

Additional file 4: Multiple sequence alignment of the 53 eukaryotic Gcn1 sequences generated using PROMALS3D and exported in ClustalW format

CLUSTAL W 2.0 multiple sequence alignment

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GCN1_YEAST      M---TAILNWEDI-----SPVLEKGTRESHVSKRVPFLOD 55
GCN1_SCHPO     MSVEEPGIEAHGH-----KDRMLYAMLLSKDTSLAFLGSKKIMIDI
GCN1_DICDI     MNEENPSSSIILDDQ-----QQQDSFYSEIKELEKSIQSNKLSERKNTLTR
GCN1_MOUSE     MAA-----DTQVSETLKRFAVKVTTASVKERREILSE
GCN1_HUMAN     MAA-----DTQVSETLKRFAAGVTTASVKERREILSE
M7ANV9_CHEMY   M-----
H8X4E7_CANO9   M---SEIVEWEQL-----RPVYEKGVKSSSLKDRSLTLKS
W6A2P0 ICTPU    MP-----
B6JZI6_SCHJY   MQAEDSTESVTSG-----AESLRLSNVVKTREMLLSFTGSSEKILNY
R4WJK2_RIPPE   MAS-----NEELTKVLKDLPLKIQTSRKSERKLLFEK
W8CCK9_CERCA   MA-----NVELSTALRDLPNRVLSVSYDERTNLFYN
B0W357_CULQU   MA-----DAELAKALKDLPNRVLPVVEERPELFRN
E1ZX97_CAMFO   MA-----DVELAKALKDLPNRVQTASKKERREILQN
W5JJ28_ANODA   MA-----DAELAKALKDLPNRVLPVVEERAELEFQN
F1KPR4_ASCSU   MSGMEAIVDGTVNSEDN--KKSDEQQQQFRDALRKF AEHFNESSVRQQKINTSL
V9K7F0_CALMI   MVT-----GSQMSDTLKRFAAKVTTSSVKERWQIMSE
W0T7Q3_KLUMA   MS-----KWEEI-----EPTLYRDCCHNSLLKVRPLMTN
S9R951_SCHOY   MTVEGPGMEAFQN-----EKKTLYSTLISNETVVAFLGTTKVMLDI
S9W134_SCHCR   MAVEGPGIEAFQN-----EKKTLYSTLISSETILAFGLTKKVMLDI
H0GUK0_SACCK   M---TAVLNWEEI-----SPVLEKGARESLVSKRVPFLOQ
E5R2E4_ARTGP   M---DEEQWDEV-----RKGSLIPLEPVVFSSTSLRCQLLHQ
J8Q888_SACAR   M---TAILNWEDI-----FPVLEKGTRESLVSRVPFLOD
C5G992_AJEDR   M---DEIEWNNV-----SEGSLESLESLRVLSGSTARACHLHE
G4MR95_MAGO7   M---TADVNGD-----GPGQVDLVAIKQVLLSSSTKTRISQLRI
C9SQ16_VERA1   MNEVAAEPVANGA-----DSGSANVDFVALKGALTSSTTRVRVDQLRA
B2WNI9_PYRTR   MAA-----NGDAE-----SQAISRDGLRQKLITSSTKRRITELSA
S3CN37_OPHP1   M---TDSTSTSG-----SGAAMLDPVATRVALSTSSSTSSRIAQLRT
G3ALT0_SPAPN   MTGSTNIESWDQL-----EPIFEKGIQDSLTTKRIVILKA
Q7S5P0_NEUCR   M---AEDAAAAPAPA-----STPSNAPADFDLVAAKAALTSSSTSARISQLRS
A0A165FVX9_9PEZI M-----EGNDS-----GGAPNWESNSLPLRLLSSSTNARKAELHT
A0A178DN93_9PLEO MAV-----NGDAN-----SPAIDRAELRQKLITSSTKRRITELAG
A0A177D7J2_ALTAL M---AAVNGDAE-----SRAISRDELPRKLITSSTKRRVNELSG
A0A0C4DS68_MAGP6 M---SEDAVNGE-----AAGQIDLAATKQALLSSSTSARTAQRLRL
A0A151N4J5_ALLMI MAA-----DTQVSDTLKRFAVKVTTASVKERREILNE
A0A146NKU7_FUNHE MAA-----DTQVSDTLKRFVAVKVTASIKERKEIYGD
A0A0F7Z917_CROAD MAA-----DTQVSETLKRFAVKVTTSSVKERREILSE
A0A0W0DC37_CANGB M---SNPRSWEVL-----EPELGKLCYDAKISNRIPILTE
A0A0L8RIK7_SACEU M---TATLNWADI-----SPVLEKGTRESLVSKRVPFLOD
A0A178FRD2_TRIVO M---DEEQWDEV-----KKGSLTPLEPVVFSSTSRRCQLLHQ
A0A175WD14_9PEZI M---TEAAANPT-----PGNLDLEQAKAALTSSSTAARIAQLRA
A0A194VFU1_9PEZI M---TEVAVNGA-----APALDLKATKAALTSSSTSSRIAQLRA
A0A151TXV6_CAJCA MT-----ESLQSLVSLSELVSTSSSTKQRFRIFHR
A0A0M9ABE9_9HYME MA-----DVELTKALKDLPNRIQTASKNERRVLLQN
A0A072U5F0_MEDTR MA-----ESLQSLVSLSELVSTSSSTNQLRIFQR
A0A0K8V1F4_BACLA MA-----EIELSKALRDLPNRVLSAKCDERKDLFQS
A0A0A1XE05_BACCU MA-----DIELSKALRDLPNRVQTATCDERITLQFN
A0A131YTA4_RHIAP MA-----GVEVPPVFKDLPVKVQTSKLVTRKELFCQ
A0A0J6I2R9_COCP0 M---DEIKWNNV-----HDGMLESKLPVIFSGSTSRRRAGLHE
A0A074XMM5_AURPU M---AEDEVNGE-----QTL DAGRLRQVALSSSTKRRSTELLS
A0A167FV98_9ASCO M-----
A0A1A7XZM1_9TELE MAA-----DTQVSDTLKRFVAVRVTASVNERKEIYRD
A0A0P7V1U6_9TELE MAGRESAALMDSGSLFHMMIEARTKNQQTVSETLKKFALKVTSASVKERRDILQE
A0A1A7WWE1_9TELE MAA-----DTQVSDTLKRFVAVRVTASVNERKEIYRD

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GCN1_YEAST	-----ISQLVRQET--LEKPOLSEIAF-----VLLNTFTIYEDNRSKS	110
GCN1_SCHPO	-----LQHICRTQD--IDEESAIAALE-----DIFETLPRNLSRDARK	
GCN1_DICDI	-----INSIGKHEL-STQENDATTTTTTTVDLEEKLVLIYLYFTSYSIGPDSQ	
GCN1_MOUSE	-----LGRCIAGKD--LPEGAVKGLCK-----LFCLTLHRYRDAASRR	
GCN1_HUMAN	-----LGKCVAGKD--LPEGAVKGLCK-----LFCLTLHRYRDAASRR	
M7ANV9_CHEMY	-----GHSAMSVD--DTEPPSPVGTK-----MFPFL---YRDAASRR	
H8X4E7_CANO9	-----IESNLDD----IEKAELEQEVTF-----VLLNTYNFYQDTRSRN	
W6A2P0 ICTPU	-----	
B6JZI6_SCHJY	-----IRVVDSTHE--FDNELIECILK-----FYAETLHRTLPRRVRV	
R4WJK2_RIPPE	-----LRSAISNSG--FSENIVRGLCR-----VLQMTLPRYCDASASQG	
W8CCK9_CERCA	-----VAAVLDNPG--MNESI IKGICK-----VIGTTLTKYKDSASQL	
B0W357_CULQU	-----VTAVLPNPG--INATVIRGICK-----VIGTTLTKYKDPASQA	
E1ZX97_CAMFO	-----VVNVLNPG--INDKIVNGICK-----VVSLTLHRYKDSASRS	
W5JJ28_ANODA	-----VIAVLPNPG--INATVVRGICK-----VIGTTLTKYKDPESQA	
F1KPR4_ASCSU	-----LIGALKNVS--EVSEPIRMGMIR-----GSVTACFRFTQRRSFE	
V9K7F0_CALMI	-----LGSCVKEKD--LPDSAVKGLCK-----LLCLTLHRYRDAKSRR	
W0T7Q3_KLUMA	-----VLQWLKLEDSKTNEAALGQIFE-----CVLGTYDFYQDKESKN	
S9R951_CERCA	-----LRHVNQIND--IDEKTIIVIID-----NIMEVLPNVSRECR	
S9W134_SCHCR	-----LRHVNQTNE--IDEKSIVAIID-----NIMEVLPNVSRECR	
H0GUK0_SACCK	-----ISELVRQET--LEKPOLSEIAS-----CLLNTFVLYEDNSSKS	
E5R2E4_ARTGP	-----LQDNIASDS--QLPHQLYKVVLL-----LLFRTPYVFDRESRH	
J8Q888_SACAR	-----ISQLVRQET--LEKPOLSEIAS-----VLLKTFVYEDTKS	
C5G992_AJEDR	-----LHEKLSGLQ--ISQNLFRSIVK-----LLFRTPYFYVDRASRQ	
G4MR95_MAGO7	-----VEDKISQNA--LDQASLSKLLG-----VLFVTHSSYADRPSRR	
C9SQ16_VERA1	-----LQERITQKK--FDLSLVPKLLQ-----LLFWTHAFYVDRQSRL	
B2WNI9_PYRTR	-----LQHQVADDS--LVNADLQAILL-----NLFETYPLYEDRESRR	
S3CN37_OPHP1	-----IDDKINSGN--LEPAAIKFLP-----IMFWTHASYEDRPSRR	
G3ALT0_SPAPN	-----IQQLLNA----IPESDLTKISL-----LLKTYNYHDAADSRN	
Q7S5P0_NEUCR	-----IEEKLSQKA--LDRPTTLAVLK-----VLFWTHDFYHDRPSRT	
A0A165FVX9_9PEZI	-----LQERISHQD--IPQKSFSLILA-----SLFETYPLYIDRASRQ	
A0A178DN93_9PLEO	-----LQHQVGHDS--LVASDLQALLE-----LLFETYPLYDDRESRR	
A0A177D7J2_ALTAL	-----LQHQVADDS--LVTADLQALLE-----LLFETYPLYDDRESRR	
A0A0C4DS68_MAGP6	-----VEDKLSQDA--IDQTLGSKLLP-----LFFLTHAFYHDRPSRR	
A0A151N4J5_ALLMI	-----LGRCVTGKD--LPEGAVKALCK-----LFCLTLHRYRDAASRR	
A0A146NKU7_FUNHE	-----LKECKLGKE--LPEPAVRGLCK-----LFCLTPHRYRDAASRR	
A0A0F7Z917_CROAD	-----LGRCITGKD--LPEGAVKGLCK-----LFCLTLHRYRDAASRR	
A0A0W0DC37_CANGB	-----LKEIVKTNN--LSREQLNLAS-----VLLNTYTIYKDHESKK	
A0A0L8RIK7_SACEU	-----ISQLVRQET--LEKPOLSEIAS-----VLLNTFVYEDTKS	
A0A178FRD2_TRIVO	-----LQDTIARDS--QLPPQLYKTVLL-----LLFRTPYVYIDRESRH	
A0A175WD14_9PEZI	-----IDEKISQKS--LDQASTRSLLG-----VLFWTHAFYNDRPSRQ	
A0A194VFU1_9PEZI	-----VDDKISQNA--LDKQIQQLLQ-----LLFWTHSFYGDRESRR	
A0A151TXV6_CAJCA	EIPAFLNSTSE---MSTELASLLTD-----VIFRTVPIYDDLRSRK	
A0A0M9ABE9_9HYME	-----VVSVLNPG--INEKIVNGICK-----TISSTLHRYKDTASQS	
A0A072U5F0_MEDTR	EVPAFLNSSSTSDE--MSTELASLLTD-----IIFRTVAIYDDRSRK	
A0A0K8V1F4_BACLA	-----VTSVLNPG--VNASIVKGLCK-----VIGTTLTKYKDTPSQI	
A0A0A1XE05_BACCU	-----VTSVLNPG--INASIVKGLCK-----VIGTTLTKYKDTPSQI	
A0A131YTA4_RHIAP	-----LEEAAKTGS--LADPVVRGLCQ-----VLRRLTLPRYHGSTRSH	
A0A0J6I2R9_COCPO	-----LHEKILSHE--LPKELDRPLLD-----LLFGTYPIYVDRDSRR	
A0A074XMM5_AURPU	-----LHDKIVSKE--YPIDQIPNALN-----VLFDTYPLYVDTQSRQ	
A0A167FV98_9ASCO	-----	
A0A1A7XZM1_9TELE	-----LKQCLKG---VPEPAVKGLCK-----LFCLTPHRYRDAASRR	
A0A0P7V1U6_9TELE	-----LKQCVTGKD--LPEPAIKGLCK-----LFCLALHRYRDAASRR	
A0A1A7WWE1_9TELE	-----LKQCLKG---VPEPAVKGLCK-----LFCLTPHRYRDAASRR	

GCN1_YEAST	LVTSILLDILNLE-PCLLEN-----FIRFISDVVISNP--ATK	165
GCN1_SCHPO	QIEITINHLVSRL-PSIVLPF-----LVRRLTTIAGRDR-FRS	
GCN1_DICDI	WIFSLVQSLKQLF-KDISSATNTSLVTDELKINIVKFTLREIGRLAKLLPT-NKR	
GCN1_MOUSE	ALQAAIQQLAEAQ-PEATAKNLLH-----SLQSSGVGSKACVP-SKS	
GCN1_HUMAN	ALQAAIQQLAEAQ-PEATAKNLLH-----SLQSSGIGSKAGVP-SKS	
M7ANV9_CHEMY	ALQSALQQLAESQ-PEATAKNLLQ-----SLQSLGISGKAGVP-SKS	
H8X4E7_CANO9	AVLEALLRISKVD-GRF-----LSYYVEFIKKETSG-TTL	
W6A2P0 ICTPU	-----GKS	
B6JZI6_SCHJY	AIVRSLKHLVNCT-AHTVKC-----LASFIMKTVVRAER-AHY	
R4WJK2_RIPPE	YVRSLVKALANIH-PNWTIKYLP-----ILAETANYNTSIIA-TKS	
W8CCK9_CERCA	LVRNLIVDIKQH-HDVAIHMTT-----VIKTILSKELSKLP-PQK	
B0W357_CULQU	LVRDLIVALLQNH-ADLAYEHFNN-----VLKALVTKDLVAAP-PLK	
E1ZX97_CAMFO	YVRNLIIELLKKQ-PEATIKHMTT-----VISEQATWHKNVVA-TLN	
W5JJ28_ANODA	LVKELLVAVLKQH-PDLAYEHFNA-----VLKALLTKDLAAAP-PLK	
F1KPR4_ASCSU	VIFSLIEALTERN-AIAVSKYISE-----TLANVFTPTRTAIT--KW	
V9K7F0_CALMI	ALQSVIQQLAESH-PEATTKHLLQ-----CLQSSGIICKNAIP-SKS	
W0T7Q3_KLUMA	AAISILVQLFEID-DSFLKK-----ITDFVIVTGSSSHG-GSK	
S9R951_SCHOY	ELCATLAHITKLS-PSIALTA-----LLHRLQISINRLERPSS	
S9W134_SCHCR	QLCATLSHITKLS-PSIALCA-----LVNRLRSTSIRLERIPSS	
H0GUK0_SACCK	LVTSILLDILNLE-PCLLES-----FVQFISDVVISNP--ATK	
E5R2E4_ARTGP	AAQSCAKALFPSI-PCAD-----LPFAQQLLRKESSN-AAV	
J8Q888_SACAR	LVTSILLDILKLE-PCLLES-----FVQISDVTVISNP--ATK	
C5G992_AJEDR	AVQKCLRSFRIP-TANPD-----LQYFIQELKKECSK-STI	
G4MR95_MAGO7	AVQRCLVLLAKAK-EEKL-----LTALVAAIRKESQK-PTI	
C9SQ16_VERA1	GAQKCLSALLASGLEPEL-----LAKLASILRAESVK-PGI	
B2WNI9_PYRTR	AVEAVLKSLEVEGP-HGDTV-----LPPIVKFLKQECESK-KGL	
S3CN37_OPHP1	AVQKCLVSIKDRK-EPAL-----LTPLVNAIRTDAAK-INT	
G3ALT0_SPAPN	ELLKTLQAIADAK-HHY-----LSGFIKFINHQVSA-TTL	
Q7S5P0_NEUCR	AVQKCLVALAQNR-EPEI-----LTPLVAAIGQEIKK-GAI	
A0A165FVX9_9PEZI	AVQQCLLAIVNSG-IKSGLD-----LSPLIKLIKDEAAK-STI	
A0A178DN93_9PLEO	AVEGVLKS LVNGP-HGDTA-----LPPIVRFLKQCECLK-KGI	
A0A177D7J2_ALTAL	AVEGVLKS LVNGP-HGDKV-----LPPIVKFLTNECSK-KAI	
A0A0C4DS68_MAGP6	AVQRCLVIFSQKG-DEKL-----LTALVGAIKREAQK-PTI	
A0A151N4J5_ALLMI	ALQLALQQLAESQ-PEATAKNLLQ-----SLQSSGIGSKAGVP-SKS	
A0A146NKU7_FUNHE	ELLSVIGQLAERQ-PDALVSGLLQ-----GLLNCGVISRNGEP-SKS	
A0A0F7Z917_CROAD	ALQ TALRQLAECQ-PEVTAKNLLH-----SLQSSGISSKSGGS-SKS	
A0A0W0DC37_CANGB	AVCDIYDEMITID-GSFIAI-----FLDHIVETLGDKI--GTK	
A0A0L8RIK7_SACEU	LVTSILLDILRLE-PCLLEN-----FVQFISGVVTSNP--ATK	
A0A178FRD2_TRIVO	AAQRCAKALFPSI-PCTD-----LPFAQQLLRKESSN-TAV	
A0A175WD14_9PEZI	AVQRCLVLIQTR-DVDI-----LGRLVTAIRQETQK-QGI	
A0A194VFU1_9PEZI	GVQKCLISICKEG-DADL-----LTPLVEAIRREAAK-PSI	
A0A151TXV6_CAJCA	AVDDVIVK-----SLSRTVFMK-----TFAGALVQNMEKQS-KFQ	
A0A0M9ABE9_9HYME	YVKNLIEQLLKKQ-PVPTIKHMTN-----VIVEQATWHKNVVP-TIN	
A0A072U5F0_MEDTR	AVDDVIVK-----SLSGTVFMK-----TFAAALVQSMEKQL-KSQ	
A0A0K8V1F4_BACLA	LVRNLIVDIVKQH-HDVATESSLSS-----VVRTILNKEIILIS-PQR	
A0A0A1XE05_BACCU	LVRNLIVDIVKQH-HDVAIECLSS-----VVKTVLNKEISVLT-PQK	
A0A131YTA4_RHIAP	LVEQLVDSLLASQ-PSSA-GHLIS-----TILDVSRDHKPLFI-TKN	
A0A0J6I2R9_COCPO	DAQRCIRDIFQAP-IASVD-----LKDFANKLHKECYK-PAI	
A0A074XMM5_AURPU	AAEQCLVAIFSTA-DTEPH-----VSTFISAVETETTK-GSL	
A0A167FV98_9ASCO	-----	
A0A1A7XZM1_9TELE	ELLSVIGQLAESH-PDVLVTSLLH-----CLLNSGVISKNGEPSKS	
A0A0P7V1U6_9TELE	ALHSVIGTLAVAQ-PVVTATSLLN-----CLLNSGIISKSGVP-SKS	
A0A1A7WWE1_9TELE	ELLSVIGQLAESH-PDVLVTSLLH-----CLLNSGVISKNGEPSKS	

