMSSNYSLGMSSSSPGLSLALNANGGTFTYEELAAATKGF  
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>GmPERK16

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PTTIPPPSRPISPSPPPPANFRPPTTRTPPEKENPPKTTPSHASPPSVSETPPKPP  
SSDVPPPSTLPSTPPSDPSGSSPPASLPDPPTNKTVVGGPKVSLPSLPTEKPTARPT  
NDGTNSMSSNNTPSHSGGLSTGGSVAIGIVVGFIVLSLLVMVWFAQKKKKKGTGSR  
GSYAAPSFTSSHNSGTLFLRPQSPANFLGSGSGSDFVYSPSEPGGVSSSRSWFTYE  
ELIQATNGFSAQNLLGEGGFGCVYKGLLIDGREVAVKQLKIGGGQGEREFRAEVEII

SRVHHRHLVSLVGYCISEHQRLLVYDYVPNDTLHYHLHGENRPVLDWPTRVKVAAGA  
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TFGYMAPEYATSGKLTEKSDVYSFGVVLELITGRKPVDASQPIGDESLVEWARPLL  
TEALDNEDFEILVDPRLGKNYDRNEMFRMIEAAAACVRHSSVKRPRMSQVVRALDSL  
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PTTVFSQNK TG HGNV\*

>GmPERK17

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VAPSPPTPTATFPFALPEMPPATAATVTVPSPPQHPPFMTEPTLATPWFALPASAP  
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GHPPITTAGSRNESLVDWARPLLAQALQDGDNDLVDPRLQKSYEADMERMITCAA  
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>GmPERK18

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>GmPERK19

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>GmPERK20

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>GmPERK21

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