GCN1_YEAST AVADYLNLLDWIN-SFLIFVSHNSNLF-EEYIPKLLVAHSYATFGVETILDNQEE 220
 GCN1_SCHPO TVSVSFDCLNWNVNSMI-----PNLPEKELQYWILELLPLQSSFLSYAL-----
 GCN1_DICDI SKYVPQNTLMSFSLVLLNYFIDQIQSNSDLT-TLLFAAQELLYRELTQLH-----
 GCN1_MOUSE SGSAALLALTWTCLLVRIVFPLKAKRQGDW-NKLVEVQCLLLLEVLGGS-----
 GCN1_HUMAN SGSAALLALTWTCLLVRIVFPSRAKRQGDW-NKLVEVQCLLLLEVLGGS-----
 M7ANV9_CHEMY SGSAALLALSWICLLVRIVFPTRDKREGETW-KKL-----
 H8X4E7_CANO9 AITDYLTLQWIN-SFNIELAKAKNLKGC---VALQEKLFVNCTEYEG-----
 W6A2P0 ICTPU TASASCCALPWTCLIVRVVFPPTLENRVDPQW-KKLVEVQSLLLAEVMGGA-----
 B6JZI6_SCHJY PPGFLLTTLNLDVMS-----TCTSAEVCESLVKNLCP IQAKLLFMCL-----
 R4WJK2_RIPPE TAQGSLOALSWSILVSSALNKSDENKQDF-QTILNAQSILYSSVLAST-----
 W8CCK9_CERCA CAKFSLIALGWTDLIRNGTNS-SNVYKTEY-PKLVEYQSILYQHILLSC-----
 B0W357_CULQU GAQAAVLALGWANLVALHGDR-TAVGKKEF-PKLIENQAALYQLSLTSG-----
 E1ZX97_CAMFO TSLTAYTALKWSNLVILHGYNELDNVEKNEFLAKLIEAQANLSSAALASV-----
 W5JJ28_ANODA GAQAAVLALGWANTVALNADHE-SAVGKKEF-PKLVEVQAGLYQLALTSG-----
 F1KPR4_ASCSU SGWMSTVGKWK---LVFVGQKADLLQHKDLIDFFVSSLSVAFYSVADKK-----
 V9K7F0_CALMI SGSAATLALGWTTLLVKTVFVAVPEKRAGEMW-MRLVELQCILLAEVLGGC-----
 W0T7Q3_KLUMA AIMDYLNLMEWIL-VFMDLVFKKHDASFEAHWTDI IQAYIALVGAJETMLDTHET
 S9R951_CERCA AISVSNLALSWVNCIL-----SNLPSNEMKYWMLEFLPLQSQFLNAVI-----
 S9W134_SCHCR SISISFNALIWVNCIL-----SNLPSNEFKYWMLEILPLQSQFLNVVL-----
 H0GUK0_SACCK AVADYLNLLDWIN-SFLVFSRNSMLF-EEYLPKLLVAHSYATFGVETILDNQED
 E5R2E4_ARTGP APANAFVLEWCA-TLLQYL----STRLDDHSPLVLETVSGIGKALETCL-----
 J8Q888_SACAR AVADYLNLLDWIN-SFLVFSRNSNLS-EEYIPKLLVAHSYATFGVETILDNQED
 C5G992_AJEDR AATNAFVLAEWCS-LLLQLL-----SEVPDFTQSILEILSADAKVVEICL-----
 G4MR95_MAGO7 APANAFVLEWSS-LLIEHL-----GETELWEKLGKELVLATSDCLEKCL-----
 C9SQ16_VERA1 AITSAFVLEWCS-IFMQEL-----SGTPSWHQVAPQIILLANADSLKCCQ-----
 B2WNI9_PYRTR APTNAFVLDVWASVLLQLA-----KSAETWSKHGLDLATANALALETCVVR----
 S3CN37_OPHP1 SVASSFTLVEWCS-ILMQHL-----AGTELWDKVSKDVLTAQANALEKCT-----
 G3ALT0_SPAPN AITDYLSELLWIN-TFNVDMMK-YGLEKQDGELLVRTQAI VLNKCI EYEGV----
 Q7S5P0_NEUCR APGSAFTLVEWCS-LLVQNL-----AGTPLWEKFGKDLTSLAEVLEKCC-----
 A0A165FVX9_9PEZI APTHAFVLEWCS-LLLQRF----STESSLWEKWGLDLLLADSQLELQ-----
 A0A178DN93_9PLEO AHVNAFVLDVWCSVLLQFA-----KSPERWSKYGLEVALANARVLETCMS----
 A0A177D7J2_ALTAL AHANAFVLDVWCSVLLQFA-----KSPERWAKHGLDVALANARVLETGCVG----
 A0A0C4DS68_MAGP6 APSSAFVLEWCC-LLVENL-----AGTALWVKLGKELILASADCLERCL-----
 A0A151N4J5_ALLMI SGSAALALSWTCLLARVVFPTWDKRQGEIW-KKLVEVQCLLLLEVLGGS-----
 A0A146NKU7_FUNHE TGSAAFIGLSWTCLLIPKVFSAPEKREGPIW-KKMVEVQSLLVAEVVGGA-----
 A0A0F7Z917_CROAD SGSAASLALSWTCLLVRIVFPPTDKRHGETW-EKLVEVQCFLLLEILGGS-----
 A0A0W0DC37_CANGB ALSDYLNLLDNIN-HFLQVILVDSNLT-SQYLPKVLQCHTIT TASIETSLDI SEK
 A0A0L8RIK7_SACEU AAADYLNLLDWIN-SLLVFSRNSSLP-EEYIPKLLVAHSYATFGVETILDNQED
 A0A178FRD2_TRIVO APANAFVLEWCS-TLLQYL----STRLDDYSPLVLETVFAISKALETCL-----
 A0A175WD14_9PEZI APGSAFVLEWCS-LLMQNL-----AGTPLWDFGKDIVLASADGLEKCL-----
 A0A194VFU1_9PEZI APTNAFVLEWCS-LLMQNL-----AGTPLWDFGKDIVAAADALDKCC-----
 A0A151TXV6_CAJCA SHVGGYRLLSWSCLLLSKSF--AAVSKNAL-CRVAAAQASLLSLVLRPS-----
 A0A0M9ABE9_9HYME TSLTAYLALKWSTLIIILHGYSNSDMNSEL--PKLIEAQANLSSAALASM-----
 A0A072U5F0_MEDTR SHVGCYRLLSWSCLLLSKSF--STVSKNAL-CRVASGASLLNLVWRRS-----
 A0A0K8V1F4_BACLA SAKYSLIALGWTDLIRNGDYN-SNIFKTEY-SKLVEQCSILYNYIYLSY-----
 A0A0A1XE05_BACCU SAKYSVIALGWTDLIRNGDFH-SNIFKTEY-SKLVEYQSQLYHHIVLSY-----
 A0A131YTA4_RHIAP LARTCLTAFSWCKVGHQVLVNRGDLKPKI-RDLVEAQTNLLLSVSSAC-----
 A0A0J6I2R9_COCPO AAANAFVLEWCT-LLLQHLGQREAENPEDAPQLAVNVLSANSKALETCL-----
 A0A074XMM5_AURPU APANAFVLEWCA-LFLQFF----ALQRPWDTWGLKIIHALVRATYTFE-----
 A0A167FV98_9ASCO -----TVLEWINGI ISEKKTAKLALSTEFVAHAHILLEKAVY-----
 A0A1A7XZM1_9TELE SGSAAFIGLSWTCLLVKVFSAPEKRDGPIW-KKMVEVQSLLVAEVVGGA-----
 A0A0P7V1U6_9TELE TAPAAAMALSWTCLLVRAVFPPTPESREGPTW-KKLVEVQSLLVAEVVGGA-----
 A0A1A7WWE1_9TELE SGSAAFIGLSWTCLLVKVFSAPEKRDGPIW-KKMVEVQSLLVAEVVGGA-----

GCN1_YEAST	G-KKSQDKQNQHRKRIRYCFQTTVKAFLKCLKD-NDDISFMKISIKTVLESYS	275
GCN1_SCHPO	-----RDGKPSVADSALIKSTRRCYRSLFC----	KKMDSLKKLVSFLLTETE
GCN1_DICDI	-----MKN-----NQPIFNQIL----	NKNKILTFYQNIIVTKDS-
GCN1_MOUSE	-----HKHAVDGAVKKLTKLWK----	ENPGLVEQYFSAILLSLEP
GCN1_HUMAN	-----HKHAVDGAVKKLTKLWK----	ENPGLVEQYLSAILLSLEP
M7ANV9_CHEMY	-----NPGGLVDQYLSVILLSLEP	
H8X4E7_CANO9	-----KTKHLDRVTKSAITATKTSIVNTLL-----	EDDTYMDLIINQDC
W6A2P0 ICTPU	-----SKNAIKSVTKRLNKLWK----	DSPGLVDQYMSTLLSLDQ
B6JZI6_SCHJY	-----SSTKHTLANSALRSTRRCIRSLLL----	TNSKKNYESFVDFKFEALL
R4WJK2_RIPPE	-----NKKKISKANQMLTSLWN----	SNDLILSLYEKGVLCPLD
W8CCK9_CERCA	-----NIRIVEMAEEKIFDPSWL----	NSYIF-DMCFSTMLTKEP
B0W357_CULQU	-----IQKISDKAYSFVREFFA----	KKEDLEKVYFEKILAAEP
E1ZX97_CAMFO	-----NKKLANKVYTLFAHEWA----	AIKNIEVIYMENTKLEL
W5JJ28_ANODA	-----IQKISDKAFSFLCQFFG----	HQEGLERSYFDKLIALEP
F1KPR4_ASCSU	-----NASYARGMKMYLCTRLP----	IKVVLDQAQRQFASSTD
V9K7F0_CALMI	-----KKTAVRGVLLKVKRLWN----	ENPGLAEQYLVTVMDLET
W0T7Q3_KLUMA	V-KHDENKQNQHRKRLRCLVFQOSTKSFARCLTLERDSNSNIVEDIIPFVLNDYV	
S9R951_SCHOA	-----RDAKPAIVRSALQNTTRRCYRSLFL----	AQLNDLSSFIFLNLNETK
S9W134_SCHCR	-----RDGKPAIIRSLHSTRRCYRSLFL----	AQLNDLSSFISFLNLNETK
H0GUK0_SACCK	S-KKPKDKQNQHRKRIRQCIFQSTVKTMLKCLKD-NDDGMFCMQTVTKSVLEDHS	
E5R2E4_ARTGP	-----GTSTKQSLKHSALIVTRRALRAVFS----	AEPHGNLVRDVPYLIK
J8Q888_SACAR	T-KKPQDKQNQHRKRIRHCFQSTVKAFLKCLKD-NEADISYIETVTKTILEDHS	
C5G992_AJEDR	-----RAKTKGSVKHSALIVTRRALRAVIS----	PEGNGEELRRAIPLTTS
G4MR95_MAGO7	-----QPQCRNLLGSSAQVVTTRAFRKLVS----	LEQTREKSITDAVQLLAT
C9SQ16_VERA1	-----QPAGRGTVARAALVVTTRGLRKLFA----	PTADLEKTVKEAVELLTA
B2WNI9_PYRTR	-----AGPHRRADRIAASALVSTRRALRAIFR----	SETFGQNALSCLVTTFTA
S3CN37_OPHP1	-----RDSVRPSVTHSALVVARRGFRKLVS----	IDSTREKAVNEAVQLLAA
G3ALT0_SPAPN	-----KKHQHRRRVHGSALHTTKTSIVDALT----	ITEDKEAYIELIVKSIT
Q7S5P0_NEUCR	-----QPASRGTVSKSALVITRRGLRKLFA----	AGDREKVIIEEAVKALAA
A0A165FVX9_9PEZI	-----TPRTRNSVKHSALVVTRRALRKVFT----	TGALGESAIKDSVGRLLTA
A0A178DN93_9PLEO	-----AGSNRRAGRISALVSTRRALRAILR----	SKAIGKDALSTLVKTLTT
A0A177D7J2_ALTAL	-----AGGDRRAGRISIALVSTRRALRAIFR----	SEAIKDAHSKLITLTA
A0A0C4DS68_MAGP6	-----QSPFNKHVGHSAALVVTTRAFRKLVS----	FESTREQAITEAVQLLAT
A0A151N4J5_ALLMI	-----HKHAVDGAVKKLKRLWK----	ENLGLVDQYLSVILGLEP
A0A146NKU7_FUNHE	-----KTTAKKSSLKNLCHLWE----	EKPLVDHYISTLLTLDQ
A0A0F7Z917_CROAD	-----RKPVVNGAVKKNLRLWK----	ENPGLVDQYLSIILHLEA
A0A0W0DC37_CANGB	SMELVSEKQNQHRRRMRKTI IQNSTKYLKGLKN-TENIQDVLETIRHQLEEYV	
A0A0L8RIK7_SACEU	S-KKSQDKQNQHRKRIRQCIFQSTVKTFLKCLKD-NNDCLSXLQTVTNTLLQEH	
A0A178FRD2_TRIVO	-----GTSTKQSLKHSALIVTRRALRAVFS----	AEFHGSNLVRDVVPSLIK
A0A175WD14_9PEZI	-----QPTSRAVGSALVVMRRGIRKLAL-----	ADTKAIDAAIQVLAA
A0A194VFU1_9PEZI	-----SPASRPGVAHSALVVTRRGFRKLVS----	FTDSREKTITESVKALTT
A0A151TXV6_CAJCA	-----FRE-RRACRKKFFRLFS----	QSPDIYKVYMEELRNGRI
A0A0M9ABE9_9HYME	-----DKKLTNKVYVLLAHQWS----	SVKNIDIVYLETLTKLEA
A0A072U5F0_MEDTR	-----FRE-RRACKKKIFHLFK----	ELPDIYKVYVQEVKNGSI
A0A0K8V1F4_BACLA	-----NMRIIDMAEKLLFDSWI----	NSENY-ILCSSTIILKEP
A0A0A1XE05_BACCU	-----NIRIEMAEEKLLFDLWT----	NIENY-KLCSSTIILQKES
A0A131YTA4_RHIAP	-----DPTLNKKLKRKINYLWK----	QVKT--DLYAEVLSLEP
A0A0J6I2R9_COCPO	-----RSSKKEGLKHSALIVSRRALRTVLS----	KEETGDEVVRRLVRLTS
A0A074XMM5_AURPU	-----SSNPRHSTHQVTLRVTRAFRKLFS----	SDFGDEALNQSVSALTV
A0A167FV98_9ASCO	-----STEHRERLAHSALKTRYAFSKYLI----	NTSDTTNGYLQSLFDQKN
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A0A0P7V1U6_9TELE	-----QRNTLKSALKSLSQLWK----	ENPGLADQYMSTLLSLDQ
A0A1A7WWE1_9TELE	-----QATAKSSLSLHLWQ----	EKPLVDHYIGTLLTLDQ

GCN1_YEAST
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NAILPPKS-LPLYGVIIISTCYFHFQSPNPRNEISQ--QALFVSKIMAQNVL-MAK
SNKSF----FIVYFLLRNFTDQSNKQKEQDNTF----KINDLLNIYNKTVIGSSQ
SQNY-----AAMLGLLVQFCTNHH--EMDAVSQ----HKSTLLEFYVKNIL-MSK
NQNY-----AGMLGLLVQFCTSHK--EMDVVSQ----HKSALLDFYMKNIL-MSK
NQS Y-----AAMLGFLVQFCTS QK--EMDVVNR----HKSALLDFYMKTIV-MSK
-----LALFGLVNLAAIELIPKKPSMLEKFK-SHESKVLNTFINLVL-LGK
SPSS-----LPLLAECVDFCTS QK--DMATINK----HKAAILDLYLKTVL-MSK
PTLPMPNG-LAFVGEFLS CCYF KLSKGP LEALGK--HKQTIATLLVKQVF-AAK
STHS-----IVFGSFFIKYLCEKK--SAEILE-----YKTKILD LIVK VVI-MSK
AHSV-----IILIMLLIRFERRHSDNKEYDIK-----YKSKLLEYFVKGVI-TSK
SSAV-----ILFLSAILTYC-KTEFDNLTLEQ----NKAKLLDHVVKGLV-TVK
GNGV-----IILASLLMKYLVA AK--RHDLVEQ----LKVNMIDIFIKVTI-SCK
SSGV-----IVMLCAILRYCQQQEHDSVALLQQ----HKAKLLDHVVKGLV-TVK
AERV-----LALLSLLSF EEDNTD-----VVAFFLQIY LKAIL-MAK
NLLY-----LGMLGVLLQFCSEQK--DIATINK----HKDALLDIYVKA VL-MSK
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PALVLPKA-LPLYGVILGT CYFQLSSEPRALASE--NIDPFVKMIPQHIL-AAK
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EAVS-GSRNAPFLGIVAGVSDRIPNRKPILED-----LKTAILQYYAKEII-GSR
KGAAPTAKYAPTLGVIAGVCARKDYGKPILEK-----LKPQFFGFYTTREII-GSK
KAAQPTAKNA ILLGVIAGVSRKPDAGAVLET-----LKASYFAFYTTREVV-GSR
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SPTT-----LPLMGVCLDFCSAQK--DKATIEK----HKSALLDLYIKSVL-MSK
NQGY-----AIMLGLLVQFCTNQK--DLGTINK----HKGALLDFYLKTTIL-MSK
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EATS-GFKNAPILGVICGVCARLPNRKNDLDA-----VKGEIFQFYSKEIV-ASR
KGSKPAATNAVLLGVVAGVCSRKPEAKPVLEG-----LKSHYFAFYSREIV-GSR
KATTPSSRYA IMLGVIAGVCSRQADSKPILEK-----LKSEYFTFYTTREIV-GSK
PFKDN----PELLLLLLLDFSSR----SPSLFAE----YKPAFLDLYVNAIL-SAK
GNGV-----IVLASLLTMYLVNTK--KSDLVIK----LKTNTIDAFIKLTI-SCK
PYKDS----PELLLLLLLEFSTR----SSSLFGE----FKSAFLDIYVNAIL-SAK
AFNI-----INFLMLLLRFEHFKGH-EEYILNR----HKSELLQHFIKSI-I-NK
ASHI-----VVFLMLLLRFENSKED-IEYDQRM----HRAELLEHFIVKVI-TSK
SYAV-----LLMWCYLIAYLDAQK--QRDVIHS----YKAKFLDVFKTAIL-LSK
ETGS-GFRNAPYLGVLGVCARLPKRRAVLDD-----VKPAIFQFYIKDII-GSR
KAAAPTQNALVLGI IAGVSARLPKRATTFET-----KKS DYNAFFLREFI-GSR
LSS-----IILLSAMAGAASDLVSSLP SASELIK-DHKENIYNLYVQVVL-SSK
SSTT-----LVMLGVCLDFCTAQK--EKATIEK----HKSPLLDLYIKSVL-MSK
NPSA-----LALLCVCVDFCTAQK--DMSTVQK----HKAALLDLYLKTIVL-MSK
SSTT-----LVMLGVCLDFCTAQK--EKATIEK----HKSPLLDLYIKSVL-MSK

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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SPEK--VNLNNAFASSKLNQYFSSFKS--SKEVVRVSVSLQSMIILLRKISNTDT 440
FADS-KVDASSL-ILSSVLTSFVNGLKS--SNAEVRNCFQTFKDLNAN----AS
SSDFNVIDLSSL-LKSMLLPMLLPVIQSTISIEENRKLKKTFTLIIER----SK
T-----LDLSQ--YALDIVKGLANQLKS--NSPRLMDEAVLALRNLARQ----CS
T-----LDLSQ--YAMDIVKGLAGHLKS--NSPRLMDEAVLALRNLARQ----CS
T-----LDLSQ--YAVDIVKGLACQLKS--NSPQLMDEAVVALKNLARQ----CS
LQ----IQIT--PSPKLLSSIISGVKS--QKEHVRNGASQTLALLIEK----AK
T-----LDLSQ--YALDIGKGLASQLKA--SNMELMEHAVQAMQNLAAQ----CS
FATA-GKDLSSV-LLQKITPAFISGFKS--SNATTRQNACATFTACAKL----AK
S-----LDLSQ--YAYTVGKIIISASLYS--NDENTRNQAASACKFSLQ----CS
N-----IDLSE--YTSSFGKVLQNLKYC--KDDVTRKESLETFLKELSQK----CT
P-----VDISD--FYADLGLTLVANLAS--KDETRQEAIVESLQKQIAMK----CA
S-----LDLSQ--YSQEI SKGLFANLHS--KEDLVRDEAVGACRKLALQ----CS
E-----LDISD--YALDLGKPLVQNLAS--KEETVRQEAIVESLQKQVALK----CS
K-----VDMSA--FALDLYKTLASLVLS--ADDEVRRARASNAVISLACK----VS
T-----LDLSQ--YAMDISKGLASQLKS--NNTQLMDEAALAVRNLTQ----CS
NSSK--INFLGLFVSSKCIQTITSSLKS--SKEIVRESSLKSIALLRSLKTDYS
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SPGK--INLLNVFTSSKLLNQSFSAKLS--SKDVVRAISLHSVILFRKISKSDT
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IRFE--VDISEI-FFTRFCKPLLTNIKI--TNPIIRNGAVKAFESLVS----CK
LPSD--YDLSSV-LSKNLLKPLLANAKS--TNASIRSGALTAFRKVVTR----SA
LPES--HDLSQI-LSERLLKPLLANVKS--SNPAIRSSTVAADFLLIASR----SH
LPQS--LDLSDI-LLISMLKPLLSNVKS--TNPAIRAGALRTFKALASR----SQ
LPKN--YDLSTI-LSEHLAKPLLSNVKS--SKESVRNGALSAFRALAAR----CT
FPK---IDISEPFVSSKLLTSIISGFKS--TKENVREGAFKVTTELILLNN-FTDS
LPQD--FDLSAA-LHGKLVKPLLNNVKS--SNAVIRSGAVTVFKGLAAR----SK
LPAD--VDLSDI-LEGNLLKALLSNVKS--SNPNIRAGVLSAFELLVSR----CH
LPVS--VDMSQI-LLGNLVKPLLANVKS--SNPSIRAGALRTFAALASR----SR
LPET--MDLSDI-LLGNMLKPLLSNVKS--SNAAIRAGALRTFKALASR----SK
LPAQ--YDLSSI-LSNLLKPLLSNTKS--TNPTIRSGALAAFKTIIPR----AS
K-----LDLSQ--YAVDIVKGLASHLKS--NSPQLMDEAVVALKNLARQ----CS
T-----LDLSQ--YAMDIGKAIASQLKA--NNAQLMEEAVKAMENLAQ----CS
T-----LDLSQ--YALDIVKGLASQLKS--NSPHLMDKAVVALKNLALQ----CS
NAKT--INMAELYASTKMSQAFSSFKS--SREGTKTAAISFTVSVLRSICVETT
STEK--VNLVSVFTSSKLLSQSFSFAFKS--SKEIVRSISLHSVITLLRKVSKSGT
IPVE--IDLSEV-FSSSIYKQLLANIKS--TNAVIRKGAIEALEAFIPR----CS
LPQ---LDLSQA-LNGRFVKPLLSNIKS--SNPVIRSGAVSAFREIASN----SR
LPED--WDLSNI-LHGQLLKPLLSNIQS--SNAAIRTGAVNVFRVIVGR----CH
K-----LDMSK--YAAEILSVVLAQARH--ADEGRRDGALAVRSLSQK----SS
S-----LDLSQ--YSQDISKGLFANLYS--KEDLVRDEAVGACRRALQ----CS
K-----LDLSK--YAAEILSVVLAQARH--ADEGRRDVALDIVKNLSQK----SS
N-----IDLSE--YASSLGVLLHHLKYC--KDDIVRGESLETFLKELSLK----CT
N-----IDLSE--YASSLGVLLHHLKYC--KDDIVRGESLEALKELSLK----CT
T-----LELSP--YLGELGKSLAQHLVA--KDESLRQGAVVALRNLAHQ----CG
IPRE--IELSEV-VSTRLSKPLLSFFKS--ASQTVRQGAVKAFEALIAK----CK
LPKD--LDLSDI-LANLLKPLVSSAKS--SNATIRAGALRTFSATARR----SH
LSPL--VDISSA-VENSLVNSFTSAFAS--SNVIVRDSAAECLRIAIQH----CY
T-----LDLSQ--YAMDIGKAIASQLKA--NNAQLMEEAVQAMQNLAKQ----CS
T-----LDLSQ--YALDIGKGLASQLKA--NNPQLMEQAVQALQHLAQ----CS
T-----LDLSQ--YAMDIGKAIASQLKA--NNAQLMEEAVQAMQNLAKQ----CS

:

GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHOY
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
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A0A1A7WWE1_9TELE

TLEDLTKLI-DEIFKNIK-----SNLNADYKSLISKILIEIPLT-----
DNESLSRVA-SELITSLR--TGKVTASDQRVLFVDALSSLSL-----
DTKLISMITDDLLKTLT----VAGNPSQKLIISIISIIISTKNFIERLSLTTE
DSSATEALT-KHLFAILGGSEGKLTIIAQKMSVLSGIGSLSHHV-----VSGPS-
DSSAMESLT-KHLFAILGGSEGKLTVVAQKMSVLSGIGSVSHHV-----VSGPS-
DPSAVELLG-RHLFAILGGSEGKLTVVAQKISVLSGIGSFSSHV-----VSGSS-
DDIS-----DEI I KAVK----MTTNAESKSLLIKSL-----
DPTAIQDLV-THLFGILGGSEGKLTVVGGQKMNVLSGIKSCSHHA-----VSGFS-
NQEVAHDHV-EELLKVLR--TGK-----
DPEAIWSLL-EHLFQVFNQSGKITVADHKISILQGIGNFSYNA-----VTGSS-
TIESVEYLL-RGIFDLNNGVNGKVTVEYRINLIQGAGYLSFNS-----ISIQE-
GVKAIEALL-KEVFAVFNQSGKITVVELRINLLQGAGNLSNNR-----ISSD-
DTTALETLL-SSVFAVFNQSGKLTVATHKISVLSGAGNLSYNNV-----ASGSS-
GATAIEALL-KEVFAVFNQSGKITVAEFRINLLQGAGNLSYNNK-----ISTEK-
DTSAVESLI-NAIFATYSGSDGKITTSARLTVLETGKMSSHN-----AYGRES
DPAAVESLV-RHLFAVFNQSGKLTAAQKMSVLSGIGNCSYHT-----VTGAS-
DEKALEKLM-DELFKSLK----SNMNTDYKITISSILVNTPTY-----
DSKVLMEVA-LKLTSAK--TNKVTSNEHRNLYMECLSHLSV-----
DSKMLMDVA-LKLVSAK--TNKVTSNEHRNLYIECLSHLSV-----
NSEDLMKVV-DEIFRNIK----SNLNADYKSMISKILIEIPLT-----
DERSLLRVV-DEVVTPK--TQKITNVEQALQARVLQVIPS-----
QLEDLMKVI-DEIFKNIK----SNLNADYKSMVSIILIEIPLT-----
AEQWLLKVV-EEVMAPLK--TQKITNAEQRLQVQVLSAIPP-----
DAETLGKAT-DEIVTPLK--GGKIASAEQRAIHAEMLTALST-----
DDKALEKAC-DEVVTPK--GGKVASADHRILHCEMLLALPQ-----
DGEKVDKVA-DELLTPLK--QGVVSGADQKILHAQMLAVLPQ-----
DLDAVAKVI-EETLTPK--TSKLTTPHRIIHAQILDALPK-----
SIETLGKVF-DEILKALK----STSNADSKALIVKTLSTYL-----
DVALLEKVA-DEVLNPLK--TGKVASADHRVLHSEMLVALVV-----
EEKCLVAVT-NEILGPK--SSKLPSAEHRVLHAQMISTIPT-----
DEGVISKIA-DEVLNPLK--QGVVSGVDQKVLHAQMLAALPS-----
DDAKIDKVA-DEVLTPLK--QGVVSGVDQKVLHAQMLALPE-----
DLDALGKAT-DEIAAPLK--GGKVASADQRAIHSEMLMELAK-----
DPSAVESLG-RHLFAILGGSEGKLTVVAQKMSVLSGIGSLSHA-----VSGPS-
DATAVQDIV-THLFKILGGSEGKLTVVAQKMNVLSGIGSCSRHA-----ASGTS-
EPSTVESFG-KHLFAILGGAEGKLTVVAQKISILSGIGSCSHHA-----VSGAS-
EESALLKIV-ENIFTNLK----TNMNADYKAIIVSTLLQAIPTF-----
NSEDLMKVV-DEIFKNIK----SNLNADYKSMISKILIEIPLT-----
DEKSLKVV-DEVVTPK--AQKIPNVEQALQAVLRVPC-----
DFALLEQVA-DEVLGPK--SGKVASADHRVLHSEMLAALPT-----
EKAVLEKIA-DEILTPLK--AGKLVSAADHRVLHCQMLLSMSL-----
NPDALDTMF-SAIKSVIKGSEGRALFPYQVRGMVNVIIQELSN-----APDGKY
DTVALENLL-SSVFAVFNQSGKLTVATHKISVLSGAGNLSYNA-----ASGSS-
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TIDSVEYLL-KGIFDTLNGRNGKITVAEYRIHLIQQAGYLSFNA-----ISYKE-
TVKSVEYLL-KGIFGSLNGDNGKITVAEYRINLIQQAGYLSFNA-----ISYKE-
SQEALALI-KHLVGVNNGSEGKLTTEQRLSVLTAIGEVSCHV-----VTGASH
EEQWLLKII-DEVILPLK--TSRITNVEHRALQVQVLSIFHC-----
DDKLIKVL-GEILTPLK--TGKVPSADQKIIFAQMLAALNS-----
DQEAINRIS-LTLANNLK----KATSPDHRILYGSVLADNI-----
DPSAVQDIV-THLFKILGGSEGKLTVVAQKMSVLSGVASCSSHA-----VSGTS-
DPTAVQDI I-THLFNILGGSEGKLTVVAQKMSVLSGIGSCSHHA-----LSGAS-
DPSAVQDIV-THLFKILGGSEGKLTVVAQKMSVLSGVASCSSHA-----VSGTS-

GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_CHOYA
S9W134_SCHCR
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C5G992_AJEDR
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A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

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KHIDASMLLNELLPLFTK-AKESDFNSLASLIVKTLKFLLMNGRNPBGDKIYDFLS
KLQLSKQILQSIISIYLEKELNKDNRNKGFKLLGK----VMKMVEELPEQTIKIIT
GQVLNGCVAELFIPFLQQEVHEGTLVHAVSILAL---WCNRFTTEVPKKLTDWFK
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SQALSGTMAELFIPFLQQEG-----
KSTKSEKVLDSLPLASKEQNETSLGSLVDVFAYHA----FKANKFDDNIAKTFI
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BSVILQLAVDFFSKALITEIQEKVICTLDMFSL---WMVKFVGGELPKSIVDFIK
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VQKLAETACEHFVKVLETEVHEKTLIQALEMMAL---WSKKFSSTLPKIVVDAFK
IQTILPSVCDQFAKVIIEIQEKVVCHALEMFGF---WTENYRGEISPKIVQLFK
CELLGNAVISRLAPLIPPEVHDATLAAMWDAMVV---WGERM-PSISAHLLPLFK
SQTLSGTVTELFIHFLQQEVHEGTLTLLHTISVLTTL---WCNKFTTEVPKHLLEWFK
SPQVSNIIINGLKNYISKESNEVALEKMLS AFFTHF-FSS---ESADPATISTIK
KEIDSTSLLEKVLPLFMK-VQESSFYHLAAVTRNVKSLSSNISLSRSYDFLS
KEVDSASLLNEVLPFLMK-VQESSFYHLAAVTRNVKSLSSNISLSRSYDFLS
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NQVLSGSMVELFIRFLQQEVHEGTLVHAISMLAL---WCGRFLTEVPQTLVEWFK
HENVSLDIAEKLSPLLVKESNEQALVNLLNPFYQHY-FAT---GTSIDKFNTTII
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SSSASQAILTGLSAALLRESSEVALEPEIKSFCHHLTFLVSSRADVSMENCTVI
SAGIAAKVASGLPPIVIGKEANEALS AETLALNSSALSLLASG-DAPKPLLDAYA
SGGIAVKAAAALPTPIGKEGNEVALKAETLGLSKAVKSLLTEGTELPAVTDAYA
LISLSRTICDFLLSCYKDDGNEEVKIVILSAIAS---WAVKSTDI IQESLVSFLV
VERLAETACEHFIKVLETEVHEKTLIHALEMAL---WSNKFANNVPCVIDAFK
LINLSQTICDFLLSCYKDDGNEEVKIATLSAIAS---WADKSTNIIQESLVSFFA
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TPIVLLLAIELEFSKALVTEIQERVISCTLDMFSL---WMLKLSGELPKSITDVF
IQRLEIALQHLLAVLKAEVHEGTLTLLTLKMSK---WCSRFTQEPFSLVTGFK
FPELSHRVLSGLSPALARESNEAALESEVQAFCHHLAYLIRSQSTISKEDFSVVA
SEALAASIPQGLAPVAAKEPNEAAASAEIAALS KHLKFGLEKGVAVNAVTDAYV
KSNNGASLAAIILPVATKESNELALTQLTRALFYHF----IRGDNYDKSIEGK
SQTLSAVAVMFIPYLQQEVHEGTLVHAVSVLSQ---WSSRLTVEVPTALLDWLK
SQALSSSVTVLFIPLYLQQEVHEGTLVHAVSVLSQ---WSGKLTVEVPRPLLDWLK
SQTLSAVAVMFIPYLQQEVHEGTLVHAVSVLSQ---WSSRLTVEVPTALLDWLK

GCN1_YEAST	AGFADK--KPALKKCCWFAAFL-----NNSNAASEEVILNFDGCL	605
GCN1_SCHPO	KSLQRP--VAHESMFWLTSLATMAWDLPSD-----DVQIEFINFFLNLSILTE	
GCN1_DICDI	NSLKN--DDI IKGQVILSLSKSLGPEANGTNKKVIQIINGFTETINTI LKNVKN	
GCN1_MOUSE	KVFSLKTSTSAVRHAYLQCMCLASFRG-----DTLLQALDPLPLMQTVE	
GCN1_HUMAN	KAFSLKTSTSAVRHAYLQCMCLASYRG-----DTLLQALDPLPLLIQTVE	
M7ANV9_CHEMY	-----DTLLQAMDLLPMLIQTVE	
H8X4E7_CANO9	TGFKSK----VKRVWFVEYGK-----HALGKEQPDTTTFVNDTLS	
W6A2P0 ICTPU	KAFTLKSSTSSVRHAYLQAMLRAFKG-----DTLSQALDPLVPLLIQTVE	
B6JZI6_SCHJY	SFLKDA--RAPIREYWILS IARLLWNFETFS-----AAQTSVLELFLHELDDLCK	
R4WJK2_RIPPE	KGFALKTSTCPVRTAYIGVMSACQOS-----GTAGQITQFIPILLKSVE	
W8CCK9_CERCA	RGLDLKTTTQPVVAVYLQWFLAGLQN-----AKLYQGFNFSPLLSMVE	
B0W357_CULQU	KGLEAK--AQVLRYSYLQWFLACLLEN-----GKLPSTGDTYTAALGKIVE	
E1ZX97_CAMFO	KGMAAKTSTAARTAYIKLFFST-----PTAAYSTIIAPI LAQAIT	
W5JJ28_ANODA	KGLEAK--AQPIRTSYLQWFLSCLHY-----GKLPGGSDFTLALSKVVE	
F1KPR4_ASCSU	ASHKSTASRSIMIRAMVHLFCKC-----GFEEKFSDLIITIME	
V9K7F0_CALMI	KAFTLKTSTSAIRHAYLQCMCLASFRG-----DTLLQALDPLPLLIQAVD	
W0T7Q3_KLUMA	AGFNEK--KLPLKKIWFNSFLIHSN-----SIKLDIADSFEEELIQHLK	
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S9W134_SCHCR	KSLDKP--VAYERQHUILALADLVWDSQTNE-----SSQLELNNFSPLLLSQ	
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A0A0A1XE05_BACCU	RGLDLKTTTQTVRISYLQWFLAGLNN-----ANLRHDLNITSILIKIVE	
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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B0W357_CULQU
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YASTSFLHTDGF IQRTSKKDHAIDL LLLTLFLRVKSFPSIKLNDKSPLY--SSVLN
DEKRQFTTSEKFLLLASEDALCTVLRRLTERFLDHPHRLT-NSKVQQYY-RV LVA
DEKKQVFTSEKFLVMASEDALCTVLRHLTERFLDHPHRLT-GNKVQQYH-RALVA
-----TAMCTVLQLTERLLL DHAHRLP-ENKVQQYH-RALVA
-RDSPLLD ETKLFEKL-DTIDLLWFVKDLY-----NHPKGWLY
DEKKPLFTTEKFLVQTSEEALCTVLQLCERFLDHPQRLN-NNKAQMYH-RAMVA
KSKEMLLFTQRNINRL LLD AQQQWAI IAACIYITEFA-ESLDNSAYADLFYCLVF
DMEKQVFI SERFLSQASCEALCQVMNLCEKILMEDITIGGSVSTVRGPVH-RALVT
DMNKQIFFSERFMVAAPPETLCYVSLIAERLLTKYSDNLK--GSFNIVL-KALVS
DMNKKVFLGDKFLANTAGETLTCYVMLMCEKLLLNLHLDNVK--GEVEALY-KAVVY
AIDEQIFFSEKFLSTCGDDVLYHMLLCCERLITEFFDRLN-EKALTGIH-RAVVS
DMSRPVFLGEKFLATTNAETLCYVMVICEQLLLHHRSELKGGGSTDPLF-RAAIV
-IADDIIYRDKFITS LRKPDAMLLPQLSVKLITDRPYSNTEESVYSSVALRLLFI
DEKKQFFTSEKFLSVASGEALCTILQLTERLLTDLP-----EIKGQMYH-RALVA
-QRLFELEAEKTLSSIQSIID-----ENSESYGLMWAY
-TGESILFSNKYSNKLTTDQAKLWIRGLCTFASVCD-KVLTDDLASSWFQSLIN
VNGDTILFSNKI INKLTTDSAKLWWRGLCNFASVYA-KDLTDSLASSWFQSIIN
-NKILTLNNTQLNGRAIQLIDAL-----PENTTIGDAILT
SPKLSFLLNPKIYTKLSSAEDEWTLRALFAVTVQPGFSASDEQAKEAWAQTFIY
-NKILTLNNTLNDVRMQLIDNL-----PENTSIGDAILT
SPKPSFLLNPKIYTKLSTEDFIWIRALSTVSRSKAFHAGDPEIRDSWGQAFIY
EPKPSFLLNPKLFSKLSTDEDFEWFRRALASVVAELP-EDGSDVSIAWAQALIY
DPKPSFLLNPRVYGKIATEDELTWMRALASAASGLT-VATPSDVKTAWSEAYIY
QPKPSFLLNQVYKSVSTEEEDVSIAMRALAAIAPVA-DTSSGDVANAWAQAVIF
EPKPSFLLSPRIYTKLTADDIRWLYRALVAAPGLN-GNAESAVSIWANAYVY
LKAPGLLTSSKIYTKLTEAAELSWYLRAIAQASGSI--TELEEQERVDYGLAWVY
NPKPSYLFNPR IYGKFA-DEDLKWLTSAITAVAPFLN-GVGLPE-RVAWAQAFIY
EPKPSFLLYHRIYTKLASEEDTIWAIRSLAALYDDL PSTKRENSTLQSWALAFIY
QPKPSFLLNSKVFTKLSTEDDVIALRALSSVAPFLA--QTSAAEDAWAQSFIF
QPKPSIHLNPKVYSKLSSEEDVSIALRALKALAPEVT--QASKEVADAWAQAFIF
EPKPSFLLTPRLYSKLASNDDLRLWLRALVTVVNDLP-DDGSSSVCLAWSQALIY
DEKKQIFTSEKFLQSATEEAMHTVLQLTERLLL DHAQRLS-ENKVQLYY-RALVA
DEKKPLFTTEKFLSQGNEETLLAVLQLCERFLDHAHRLN-ASKSQMYH-YATVA
DEKKQIFTSEKFLQSASEEVMCTVLQLTERLLL DHEYRLP-GAKIQQYY-KALTA
-----SENVYAEIEHDIIDI-----QKDAMLGEAFLR
-NKILTLNNTLHDRIMQLIEAL-----PAETCIGDAILT
SPKPSFLLNPKIYTKLSSAELEWALRALFAVTVQPGFATSDEQAQAWAQAFIY
EPKPSFLLNQRIYSKYV-DDDLKWFCRALSAVVPAL--GASGEAARVAWSQAYIY
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SQNEPSVPI SMASKLSLEDSMACVDLLEVLLEHLQRTLSNFSVRLLL-QLMIF
AIDEQIFFSEKFLSTCGDDVLYHMLLCKRLIEFGDKLN-EKTLNGVH-RAIVT
SQNEPSLIPISMASKLAVEDSIACIDLLEVLLEHLQRTLSNFSVTSLL-QLVIF
DVNKL IFFSERFMAAAPPETLCYVSLMAEKLLTQYSDKLK--GSLSVLF-KAIVY
DMNKQIFFSERFMAAAPPETLCYVSLMAEILLTQYSDKLK--GPLNVLF-KAIVC
DQEKQPPFADKFLQTASEDTHLLVLQLITRMLDHPDSCF--ANLKPFA-VPLLR
SLKQS FLLNPRIFTKLASKDELAWNIRALSGVSSEAAFQAVDPTVRD TWAQAFIY
EPKPSFLLNTRVYTKLTSHEDELVWLRALAAATSSGI--ASSQPEIQDAWAQTFIY
DEGASLLTSPRVYQKLISDQEFEWAILA-----TKSTDQFTLELGRAWIF
DEKKPLFTTEKFLSQASEETLLTVLLCERFLDHAHRLN-TSKSQMYH-HAIVA
DEKKLLFTTEKFLSQANESLLTVLQLCERFLDHAHRLS-NSKSQMYH-HATVT
--ISNYLTHVKFCSQGP-----SEAS

GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHUY
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
A0A0L8RIK7_SACEU
A0A178FRD2_TRIVO
A0A175WD14_9PEZI
A0A194VFU1_9PEZI
A0A151TXV6_CAJCA
A0A0M9ABE9_9HYME
A0A072U5F0_MEDTR
A0A0K8V1F4_BACLA
A0A0A1XE05_BACCU
A0A131YTA4_RHIAP
A0A0J6I2R9_COCPO
A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

AALSTELSIENRIHAVNLLQELFYK-KPEF-----IGFSVIDAIERRMRV--- 770
VFSFAS--RENSNRALKILKSAILY-RPH-----LRMSICSQLWNYH-----
CLLHSQ--WSVSKHSAIKIRSILSRNDSVDID--YPLLSNQLLIEFSTILF----
VLLSRT--WHVRRQAQQTVRKLLSSLGGVK-----LANGLLDELKTVLNSHKV
VLLSRT--WHVRRQAQQTVRKLLSSLGGFK-----LAHGLLEELKTVLSSHKV
VLLSRN--WHVRRHAQKTVRKLLSSLGGYK-----LAYGILEELKTVLKSHKV
VLTGKKVPYSVKKVAQERFREEVEV-NLS-----LSDGVIAEAYTLDPE---
VLLCRA--YQVRKRAHQSVKLLSSLGSPS-----LAHGLLGELCVVIHKHKV
TLQAKS---NDKESCFSAKELSR-CPE-----ARVKLSEQMWDWRLLTE-
CIANHH----VKTCKCPALLRFSSSQGTQ-----IAAMLLDELHALLVGNKF
NLIENS--EKVRTYTMLLPTIMHSKNGVT-----YIKIVI SELENQLDNVWF
CVNSHH--KKVRKYCLPRLERIVNSSNGIT-----LAKSLFQELTNFVETTKI
CATASN--STRQRCFPLVKKIMTGLSTYA-----PAQALLTEFNKFLENVKI
CVMSAQ--QKVRRYCLPLIRRVNSEDGVA-----LAKSLLAEMTRYAENVKI
VLLWPA--FEVRKHALSSLKLLILA-EDTR-----FTSSFLDAFYEYLISGSA
VLLNKT--WRVRKQAQQMVRKLLSSLGGVK-----LAYGLLEELKTVLSSHKV
TLLSNGVSEFQRQIAFELFDKSFKR-QPSF-----VGEVVLTALESAVRN---
LFNFTG--NQNYRIAFELKNAVLV-NPG-----LRKTICSQLWNLH----
LFNFSG--NQTSKIAFEALKNVAVLV-NPG-----LRKIICSQFVNLH----
STLSTELSIENRIHAVVLLQELFHK-KPEI-----IGFSVIDAIERRMRA---
MVCSSVSPKIRQLATDLLRQCYLK-QIVL-----IGTTVINSIWKWLYH---
ATLSTELSVENRIRALNLLQELFYK-KPKT-----IGFCVINAIERMRV---
VICSSSTPPKVRHGVSAKQCQYCG-NPAL-----VGTMTITALGWGLHA---
LISSPATGAQVRVDLCKRSELYLS-NPER-----ISTAVVGGMWSWLES---
LICASAVTPKIRQLALDSSLYLA-QPTL-----ISTAIVGAIWHWLEA---
FTISRTLSSQASSAAKQVLTQSYLRTSPEK-----ISSIIINGLWSWYRS---
AATSASSAYLRKEAIAALSDLYLR-NPSQ-----VSGAVVSGLWNWLET---
MLSSNVMANIRLTGNKLVKQVLET-VPE-----LSDAI IKACYKVLKD---
VISSAATGPDVRRDAIDALSTLYAQ-SSAKAEGPSALLAETIVEGLWHWIEA---
FVCAASIPPAIRREATHALTLVYVK-RPEV-----VGPAAIISGLWLNWRQ---
FIVAQTVSPKAKAAKQALTKVYLRTSPSK-----VGDILVRGLWSWYRS---
LIVAPSVSAKAKSAAKQALTSYLQTSYLDK-----ISNIIVEGLWSWYRS---
LVSSATTSSQVRKELCQQISDLYQR-NPKK-----ISSVLTSGIWHWLGAA---
VLLSRT--WHVRKHAQQAQRKLLSSLGGFK-----LAYGLLEELKAVLRSHKV
VLLSRS--WRVRKRAQSVKLLSSLGGSN-----LARGLLGELRVVINKHKV
VLLSRS--WSVRRLAQQTVRKLLSLPRGFK-----LACGLLEELKAVLISHKV
VCTSIELDAVTRQRSVTLLEKAVSL-QGET-----ISENVINSIANLMKQ---
ATLSTELSIENRIHAVNLLQELFFK-KPEI-----IGFGVINAIERMVCV---
LVCSLASLPKIRQLATGLLRQCYLK-QPVL-----IGSIIINSIWKWLYY---
LASSTATPPAVRRQALESLSNLCV--QPAGSD--RVSVAAEIVDGMWHWIEA---
LICSTTVSQVRKEAADILSEVYIS-NPGK-----VARVLTNGLWTWIIQA---
FICHPR--WDIRRTACNVARKIIAS-APH-----
CATAPK--YKIRKRCFPLIKKVLTLGLSTYD-----PAQELLMEYNKFLENVKI
FICHPR--WDIRRIACNVAKRIITS-VPQ-----LSEDI LSEFSKYLNLVE-
NLIENS--EKLRTYTSLPLRLMNAIEGVD-----YINNIMVELENQLDNIKF
NLIENS--QKLRTYTLNLLPKLNTNNGVD-----YIHKIMMELENQIDNIKF
GLSHSS--HPVRQSAQSTVRKLVSVLSGTS-----LACFLLREFSSFVDS---
VISSAATPENLRESAISHLRNCYLK-NPQV-----VGMAIISAMWKWLLA---
LIVASGLPATARSETIASLRTAYLA-QPEA-----VGKTVTDALSHWAAD---
YVLSHQVPSSCRRSALEALRNVMYDMSNPS-----VGPLLEAL-----
VLLSRS--WRVRKRAQQGVKLLSSLGGSS-----LAHGLLGELRVVINKHKV
VLLARS--WRVRKRAQQTVRKLLSSLGGSN-----LAHGLLEELKTVANMHKV
VKLSNP--RLQKRALSFQKEFYSEERDSS-----ARSI

GCN1_YEAST -----QELIPQQNTSFKYVTSVLLAITS-----ELPDKE 825
GCN1_SCHPO -----ADFEKSKSVGKFDSAKYDEISSLFQSLILSSMSADTSNFSNQELV
GCN1_DICDI -----DDSLIITPQIINSNVESTTTTTTTTISNKKNYLIAFRSILSK
GCN1_MOUSE -----LPLEA-LVTDAGEVTEMGKTYVPPRVLQEALCVISGVPGLKGDIPSTEQ-
GCN1_HUMAN -----LPLEA-LVTDAGEVTEAGKAYVPPRVLQEALCVISGVPGLKGDVTDTEQ-
M7ANV9_CHEMY -----LPPIEA-LVTETGELSELGKAYIPPRVLQETLVCISGVAGQEVDRTE TEN-
H8X4E7_CANO9 -----VHNPRDLSLVFAMLTQ-----LKEVD
W6A2P0 ICTPU -----LPPEV-LQTETGEWTELGRLYIPPWILLEALRVLCTTAGQWNDSSEAEK-
B6JZI6_SCHJY -----KLREQKKAEVVVFYENSVS YFFTLLSAFTL-----DYEAMQPSDKQ
R4WJK2_RIPPE -----QSAKENRDNQENHHEFKPRHLVDAIVLICSGTNLSKEDKNTLA-
W8CCK9_CERCA -----NNEIDSNQEESVANANILVDVIESICNYEHLISVDAKTVA-
B0W357_CULQU -----LNEGE-QEEGVPPAQAI VETIVAATTIANI--GSDAQT-
E1ZX97_CAMFO -----KSESDKESKDESSMGEITGRCLADGLFAICSGSFLFEVPTYQMT-
W5JJ28_ANODA -----LNEGDPHEDGVAPAQALVDAIWTICDVELL--ASANAQS-
F1KPR4_ASCSU -----DYTYHKTCSATTAMVAEGEKSESEHVEGWILDALRVVLI PF----DAAEVQSD
V9K7F0_CALMI -----MSPDL-LVTETGEPTETGKSYIPPRMLLEALS VITSIPGLET DVREAER-
W0T7Q3_KLUMA -----SSELLSRI SFRRSAPLFTVLSQ-----PLSDKE
S9R951_SCHOY -----YQAESAKKDGKFDDEEYNNKLVQLLKSILL-AISADVSTSTRFV
S9W134_SCHCR -----YQSEASKDDKFDENSYKKLVQLLKSILL-TISSNISDVNPK EIA
H0GUK0_SACCK -----QELIPQQNTSFKYITTVLLTITS-----ELPDKE
E5R2E4_ARTGP -----LDIADKEAAAVLSGSGKSYLSHVVRITPAVSEMEGHC--SINKK
J8Q888_SACAR -----QELIPQQNISFKYITSVLLAITT-----ELPDKK
C5G992_AJEDR -----LDTANKD SAALSAGTGNEKIHLVIKAINLAPSEQNPDD--NISKE
G4MR95_MAGO7 -----VEEGEKD SAALAKAENKHLHLILRAICPSAQELPSKFTEEAGKE
C9SQ16_VERA1 -----LDAGEKD TAAVLARTERN SLHLVVRAICLSPKDWQERE-IVPEEQ
B2WNI9_PYRTR -----SEQGDKESA AVLSKAQTGDLGAVLASICLPDPSLKKHD-ASIDTA
S3CN37_OPHP1 -----QNGDKESASILSKSQNAQLLPVLGAICRRSSEFVKATGKEPERN
G3ALT0_SPAPN -----FEIEQHMEVFN FALKNF SVIFASLTQ-----LNNQE
Q7S5P0_NEUCR -----TEAADKESAALAKTGTSNLHLVLKAI CLKPEEYQKRAGAE PDKT
A0A165FVX9_9PEZI -----VSLDDKDS PATSAKTGISQLLLVIR SICIPSKQEV EKLS-GKVEKN
A0A178DN93_9PLEO -----SEQEDKDSA AVASKTGTSDLNAVIGCLCLSEL LKKLD-ANVDQE
A0A177D7J2_ALTAL -----SEKEDKDSA AFASKASSVELGAVLGCICLSPETVKNHN-ASVDDA
A0A0C4DS68_MAGP6 -----GEEGDKD SAATLAKADTTHLNLILRAICLPARELPEGAAE VTERS
A0A151N4J5_ALLMI -----LPPIEA-LVMESGELSELGKAYVPPRVLHETL CVISSVAGLEVDPTE TEK-
A0A146NKU7_FUNHE -----LPQDV-LVSESGELTELGRSYIPPRVLLDALCVVCSAASQWGDPAE AEN-
A0A0F7Z917_CROAD -----LPPEA-LVTESGELSEQ GKTYIPPRILQEALCVIACGPGMEGELEEKEK-
A0A0W0DC37_CANGB -----DSFELDEKCSIVYFIPIFNALVT-----SNEDKT
A0A0L8RIK7_SACEU -----QELVPPQQNISCKHITSVLLAITT-----ELPDKE
A0A178FRD2_TRIVO -----LGIADKESA AVLSGAGYSNL SHVVRAITPSV SERDGLD--SINKK
A0A175WD14_9PEZI -----MEAADKETAAALAKSGNSNLHLVLKSICLGPKEYEIQ A-VDADKA
A0A194VFU1_9PEZI -----LEAGDKDSASILAKTDANNMHSVLR AICL TEAEFTKGG-KSTSPE
A0A151TXV6_CAJCA -----DNDISLDPQVPFIP SVEVLVKALLI ISPAALKQA-----
A0A0M9ABE9_9HYME -----KSENSENKEDSSCEITGRCIADGLFAICSGSFLFELPAMQMT-
A0A072U5F0_MEDTR -----EKVSALRISDTDISLDPQVPFIP SVEVLVKALLIMSPAAMKVA-----
A0A0K8V1F4_BACLA -----STDYDGYHEENLATS NILVEIMQSI CNFQQIP-GEAKKLA-
A0A0A1XE05_BACCU -----NTDCD-YQEENVA AKNILGELMQS ICNFDQIP-DDAKKLS-
A0A131YTA4_RHIAP -----HLKDKAE ECGPGEAKI----LAEALVTICSGSNL--DTKDTED-
A0A0J6I2R9_COCPO -----VNTGDKD SAALSAGTGGDKLLLVVRAITPSPN-----VVDSL
A0A074XMM5_AURPU -----VELETKESA AVLAKTGRQELYKVVRICLTK EEVAAGQ-ATIEQA
A0A167FV98_9ASCO -----SEKETLTTYTNLQQI INIFST-----DVDPVQ
A0A1A7XZM1_9TELE -----LPPDV-LVSESGELTETGRSYIPPRVLLDALSVVCSAASQWGDPAE AEN-
A0A0P7V1U6_9TELE -----LSHDV-LLSETGELSEI GRSYTPPRVLQEALCTICSVAALQNDPTEAER-
A0A1A7WWE1_9TELE -----KDIDVGLTANPSKVSELKRKF-----EGIT TSSSDW-EMNRKER-

GCN1_YEAST	ASIKVLINAL-VIAQWNI FNIK----NGWAGLVL---RARLDPAEVVKHEHASVIM	880
GCN1_SCHPO	DFDKYLVELL-FLSFAFKDK-----FDWIRFCQ---VSKRDPATLVSERIHSII	
GCN1_DICDI	NIKSELYPMLSLICYHPFIN-----YNWKRVS---LIQNDVNTTSSNAIEIS	
GCN1_MOUSE	----LAQEML-IISHHPSLVAVQS--GLWPALLT---RMKIDPDAFITRHLDDQII	
GCN1_HUMAN	----LAQEML-IISHHPSLVAVQS--GLWPALLA---RMKIDPEAFITRHLDDQII	
M7ANV9_CHEMY	----LALEML-----	
H8X4E7_CANO9	QVKSNAVKLI-IAANDPSIRIN----GGWIGLVQR-SGHKVDIGKLVKDNHQQIF	
W6A2P0 ICTPU	----LALDII-IVAHHPSIAAAS--ELWPLLLS---SMKMDAAVFIDQHLQITL	
B6JZI6_SCHJY	AYDEYLLALL-FLSYYYKSK-----IDWIRLCQ---NAKRDPALVSSNLEKLF	
R4WJK2_RIPPE	-----FHAL-LPCHHPILISSQG--NVWLNITK---HLKLDPPKFKVHKYKDKFI	
W8CCK9_CERCA	-----LQSL-LICHHPAAVCNDC--FLWEKILK--EKFKLDPEIFVENNTKEII	
B0W357_CULQU	----IALNAL-LPAHHPATVSVQS--DLWESILR---RFELDGKYFISMNAAHIK	
E1ZX97_CAMFO	-----RDAL-LPSHHPALLKAVP--NLWFKIAK---NYNLVPKDFLRSYSNEVR	
W5JJ28_ANODA	----LALSAL-LCShHPAALSVRS--DLWESILA---RYKLDGKHFIALNTAQIG	
F1KPR4_ASCSU	VALSTLTNAL-LVCSIPTVVEKGG--LEWMRWFH-----SIENQSTLFEGGTSVL	
V9K7F0_CALMI	----LAREIL-FMAHHPSEVAHV--GLWSTILL---RLKLDPREFIKKYLEEIL	
W0T7Q3_KLUMA	VSADILKML-VLSQLSTVNLK----NGWAGLVL---NSRLDPAEVVRSSGEKML	
S9R951_CHOYA	DYDFYLIELL-FLSFAYVDQ-----FNWIQLCQ---LSHRDPATLVTERIHDIV	
S9W134_SCHCR	DYDFYLIELL-FLSFAYVDQ-----FDWIQLCQ---LSHRDPATLVTERIHDIV	
H0GUK0_SACCK	ALINVLIDAL-VIAQWDFNVK----NGWAGLVL---RAKLDPAEVVKKHADAIM	
E5R2E4_ARTGP	DLEIQCIELL-VLCR-PELVPG----TSWINVSL---KMGVDPGKLAIEYPGQCL	
J8Q888_SACAR	ASIDILIDAL-IVAQWDVFNVK----NGWAGLVL---RAKLDPAEVVKEHANTIM	
C5G992_AJEDR	VLKTQLVELL-VICR-PQLIPG----TQWIDVVL---KTGIDPGELVREKYEECM	
G4MR95_MAGO7	VLEAQLCSLL-VLAR-SDIVPR----SSWIDLCL---RSGLDPGQLATKHEKTLL	
C9SQ16_VERA1	HLERQLCALF-VLAR-PELLPR----SNWIDLCL---RVEKDPGDLARRYEADLL	
B2WNI9_PYRTR	VLQKQAMSLV-VLAR-KEIMPR----VSWIDLCL---RMGVDPGELVRNHLEAFM	
S3CN37_OPHP1	LLEAQMCSLV-VLAR-SVLIPA----SSWIDLCL---RVEVDPGSLAQHHEKLLL	
G3ALT0_SPAPN	LVRDNIQKLA-IIANHAQATVN----NGWIGLAQR-SNMKLDLGDLIKENHSQIL	
Q7S5P0_NEUCR	KLESQMCSLL-VLAK-SQLIPR----ASWIDLCL---KVETDPGELARKYEQRLL	
A0A165FVX9_9PEZI	ILEDQLLALQ-VLCR-PELIPS----ASWIEVCL---RTGMDPGTLVNERPLEYL	
A0A178DN93_9PLEO	DLRQQALNLV-VLAR-PEIMPR----VSWIDLCL---RMNIDPGLLVREKLQGF	
A0A177D7J2_ALTAL	SLQKQAMNLI-VLAR-KEIIPR----VSWIDQCL---RMGVDPGQLVRDNLQEFV	
A0A0C4DS68_MAGP6	ALEAQMCSLL-VLAR-PELVPR----SSWIDLCL---RVGLDPGELAKNNEKVLL	
A0A151N4J5_ALLMI	----LALEML-LVSHHPSLVVVSQS--GLWPALLI---RMKIDPKDFITKHLDEIL	
A0A146NKU7_FUNHE	----VAMETL-IVAHHPSIVNARP--GLWPVLLA---SMNIRAEELIEKNLEAIL	
A0A0F7Z917_CROAD	----LVLETL-LVSSHPSLVAGQP--GLWPALLI---KMKLDPVDFITRHLKIF	
A0A0W0DC37_CANGB	TQGNILRFLI-VISQYDKFRIK----NGWAGLAL---KCGIDPSQIIAENTSTII	
A0A0K8RIK7_SACEU	ALIKVLVNAL-IVAQWNI FNVK----NGWAGLVL---RAKLDPAEIVKQANVIV	
A0A178FRD2_TRIVO	DLESQCIELL-VLCR-PELVPG----TSWINLSL---KMGIDPGKLAIEYDQCL	
A0A175WD14_9PEZI	QQELLMCSLL-VLAK-PQLVPR----ASWIDLCL---KVNLDPGELARKHEAALI	
A0A194VFU1_9PEZI	QLEEQMSSL-VLAR-PRLIPR----VAWIELCL---RVGVDPGKLAKKHDKVLL	
A0A151TXV6_CAJCA	--PESFVRII-LCShHPSVVGSAKRDAVWKRLSKCLQTHGFVVIDIISTNVGNFL	
A0A0M9ABE9_9HYME	-----RDAL-IPSHHPAIYKAMP--NLWFKIAK---NFNLVPKKFLCTFNHEIK	
A0A072U5F0_MEDTR	--PDSFVRII-LCShHPCVVGSAKRDAVWKRCKCLQTHGFVDVIDIVAANVINIV	
A0A0K8V1F4_BACLA	-----LQAL-LICHHPGVFCNNS--VLWETILK--SKLNFDPEIFVSVNAKDIT	
A0A0A1XE05_BACCU	-----LQSL-LICHHPGVFCNNS--VLWETILK--NKFNFDPPEIFVSLNAKEIT	
A0A131YTA4_RHIAP	----LALSL-LPAHHPVFAAHP--NLWLRIVD-----LLKLERKAPMDPQQAL	
A0A0J6I2R9_COCPO	VLDLRLIELL-VLCR-PELIPR----ANWIEITL---RAGADPGKIAQSYPKECI	
A0A074XMM5_AURPU	VLDHQLVNL-ILCR-PELTPR----SSWIETCL---KTGTDPGELVKRNTSKCM	
A0A167FV98_9ASCO	AKESNLAKLI-FVCHYPGALGK----ASWATLCL---RAGVDPGELVAHLHDSML	
A0A1A7XZM1_9TELE	----LAMETL-IVTHHPSIIQARS--GLWPVLLS---SMNITAEFIERNLESIL	
A0A0P7V1U6_9TELE	----LAIEIL-VIAHHPSEIARP--GLWPVLLS---HMNINPTEFIDKHLDSIL	
A0A1A7WWE1_9TELE	--IARRLEGI-DGEAHPA-----LQP-----SSVA	

GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHOY
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
A0A0L8RIK7_SACEU
A0A178FRD2_TRIVO
A0A175WD14_9PEZI
A0A194VFU1_9PEZI
A0A151TXV6_CAJCA
A0A0M9ABE9_9HYME
A0A072U5F0_MEDTR
A0A0K8V1F4_BACLA
A0A0A1XE05_BACCU
A0A131YTA4_RHIAP
A0A0J6I2R9_COCPO
A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

EKILEITGSCEWIDT-IYGACGLQAAAYAAFIQPNF--FTPILCKTIEADLTADD
EEIELELLSSAIKDSK---ETAASIASISMI VFVAPEE--SIPLFVNVFRNQLLHLN
KYI--FEKGLNQKKNKSYQQAFQQAINGLMNYNVPL--LNEELVKLMVKALSYP
PRI-----TTQSPLNQSSMAMGSLSVLSPDR--VLPQLISTITASVQNP
PRM-----TTQSPLNQSSMAMGSLSVLSPDR--VLPQLISTITASVQNP
-----LSSMNAVGSLSALS PRK--VLPQLISTISASMENPA
DECVA-----NPTPNSIKALATIAFVQPES---VGVITKFIDESLSVEH
PLL-----LEGNTDNQAVRNAIGELSVLSPGK--LLPCIMDRVIQRLSNPA
RNYELVLAESGNEK---TNAVISSLEMVAFVAPDD--APHIVKLFQRSLENIR
KLL-----IEDFQCHPSYERALKTIAEINSTL--ILPPLLNTVNEVFS DAT
NIL-----IDNFQKKNPYENAI STVVR LSPGK--VLP TLIKKIITDLKNI E
EVF-----FNKYKATPMYENTLATLSAISPEV--ILPVLVKNVTDLHNNAR
KML-----IQNYKPAPNYENALVRI VSLAPDA--FLPALVSNVT SKLDDSE
DVF-----FAVYKAKPMYESTLATLSRISPEQ--ILPVLVKNVCDQLTNSR
NGC---VQKVFTINDDCVRHNAIRLLMSAGDISMHFRGIVWQKVREMYGIDVQQ
PSV-----GSQSARDQATLNAMGSMAVLASGY--VLPRLSNLVT SMLGKQA
KDMLADLSDSKVVKS--ELRDVAVKAI AHISFINPEV--ISPLLAVAIKTNLNTSK
YYIATTL SNNVRSEK---EKAMISSISMI VFVAPEV--ATPLFVNLFVRLNKL
KYIEVALSSDVRSEK---EKAMISSISMI VFVAPEA--STPLFVNLFVRLNKL
DKILEITNNEWIDT-IYGCGLQAAAYAAFIQPSE--FTPILCKTIEADLSTND
NQILLSTNDPIRNNIADARQASWDAADLGFVAPEV--MIPKLV AQFCDDLKPER
DKIVGITSNDLWIDT-IYGT CGLHAAAYAAFIQPAE--FTPILCKSIEADLTTDD
SQILRAIDDP IRSQITKGRPAAWDAADLAFVAPDT--IIPRLVKQLHEDLNPKR
QEV--ALRSSFDQKSDAIRTASYKAAVELV FVAPEV--MTPRI IQLIQHDLDTSE
DEI--RNKSGAEQSSALVKKAAACNAAAELAFVAPET--MTPRIVELIEQDLAVEE
STVNSVTENKENDQFPVAVSLAAYSAYTDMAFVAPDT--ALPAVVKQFSQDLDPKQ
DEI--AARTQLTQTSTAIKTAAYEAAAELV FVAPEK--MAPRIVELIQNDLNTDE
KECALVTS DAPASGK--LYQAAIK AIGNIAFIQPAI--VSPILSNI IKENLDVEK
DEI--VNRTL YEQKSEAVRLAAYNAAAELV FVAPEV--MTPRIVDLIQQLKVSE
DAIERVYQDHFDSYGGTINHAGYKASAE LAFVAPDV--ITPLLKDRVASVDPQL
DLITGTTE DKENDRFP AISLAAYNAYTDIAFVAPEV--GLPAVVRQLSQDLDPKQ
NTINEATENKDNEPLPAINAAAYSAYTDMAFVAPEA--ALPAVIKQFSQDLDPKQ
QEV--AIRSTLDQKSAAVRNAAYKAAVELV FVAPDV--MTPRI IQLIEQDLVAAA
PRI-----TTQTPMNQSSMNAVGSLSLLSPGR--VLPQLISTISATMENPA
PQL-----LEVNADSQAVKNAV GALSVLSPNK--LLPRVMSHVIEGLSQPT
DRI-----MTQSPMNQSSLNAVGLLSVLLPAK--VLPQLISTISASLENPA
NTIIESSKPELLNT-IYGCSCIKAASYIAFINPVA--VAGPIAKLFS EDSL SVAD
DKIDRITTDNEWIDT-IYGTALQAAAYAAFIQPAE--FTPILLCRTIATDLEIGD
NQILLSIGDPIRHNI AEARQAANAAAADLGFVAPEV--MIPKLV AQFCDDLKPER
AEI--VGRGTGFGQKSDAVKTAAYNAAAELV FVAPET--MTPRIVITLIQQDLDA
EEV--VQRSEFWQPT-SIKEASYDAAAELAFVAPAT--MTPQIEELIRSDLNVEK
QVL--LGPMGLKSANPLEQQAAILSLSNLMSIIPGD--TYAEFEKHLLDLPERFA
KIL-----VQNYKPVASYENALTKVISIIPDI--ILPGIVFNITSKLDDPE
QVL--LGPMGLRSANPLEQEA AISL SNLMSIIPGD--TYTEFEKHLNLNPERFS
NII-----IDKFLKKT YENSIST IIRLSPGK--LLPILMQKIITDLSVE
NII-----VDNFQPKKTYENSISTIVRLSPGK--FLPILVQNIITD LIYVG
PLL-----LSRDTIDPDVKGAITTLTAVLPEF--VMNSVISKVL DALSQTE
AQVLLATEDPIRSKLSKGR TAAWNAADLAFVAPDV--MMPILVKQIQEDLNIDR
DQIIRVSEDKLLATIPAFQLAA FQATADLAFVAPED--LTSVILDQICSDLPKL
RDIFSVVDD-----SLYPTAFAALATLCFIRSDL--IVPSVVQFINSSLSAL
PQL-----LEVNADSQAVKNAV GALCVLSPNK--LLPRVISHVTEGLSQPA
PCL-----LDTDSQAAQNAVGS LCVLSPDK--LMPVMERITYRLSDRA
KRL-----LEVDA-----PRYTR--ASDLCEPR

GCN1_YEAST FSR LSEEDFEI-FAGEEGLV-LVDVLEESMNKK-----LSNKNKEYETLMW--- 990
 GCN1_SCHPO ISSVSSTDLEI-WKTPEGVLW-DNVLEKSSKK-----LDKNTKDYETKRW---
 GCN1_DICDI VLAITQQQWSI-YHTLPTELF-----VEKQEQLVESRNDKRVKPKTAEQ---
 GCN1_MOUSE LCLVTTREEFSI-MQTPAGELFDKSI IQSAQQ-DSIKKANMKRENKAYSFKEQ---
 GCN1_HUMAN LRLVTTREEFAI-MQTPAGELYDKSI IQSAQQ-DSIKKANMKRENKAYSFKEQ---
 M7ANV9_CHEMY LRHVTTREEFAI-MQTPAGEFLFDKSI IQSAQQ-DSMKKANMKRENKAYSFKEQ---
 H8X4E7_CANO9 IDEVSK---SI-YYGKEGEMV-IDVTAKKPKAL-----DKNKADYERAW---
 W6A2P0 ICTPU LKQVTRREYAI-MKTPEGELYDKSI IMSAQQ-ESTKKGNMKRENKAYSFKEQ---
 B6JZI6_SCHJY FDNITDTDIAI-WKTPEGTMY-HNVLEKQTKLQ-----KNTKDYETKKW---
 R4WJK2_RIPPE LLNVSPMEYAI-FKSPEGELFDKSI LQSKENETTMNIKMKRESKVYSYKEQ---
 W8CCK9_CERCA TSTISDEEYSI-FVTLKDNLLDKEGNES-----IYASGGQMRDIKQYDKSQ---
 B0W357_CULQU MGNVTDEEYFT-YLTPDGELYDKSVI PINSDE--QTNTAHLKRENKAYSFKEQ---
 E1ZX97_CAMFO ILRVTKDEYFT-YLTPGELYDKSVLPVNDENDILNSMNMKRESKVYSFKEQ---
 W5JJ28_ANODA MSDVTDEEYFT-YLTPDGELYDKSVLPSSDE--PIQTAHLKRENKAYSFKEQ---
 F1KPR4_ASCSU YLAITEKDVAI-YKVPDGKLYNTEVIDQNSE-EAIEAKNVKRESKAYKFKEQ---
 V9K7F0_CALMI LHLVTTREEFEI-LQTPGELHDKSLILSTQQ-ETAKKSNMKRENKAYSFKEQ---
 W0T7Q3_KLUMA LSAFATEDIQI-WKGEEGELV-IDVLSAKSSAA-----LTDKNSKDYIILKW---
 S9R951_CHOYA LTNVSDMEYEV-WKTPDGVLW-DNVLEKSSNKI-----DKNTKDYETKLW---
 S9W134_SCHCR LADVSDLEYEI-WKTPDGILW-ENVLEKKTQKM-----DKNTKDYETKRW---
 H0GUK0_SACCK LSQ LSEEDFNI-FAGEEGLV-LVDVLEESMNKK-----LSNKNREYETLIW---
 E5R2E4_ARTGP ISQLSAIDIAI-ARHTGDTPF-VDVLDTK-AKN-----LPNKGARDYDTLKW---
 J8Q888_SACAR LSQ LSEEDFDI-FAGEEGLV-LVDVLEESMSKK-----LSNKNKDYETLMW---
 C5G992_AJEDR VLKFESTDLAI-ARTPEGTMF-VDVLSTK-SKP-----VIGKG-KSDTLKW---
 G4MR95_MAGO7 LKDIGPLEAAI-FRTPEGTF-VDVLAKK-GTT----VS-TKG-KDADTLKW---
 C9SQ16_VERA1 LKKIGPLEAAI-YRTPEGTF-VDVLAKKAQDT-----VPDKNNKDYDTLKW---
 B2WNI9_PYRTR LESVGPTEAAI-FRTPEGTF-IDVLSK-----APVVIDKNTKDYDTLKW---
 S3CN37_OPHP1 LKTVPVEAAI-FRTPEGTF-VDVLAKK-TSS-----LPSKSKDYDVLKW---
 G3ALT0_SPAPN FSSIDNETLKI-YNGKEGELV-IDVLNKDTKKQ-----VEDKNSKDYIILKW---
 Q7S5P0_NEUCR VQSVGPLEAAI-FRTPEGTF-VDVLAKK-QNV-----VPNKNDPNYHTLKW---
 A0A165FVX9_9PEZI LQDIGPTEAAI-FRTPEGTF-IDPLAKKGQSI-----VPDKNVKDYDIMKW---
 A0A178DN93_9PLEO LESVGPTEVAM-FRTPEGTF-IDVLSK-----APVVIDKNIKDYDTLKW---
 A0A177D7J2_ALTAL MESVGPTEAAI-FRTPEGTF-IDVLSK-----APVVIDKNTKDYDTLKW---
 A0A0C4DS68_MAGP6 LEGIGPLEAAI-FRTPEGTF-VDVLAKK-SSN-----VPTKG-KEADTLKW---
 A0A151N4J5_ALLMI LHHVTTREEYAI-MKTPEGELYDKSI IQSAQQ-DSMKKANMKRENKAYSFKEQ---
 A0A146NKU7_FUNHE LLQVTTREEYAI-MQTPDGELYDNSI IQSAQQ-ENTKKVNMKRENKAYSFKEQ---
 A0A0F7Z917_CROAD LCLVTQEEFAI-MKVPEGELYDKSI LHSAAQ-DSLKKANMKRENKAYSFKEQ---
 A0A0W0DC37_CANGB LDKLTEEDVSI-WKGNEGEMV-INVLEKRNDRK-----LADKNSKDYETLKW---
 A0A0L8RIK7_SACEU LSQ LSEEDIDI-FNGDEGLV-INVLEESINKK-----LSNKNKEYETLMW---
 A0A178FRD2_TRIVO ISQFSATDIAI-ARHTGDTPF-IDVLDTK-AKN-----LPNKSADYDTLKW---
 A0A175WD14_9PEZI VRTVGPLEAAI-FRTPEGTF-VDVLAKK-QNV-----VPNKNTKDYDTMKW---
 A0A194VFU1_9PEZI LQDIGPMEAAI-FRTPEGTF-VDVLAKK-ANE-----VPKNQKDYDTLKW---
 A0A151TXV6_CAJCA HDTLSENDIQI-FRTPEGMLSTEQGVYVAEVAANKTKQAKGRFRMYDDEEDG---
 A0A0M9ABE9_9HYME I LKVTKDEYFT-YLTPGELYDKSVLPNTDENDILNSMNMRESKVYSFKEQ---
 A0A072U5F0_MEDTR HNALSENDIQI-FHTPEGMLSTEQGIYVAESVAFKNTKQAKGRFRMYGEEDG---
 A0A0K8V1F4_BACLA SSNITEEYI-YLTSKQEMPDDKAVKN-----EGNGRENKHQNEKTI---
 A0A0A1XE05_BACCU SSDISEEYI-FVSPKGETFDEKAIK-----DIYATTGHTRDNKHQIEKII---
 A0A131YTA4_RHIAP LRLVTAEEYSI-YSTPEGVLHNKSVLSTVVE-ATTDKNIKRESKVYSFKEQ---
 A0A0J6I2R9_COCPO ITRFGPTDIAI-ARHSGTTF-IDVLSK-TKR-----LPGKGDYDTLKW---
 A0A074XMM5_AURPU LQDVGPTEAAI-FRTPEGTF-IDVLAKQTQAQ-----APSKNSKDYDTYKW---
 A0A167FV98_9ASCO ISEFSADDITI-WNSPEGELVDLDARNSSTKRKVYVE---NKNSKDFETRW---
 A0A1A7XZM1_9TELE LLQVTTREEYNI-MLTPEGELYDNSI IQSAQQ-ENTKKVNMKRENKAYSFKEQ---
 A0A0P7V1U6_9TELE LRQVTTREEYAI-MLTPEGELYDKSI IQSAQQ-ENTKKGNLRENKAYSFKEQ---
 A0A1A7WWE1_9TELE SVRV--QQYSMEVDTP-----LKSS---DPGSRAGSRPEPKSSNHTPEAHG

GCN1_YEAST	--E---QKIRKEQAKKN-----VKKLSKE-----EQELVNEQLA	1045
GCN1_SCHPO	--E---AEVRAKQSAKK-----PAKLSKD-----QQALVDAQLD	
GCN1_DICDI	--R---DEESRKRIEKKKIQ-----SGELEK-----QEKERQKQLA	
GCN1_MOUSE	IIE---MELKEEI---K---GIKEEVQLTSK-----QKEMLQAQMD	
GCN1_HUMAN	IIE---LELKEEI---K---GIKEEVQLTSK-----QKEMLQAQLD	
M7ANV9_CHEMY	IIE---LELKEEI---K---GIKEEVQLTTK-----QKELLHAQLE	
H8X4E7_CANO9	--E---ESIGKELKQ-----AKKFTSE-----EKKLVAEQIA	
W6A2P0 ICTPU	IIE---LELQEEI---K---GIKDEVQLTSK-----QREMMQNQLE	
B6JZI6_SCHJY	--E---AEMRANLAKKK-----PVSLTKE-----QKQAVEEQLR	
R4WJK2_RIPPE	QEE---IALRKELEEKRRKE-----GKLSQPELTPK-----QKEAVKIQLE	
W8CCK9_CERCA	QEK---NMLITESSDKKRQK-----GKPELSQK-----QQESVKNQLE	
B0W357_CULQU	VEE---LALRREIEEKRRKE-----GKSKPPQLTPK-----QKEALTEKQTE	
E1ZX97_CAMFO	QEE---LQLRRELYEKRRKE-----GKIKEPKLTPK-----QEETLKAQIA	
W5JJ28_ANODA	LEE---LQLRRELEEKRRKE-----GKWKPPQLTPK-----QKELIDKQRE	
F1KPR4_ASCSU	VAE---VELRKELAEKRRK-----EGKLTER-----QKKAVEAELQ	
V9K7F0_CALMI	IID---LELTEEL---K---GLKEEVQLSCK-----QKEMLQQTLE	
W0T7Q3_KLUMA	--Q---ESIKKDQAKKG-----IKKLTKE-----EQKLVSQDLK	
S9R951_SCHOY	--E---AEVRAKQAQKK-----PMKLSKD-----QQVLVDLQLA	
S9W134_SCHCR	--E---AEVRAKQAERK-----PMKLNKD-----QQALVDAQLE	
H0GUK0_SACCK	--E---QKIRKEQAKKS-----VKRLSKE-----EQELVDRQLA	
E5R2E4_ARTGP	--E---EELRAEVAKKHGQK-----QKKLTD-----EQAKIKAQLE	
J8Q888_SACAR	--E---QKIRKEQAKKN-----VKKLSKE-----EQELVDKQLT	
C5G992_AJEDR	--E---EELRAQVAQKRGQQ-----AKKLTAD-----EQAKVNSQLT	
G4MR95_MAGO7	--E---AELRAQLAEKKGQ-----PKKLSAD-----EKAKVDAQLK	
C9SQ16_VERA1	--E---AELRSSLAQKKGQ-----QKKLTA-----ETARVNAQLK	
B2WNI9_PYRTR	--E---EELRAQLAQKKGQ-----TKKLTDP-----EQAKVNAQLA	
S3CN37_OPHP1	--E---EELRAQLAAKKG-----QKKLTD-----ETAKVNAQLK	
G3ALT0_SPAPN	--E---ESIKKEIASKKAP-----AKKLTKE-----EILLVNQQIA	
Q7S5P0_NEUCR	--E---EELREQIAQKKGV-----QKKLTA-----ENAKVNAQLK	
A0A165FVX9_9PEZI	--E---EELRTQLAQKAGA-----QKKLTA-----ERAKVNAQLD	
A0A178DN93_9PLEO	--E---EELRAQLAQKKGQ-----AKKLTAD-----EQAKVNAQLS	
A0A177D7J2_ALTAL	--E---EELRAQLAQKKGQ-----AKKLSAD-----DQAKVNAQLA	
A0A0C4DS68_MAGP6	--E---AELRSQLAQKKGQ-----QQKLSAD-----DKAKVDAQLK	
A0A151N4J5_ALLMI	IIE---LELKEEI---K---GIKDEVQLTSK-----QKEMVHAQLE	
A0A146NKU7_FUNHE	IIE---LELQEEI---K---GIKDEVQLTSK-----QKEMLQNQLE	
A0A0F7Z917_CROAD	IIE---LELKEEI---K---GIKEEIQLSK-----QKEMLTAQLE	
A0A0W0DC37_CANGB	--E---ESIRKEQAKKA-----NLKLSKE-----DQMLVKEQLE	
A0A0L8RIK7_SACEU	--E---QKIRKEQAKKS-----IKKLSKD-----EQELVNAQLA	
A0A178FRD2_TRIVO	--E---EELRAEVAKKHGQT-----QKKLTD-----EQAKVKAQLE	
A0A175WD14_9PEZI	--E---EELRAQLAQKKGT-----QKKLTD-----ETAKVNVQLK	
A0A194VFU1_9PEZI	--E---EELRAQLAAKKG-----QKKLTA-----EHAKVNAQLK	
A0A151TXV6_CAJCA	VDH---TRPNHsvKRDQPSREAAGAGKKGDIKGAACKAGKYKGTAKKEARELLLK	
A0A0M9ABE9_9HYME	QEE---LQLRRELYEKRRKE-----GKIQEPKLTTPK-----QEEILKAQMT	
A0A072U5F0_MEDTR	LDH---TQSNHSMKRDQPSREAAGAGKKGDSGKTTKKADK--GKTAKKEARESLK	
A0A0K8V1F4_BACLA	SSE-----SEKKRYK-----GKANLSELSQK-----QKEAIKNQIE	
A0A0A1XE05_BACCU	ISE-----SDKKRYK-----GKASLSEPSQK-----QEAIKNQIE	
A0A131YTA4_RHIAP	MEE---IELKKELEAKKSK-----VQEPKLTTPK-----QKEVMDAQLQ	
A0A0J6I2R9_COCPO	--E---AELRAEMAQKRGQH-----QKKLTP-----EQVKVKAQLL	
A0A074XMM5_AURPU	--E---QELRDSLQKKG-----TKKLTAD-----EQTKVNAQLA	
A0A167FV98_9ASCO	--E---ESVRNEISKKKANA-----PDTLTKKLSKE-----EQTI-----LD	
A0A1A7XZM1_9TELE	IIE---LELQEEI---K---GIKEEVQLTSK-----QKELIQIQLE	
A0A0P7V1U6_9TELE	IIE---LELQEEI---K---GIKEEVQLTSK-----QKEMVQNQLE	
A0A1A7WWE1_9TELE	LISTGGLELESKA---ERIA-----RYKAERRRQLA-----ERYGISLDHV	

GCN1_YEAST	KESA-----VRSHVSEISTRKRGIRLVSELSKAACLVQNGIATWFFPLAVTKLLY	1100
GCN1_SCHPO	AEAK-----IRSRVNLIALSRLERGLGIIRSLGEAV---QLAPALWVEDAIDVLLF	
GCN1_DICDI	AQAV-----IRKDVQDVIDRHLHAMDTQCQTMAKSSS-NPQFVGEFMSPIIVALLQ	
GCN1_MOUSE	KEAQ-----IRRLQELDGELEAALGLLDAIMARN---PCGLIQYIPVLVDAFLP	
GCN1_HUMAN	REAQ-----VRRRLQELDGELEAALGLLDIILAKN---PSGLTQYIPVLVDSFLP	
M7ANV9_CHEMY	KESQ-----IRKQLKEAST-----	
H8X4E7_CANO9	KESK-----IRSGIKSTVAKVNFAIGLINELAAQAKVVNNGADSWFPTSVKKLLD	
W6A2P0 ICTPU	KESS-----IRKKLQGLDMELQCTVGLLEAIMARH---PPQISHHPIGVLHVLLP	
B6JZI6_SCHJY	VEGD-----IRKKVTNVVSSFTHSMFIIRSLAASV---QLRPDLWIEDAINCLLF	
R4WJK2_RIPPE	KERA-----IRERLKKDEERLNKAVQLLSCI IAGA---PLELALNLPTVIPPVVH	
W8CCK9_CERCA	KEIC-----IRDRLNLLNKKLKIVIAWLESACLGN---PKAVSLYFNEELLSQVLS	
B0W357_CULQU	KERA-----IKARLRELADIITTLISQIEGAIKGT---PRQLSLFFPTLLPAILS	
E1ZX97_CAMFO	KENG-----IRKRLTELKAKIDNTVSLVTC SIRGN---QQELSLYLKDLLPPIK	
W5JJ28_ANODA	KENA-----IKLRLRALNDTITTLVLSQIEGAAKGT---PKQLSLFFPTLLPAILR	
F1KPR4_ASCSU	TERA-----IRERLRSLYEDCERRLGALSAAINGN---PSGSTAHIDIIDV IIP	
V9K7F0_CALMI	REGA-----IRKKLQQLDEELQSALNVLNTVIKRN---PTDLSKHIPALIRSF	
W0T7Q3_KLUMA	KESE-----IRARVDNFVMIKSTIAIISQLTKDATLLDNGLANWFPASVNALLS	
S9R951_CHOYA	KEAK-----IRQSVNSMVALEKRGLEIIQSMGKAV---QLFPGLWVEEAI DVLVF	
S9W134_SCHCR	KESK-----IRQSVRRLVVSLEERGLGIIQSMGNAV---QLCPGLWVEEAI DVLVF	
H0GUK0_SACCK	KESK-----IRLHVSEIFTRLRKGIKLI FVLSKAACLVQNGIT IWFPLAVTKFLH	
E5R2E4_ARTGP	KESE-----IRDAVNSTEVVIKRGAGI I KSLANSP---PTQADGWINPACSSLCK	
J8Q888_SACAR	KESE-----VRLHVSRI FTRLRKGIKLI FVLSKAACLVQNGIATWFFPLAVKNFLH	
C5G992_AJEDR	REAE-----IRKNVQAEIIIKRGV GIVESLARGP---PTDVEAWINPAVGCVTD	
G4MR95_MAGO7	KESA-----IRERVRGVAAKVMRGVGIKSLATGP---PTDATLWMGPAVNALLD	
C9SQ16_VERA1	KESA-----IRHSIRLLEARLFRGIGIIQSLASGP---PTEAALWMPVIMALLG	
B2WNI9_PYRTR	KESA-----IRKEITATEQRMRRGVGIIQSLATGP---PTEAEQWMGSAVGLLIQ	
S3CN37_OPHP1	KEAG-----IRERIRLLEARLLRGFGVIRSLATGP---PTDATQWMGPAIKALLD	
G3ALT0_SPAPN	EESK-----VRNEVKAIVGDAHAYAVSII TELTNSAKLVENGASLWFPVAVIKLLE	
Q7S5P0_NEUCR	KEAE-----IRESVRHVAANLLRGFGIVKALATGP---PTDASRWMGPAVKATLS	
A0A165FVX9_9PEZI	KEAE-----IRKSVAHAQATLRRGAGLVEALATGP---PTDAEAWMGEAVKDLLG	
A0A178DN93_9PLEO	KEAA-----IRSSVAIERKMRRGVGIVQSLATGP---PTEAEQWMGPAVNLLIQ	
A0A177D7J2_ALTAL	KEAA-----IRKEVAATEHRMRRGVGIIIRSLATGP---PTEAEQWMGPAVDLLIQ	
A0A0C4DS68_MAGP6	KESA-----IRERVRGVAAKVMRGIGVIHSLATGP---PTDAGLWMSPAVKAILG	
A0A151N4J5_ALLMI	KESQ-----IRKRLKELDSELETALGLLNTVMKRN---PPGLTQYIIPSLVGSFLP	
A0A146NKU7_FUNHE	KESA-----VRKRLQGMDAELQSVVGLLEATLKAG---PAQITRELPGVLQVLIP	
A0A0F7Z917_CROAD	KESQ-----MRKQLKELDTELESTLGLF DAVLKRN---PPSLSQYIPALVSCFLP	
A0A0W0DC37_CANGB	KESK-----IRTHVNGIYLRLYRSLSLIKQLSKEAKLVNDGILVWYPTAVNSLMS	
A0A0L8RIK7_SACEU	KESE-----IRLRVSGIFTRLRKGVRLVSELSKAACLVENG IATWFFPLAVTKFLR	
A0A178FRD2_TRIVO	KESE-----IRDAVNSAEVMIKRGAGI I KSLANSP---PTEADGWINPACSSLCK	
A0A175WD14_9PEZI	KEAG-----IRDSVRQIAARLLRGFGI I KALATGP---PTDASRWMGAAIKTTLA	
A0A194VFU1_9PEZI	KESE-----IRHRVQGVAAQLLRGIGIVRALATGP---PTEASLWMGTAVESLLN	
A0A151TXV6_CAJCA	EEAS-----VRDRVCGIQQNLSMLR TLGDMAISN---SVFAHSRLPSMVKFVEP	
A0A0M9ABE9_9HYME	KETA-----IRKRLTELKFRIDIVVSLTMC SIRGN---SQELSIYLKDFLPLILK	
A0A072U5F0_MEDTR	EEAS-----IRDRVREIQNLSMLR TLGNMAIAN---SIFAH SRLPSMVKFVEP	
A0A0K8V1F4_BACLA	KENY-----TKERVGLLNKKLKS AISMLEAAFAGN---PKAVSLHFHKLMLQLLQ	
A0A0A1XE05_BACCU	KGNY-----TRDRLGLLNKKLKN AISMLEAAFAGN---PKAVSLHFHKLMLQLLQ	
A0A131YTA4_RHIAP	KEHA-----IRLRIRKLAGSVERAM LLLDAVMAAP---ASTVCQY GAPLFPQLVQ	
A0A0J6I2R9_COCPO	KEAE-----IRKSIQIQEQI IRRGAGIVESLARGP---ATEAEWINQAVNCLCR	
A0A074XMM5_AURPU	KEAE-----IRSHVTSVVAKLRRGIGMVTGLVTGP---PTEAANWFTVTTARLFE	
A0A167FV98_9ASCO	KQSA-----IRASVNQIVAKYKRAISLVNTLASQTL-VENGRELWFPASVLKLV	
A0A1A7XZM1_9TELE	KESD-----IRKRLYGMDELQSVVGLLESTMRAR---PAQITKELPAVLQVLM	
A0A0P7V1U6_9TELE	KESA-----IRKRLQGLHMELQSTAKLLV TLLSRR---PPRLSWYLPGLVQALLP	
A0A1A7WWE1_9TELE	PDCDYPSGHAQKPKDGLMCLLEEVAQKLH---RAF---PAQITKELPAVLQVLM	

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHOY
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
A0A0L8RIK7_SACEU
A0A178FRD2_TRIVO
A0A175WD14_9PEZI
A0A194VFU1_9PEZI
A0A151TXV6_CAJCA
A0A0M9ABE9_9HYME
A0A072U5F0_MEDTR
A0A0K8V1F4_BACLA
A0A0A1XE05_BACCU
A0A131YTA4_RHIAP
A0A0J6I2R9_COCPO
A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

LCSEPNISKLTED-VNNVFLQL--SQNV-SERLG--NIRLFLGLATLRVHNA--
HNVLYSEPFKLNAYDTFLLTLKASGFS-ERLGDRSYSSSLASILAHTFSVN--
LMK----HEITNHQFTQVFEKLICCVPSR-FKLD-RSFARHYIYIINNIY-----
LLK----SPLAAPRVKGFPLSLAACVMPP----RLKTLGTLVSHVTLRLLKPE-C
LLK----SPLAAPRIKPNFPLSLAACVMPS----RLKALGTLVSHVTLRLLKPE-C
-----LVSHVTLRLLMKPA-C
LAISE--GDFFKS--AESFINL--SNLIT-SRFE--VLKTFVGVAVLRLYGVK--
LLH----SPLAAPHVHQTFLDIGTCVLQK----QLHFLALLVGHVTLRLLKPE-C
GNIYQESLRFSGTLASETLCCIKASSLE-ERIG----EANFALKLLKSLSQV--
GLS----SALCADPLSDFIALSQPAFTG-VSLQ-PVIVERVAYTALRLLHPK-C
TLK----CPLSEP-LAKLYKMRRETCFED----S-FDLGKDLAIMTLRLEKPV-F
VFS----SPLAAPSMVKLYRLMDTCFGV-ESGL-GEIGRDVAIATIRLSKPH-C
NLG----SPLAAPEMSELYISLRQTVTMD----NSIILGDLIAHVTLRQLQPQ-C
VFS----SPLAAPAMVKLYIRLRDCCFTS----EQVELGRDISIATVRMSKPH-C
LLK----SSLVSQLAVDAFRAYRDAAFEP-SDD---YLHELILHATIRALHSA--
LFS----SPLVAPRLIEPFLAMGACVMPA----DLQYLGSLIGHVTLRVLKPE-C
ILQODNFYSLFENIGDFLFLQL--SFLLE-DRLG--MFSKTVGYATLLVYKVP--
DKVLQLSTPFTGDLALVVKLVVAASGLP-SRLGESAYSDSLAIITLRLSVEGA--
GKVLHLSTPFTGDLALVVKLVVAASGLP-SRLGESAYSDSLAIITLRLSVEGA--
LCSENNILKLTED-VNKVFLQL--SKNVS-ERLG--NIRLFLGLATLRVHNAK--
LAQLGG-GVLVGDSSISSALMAC--GNKVS-SRIG--EMRPFVAIATLRAVGKT--
LCSEKNISKVTEDE-VNKVFLQL--SQNV-SERLG--NIRLFLGLATLRVHNAK--
LAKAGA-GALVGDASAYVAC--SNRIS-SRLG--LMRPFVGIATLRLALGRT--
AVDAGA-CLITGDAAPTAYLAC--ADRV-SRLG--SFRQFIGVATLRAHGV--
VIDAGA-SMLTGEAATAYLAC--SEKIS-SRLG--PFRPFVGVATLRRAGVT--
AIRAGA-GLLLDGIPATALIAC--SERIS-NRLG--VLRPFVGVAVLRTIGAI--
AIEAGA-CSVTGDAAPLALITC--AERVS-SRLG--ALRPFIGAAILRAHDVI--
FCKLELVVELFHSSPVDAYLNL--SSLIS-SRLA--LLKQFVGVATLRSYSVQ--
VIDAGA-TLITGEAGPLAFISC--SECVT-SRVG--PIRPFVGVATLRAHNV--
VIEAGA-GLILGDTAANAYVAC--ASLVS-SRLG--VLRPFFGIATLRLALGSS--
AIRAGA-GLLLDGIPATAFIAC--SERIS-NRLG--VLRPFVGVATLRTIGTI--
AIRAGA-GLLLDGIPATALISC--SERIS-SRLG--TMRPFVGVAVLRTIGSI--
AIDAGA-CLITGDAAPLAYLAC--ADRV-TRLG--SFREFVGVATLRAHDVE--
LFK----SPLAAPRIKIPFLSLAYCVMPA----RLRTFGILVSHVTLRLLMKPE-C
LLQ----SPLAAPCIQIIFLDIGVCLMPK----HLHHLAVLVGHVTLRLLKPE-C
LLK----SPLAAPRIKAPFLSLVSCVMPD----HLKTFGTVAHVTLRMMKPE-C
LIRTENSYNLLESLLVESFLSL--SENTA-EKLE--HYRLFCGLAILRVYKAK--
LCSEKNISKLTDD-VNEIFLQL--SQNV-SERLG--NIRLFLGLATLRVHNAK--
LAQLGG-GVIVGDSISSALMAC--GDKVS-SRIG--EMRPFVAIATLRAVGKT--
AIDAGA-CLITGDTGPMAFISC--ADQVA-SRLG--SIRPFIGAATLRAHDVS--
ALDSGA-SLVTGDAAPLAYIAL--AGRIS-DRLA--SMRPFVGVATLRAHEVT--
LMR----SPIVSDAEFETMVKLARCTAPPLCDWA-IDISTALRLIVTDEVHLL-L
NLG----SPLAAPAMSDLYIHLKEIVKIN----NPVLSDLVAHVTLRQLQPQ-C
LLR----SPIVSDAEFETLVMLSRCTASPLCDWA-LDISTALRLVVTDEVHLL-L
LLS----CPIAGESLAKLYFKLREACFED----S-FELGRDIAIMTLRLENPR-L
LLA----CPIAAESVAKLYFKLREACFED----C-FDLGKDIAIITLRLNPR-L
ALTALFNSRLAAPIVVPAYLRLKDVLFPT----DLQHFAASVGYLMLRLAKPC-C
LVEVDA-GALVGSSISEAYVAC--TSRIS-SRLE--EIRPFVGIATLRSKGT--
VINAGA-GLVLGDAAVLAYLEC--AQKTS-SRLG--AMRSFVGVAAALRAAGLT--
LLNCP--NQVLGQEIIGESFLNL--SLNLS-DRID-PGMKKIIGVAILRSIGVSET
LLH----SPLAAPRVQVFLDIGVCLIPK----HLHNLAVLVGHVTLRLLKPE-C
LLH----SPLAAPVLRQHFLNIGVSLIPK----ELHYLAVLVGVQVTLRLLKPE-C
LLH----SPLAAPRVQVFLDIGVCLIPK----HLHNLAVLVGHVTLRLLKPE-C

GCN1_YEAST	GISQDYLQEPLVELLTRVLFR-----IKFVSNQAA-----	1210
GCN1_SCHPO	-----SSENKELTKSILYK-----LRFIEQNY-----	
GCN1_DICDI	-YRPTLSEIQILGFIQKILTH-----IRESIAKEA-----	
GCN1_MOUSE	ALDKSWCQEELPVAVRRAVSL-----LHTHTIPSRVGKG-----EPDA	
GCN1_HUMAN	VLDKSWCQEELSVAVKRAVML-----LHTHTITSRVGKG-----EPGA	
M7ANV9_CHEMY	ELDESWCQEELSTATNRVCL-----LHAHTIPSRGKG-----EPGT	
H8X4E7_CANO9	-VEPKYEEEPLESLGRILYR-----VKILSDQNP-----	
W6A2P0 ICTPU	ELDPAWSQEDLNTATHRTIQL-----LHTHTVPHREGKT-----DA	
B6JZI6_SCHJY	-LGYEKSLDNSADLVTNVLHK-----LRFCEVHG-----	
R4WJK2_RIPPE	AISSAWAEQDLGKAMRWMIQE-----MDKNVKD-----	
W8CCK9_CERCA	ALPKWDANDIDECVIKVLNL-----LQKYILNHRTDMNK-----DESH	
B0W357_CULQU	DLEESWCTANLVELISDILVSVYDETIDKYNVHIEEDGS-----KN	
E1ZX97_CAMFO	DLQAWEEENLDTAVKRTLNL-----IHTITIKRK-----	
W5JJ28_ANODA	DLEEGWCTANIVELVSDILVSLYDETIDMYNVHREEPGS-----KN	
F1KPR4_ASCSU	YVDRCWSEEPASQLSRTVAML---SDRCVVVPILLDGEECAVTEDELLMELGDD	
V9K7F0_CALMI	CLDEAWGQEDVLTSTARAVCM-----LRSRTVPSRSGKV-----ESDV	
W0T7Q3_KLUMA	HLLSELTADAKLQLISTALFK-----IKHGCRQVP-----	
S9R951_CERCA	-----HSVNENVVDSFLYK-----VRFATEQAY-----	
S9W134_SCHCR	-----PSVDESIIDSFLYK-----VRFIEQAY-----	
H0GUK0_SACCK	NISENYLQEPLVELLTRVLFR-----IKFVSDQAE-----	
E5R2E4_ARTGP	FLRGELETEPLGSLITRILYR-----LRILSEQRP-----	
J8Q888_SACAR	NISENYSQEPLELLSRVLFR-----VKFVSNQAA-----	
C5G992_AJEDR	YLDPALEDEPLGELVARILYR-----LRLGSEQRP-----	
G4MR95_MAGO7	LLPENLKAEPFEDLVTRVMYR-----LRFAGEQRP-----	
C9SQ16_VERA1	SLPESQMQEPVEELVTRVLYR-----LRFSGEQRP-----	
B2WNI9_PYRTR	QLAKEYEDEDLGDVTRVLYR-----LRFLEQRP-----	
S3CN37_OPHP1	SIPDSYQEEPLSDLITRVLRYR-----LRFAGEQRP-----	
G3ALT0_SPAPN	GLSENLTQEPPLLALVGRILYR-----IKILADQKP-----	
Q7S5P0_NEUCR	ALPENLTQEPFDDLITRALYR-----LRFAGEQRP-----	
A0A165FVX9_9PEZI	TSKPELEQEPLGDLITRLLYR-----LRFAGEQRP-----	
A0A178DN93_9PLEO	QLSDKYEDEDLGDVTRVLYR-----LRFLEQRP-----	
A0A177D7J2_ALTAL	QLASEYEDEDLGDVTRVLYR-----LRFLEQRP-----	
A0A0C4DS68_MAGP6	LIPENLKQEPLHELVTTRVLYR-----LRFAGEQRP-----	
A0A151N4J5_ALLMI	ELDESWCQEELPTAINRAVTL-----LHAHTIPSKTGKG-----EPG	
A0A146NKU7_FUNHE	DLQAWDEEDLDTAANRTVLL-----LYDHTVPQREGKT-----ADV	
A0A0F7Z917_CROAD	DLDESWCQEDLPTAVNRVISL-----LHKHTVPTRIAKG-----EEGP	
A0A0W0DC37_CANGB	FIPSNYLAENLEELLSRVLFR-----LKIVTSNTE-----	
A0A0L8RIK7_SACEU	NISENYLQEPLVEALSRLFR-----IKFVSNQAA-----	
A0A178FRD2_TRIVO	FLRSELETEPLGSLITRILYR-----LRILSEQRP-----	
A0A175WD14_9PEZI	ALPENLTQEPFEDLVTRILYR-----LRFAGEQRP-----	
A0A194VFU1_9PEZI	ALPENLQEEFEDLVTRVLFR-----LRFAGEQRP-----	
A0A151TXV6_CAJCA	DLVPSVAEEVNERPFRGLFERILDGLSISCKSGA-----	
A0A0M9ABE9_9HYME	DLNQAWEEENLDTAVKRTLNL-----LHTTTIKHK-----	
A0A072U5F0_MEDTR	DLVPSVAEEQVQKPSHGLFERIIDGLSTSCKSGA-----	
A0A0K8V1F4_BACLA	DLPNEWITNDMNEIIKSIFLN-----INKILLPRHTDEGE-----KGSN	
A0A0A1XE05_BACCU	ELPNEWITNDVNEVIKSILNL-----IHKLIYRQTDGNE-----NAST	
A0A131YTA4_RHIAP	EVDPRWTEEDIDSCMRRVAC-----FHDLCAPT-----GA	
A0A0J6I2R9_COCPO	YMPSDLEVEPLGLTVTRILYR-----IRLASEQRP-----	
A0A074XMM5_AURPU	TLPEMQEELGDLITRVLRYR-----LRFLEQRP-----	
A0A167FV98_9ASCO	YIAEYLAEPKDLVTRVLYR-----IKFLCVQRP-----	
A0A1A7XZM1_9TELE	DLDPAWGQEDLDTAVHRTIIL-----LHTHTVPQREGKP-----GDV	
A0A0P7V1U6_9TELE	PLDEAWIQEDLSVATQRTVQL-----LHNHTVPHREGRAVLKTDTPSILSDADT	
A0A1A7WWE1_9TELE	DLDPAWGQEDLDTAVHRTIIL-----LHTHTVPQREGKP-----GDV	

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GCN1_YEAST      --IDSISLTYILPLLINVLEK GKAIALKNADKPVVKAEFVEEDEEEHLLAMEI 1265
GCN1_SCHPO      --FEPQMFACIFPLLYDLTFNITNSD-----EEDEAELQLLVTEI
GCN1_DICDI      --LSGFANFYFWPIIKNGLE-----TTISFTIQEISMEI
GCN1_MOUSE      APLSAPAFSLVFPMLKMVLTEMPYH-----SEEEEEQMAQILQI
GCN1_HUMAN      APLSAPAFSLVFPFLKMLVTEMPHH-----SEEEEEWMAQILQI
M7ANV9_CHEMY    ASLSAPAFSLVFPLLKTVLTETPND-----SEEKEALMVKILQI
H8X4E7_CANO9    --LDAVSLAYALPLLIKVLQIGQSAAFKNSKKIAVTSEFVENDPEEEHLLSVEI
W6A2P0 ICTPU    RPLSAPGFSFCFPLLQAILSRNSGT-----SEEVELMLTHVLQI
B6JZI6_SCHJY    --FSTPMFACVFPPLLYRLVQKEFNAKT-----EDERDEQIILLVTET
R4WJK2_RIPPE    --ITSPVISYLLPSLKAAALS-----EPPNDPIIISTAIHL
W8CCK9_CERCA    YILNAPSFAYIFEFLKRALVLS-----ITKNEDYILIGIEI
B0W357_CULQU    YLLNAPAFSYTFEFLKRALVLS-----AEKDESMILINGIQI
E1ZX97_CAMFO    ELFTAPAFCYVFPFIRKTL-----SYKDDGMIVQGLQL
W5JJ28_ANODA    YLLNAPTFSYTFEFLKRALTLSE-----ADRDESLLINGIQL
F1KPR4_ASCSU    DTINVGKLCIALPLLNAILSD-----RTHTYALRLNTIQF
V9K7F0_CALMI    KPLAAPAFAYCFPLLKVVLTDTVND-----TEEKEGMLIQALQV
W0T7Q3_KLUMA    --FQSMALTYILPLLKVMEIGKKVAIKNANKPANRSEFVEEPEEEQLLLALDI
S9R951_CERCA    --FEPETFSCIFPLINKICYENATKD-----DEKSTERLLAIEM
S9W134_SCHCR    --FEPEAFSCIFPLVNKLCYENATKD-----DEKSTEHLILAIEI
H0GUK0_SACCK    --LDPISLTYILPLLINVLEK GKAAALKNADKPVVKAEFVEEDEEEHLLAMEI
E5R2E4_ARTGP    --LDGVSLGYILPLIFIVLESN-GIEES-----KDDSGEQVLLALEF
J8Q888_SACAR    --LDSISLTYILPLLINVLEK GKNAALKNADKPVVKTEFVEEDEEEHLLAMEI
C5G992_AJEDR    --FDVATLSYILPLIFIIILRD-GIEES-----KESKGEQVLLALEF
G4MR95_MAGO7    --FDVSVNYMLPLALLIILNKG-GFGAT-----AEDRDTHLVLAIEL
C9SQ16_VERA1    --FDPISLTYTLPLIFFIILESG-GLGST-----PDDRDTQLVLAIEF
B2WNI9_PYRTR    --LDAVSLAYCFPLLFLVLEK G-GIGKTS-----PEESDEQLILAIEV
S3CN37_OPHP1    --FDTVSLIYFLPLLLLVLNKG-GFSDS-----AEDRDTQVLAIEI
G3ALT0_SPAPN    --LDSL SLSYILPLLTKVLHDGKSVAIKNASKTAVTSEFVEEDPEEEQLLLAIEI
Q7S5P0_NEUCR    --FDVISLIYMLPLILLVLEK G-GFGSN-----ADDKDATVLAIEF
A0A165FVX9_9PEZI --FDTISLIYLLPLIFVVIKHG-GVGRTN-----AEDGDEQVLLALEF
A0A178DN93_9PLEO --LDSVSLAYCFPLLFLVLEK G-GIGKAS-----AEEADEQLIILVIDI
A0A177D7J2_ALTAL --LDAVSLAYCFPLLFLVLEK G-GIGKSA-----AEEADEQLILAIEV
A0A0C4DS68_MAGP6 --FDSVSAIYMLPLVLLVLQK G-GFGGT-----AEDKDTQIVLATEF
A0A151N4J5_ALLMI A-LSAPAFSLVFPLLKTVLTETPND-----SEEKEELMVRILQI
A0A146NKU7_FUNHE APLAAPAFSFCFPLLNAMLRSSGS-----TEEAESLMRALQV
A0A0F7Z917_CROAD VPLSAPAFALVFPLLKMVLETPND-----SEEKEELMVKVLQI
A0A0W0DC37_CANGB --LDSITLTYLLPLITYVLEEGKKAALKNADKPVNRTEFVEEDSEENLLAMDI
A0A0L8RIK7_SACEU --LDSISLTYILPLLINVLEK GKSVALKNADKPVVKAEFI EEEDEEEHLLAMEI
A0A178FRD2_TRIVO --LDGVSLGYILPLIFIVLENN-GIEES-----KDDSGEQVLLALEF
A0A175WD14_9PEZI --FDTVSLIYFLRLVLLVLEK G-GFGTN-----ADDRDAQVLAIEI
A0A194VFU1_9PEZI --FDSVSLVYILPLILFVIRK G-GFGAT-----VDDRDAQVLAIEF
A0A151TXV6_CAJCA --LPVDSFSFVFP IIERILL-----CSKKTKFHDDVLQI
A0A0M9ABE9_9HYME KLFTAFTFCYIFPFIKKTLL-----SYRDDNMIVQGLQI
A0A072U5F0_MEDTR --LPVDSFTFVFPIMERILL-----CSKKTKFHDDVLR
A0A0K8V1F4_BACLA TLFSAFSFTYTFEFLIRAFATDF-----VANSEELLIGIQL
A0A0A1XE05_BACCU TLFNAPSFTYIFEFLKRAFVTNF-----VANSEELLFIGIQI
A0A131YTA4_RHIAP RRLPSPAFCFAPLLRLLSS-----PDTNDTLLTQCLQV
A0A0J6I2R9_COCPO --FDVVSFGIMRLRIIVVLEK D-GVKEA-----AESRGEQIILLALEF
A0A074XMM5_AURPU --LDAVTLSYCLPLAFLVLEQ G-GVGKSE-----EEEAQEQIILAAEF
A0A167FV98_9ASCO --LDAITLVYIPLLLRRTLENKGGIGTSS-----DDEIEEQVILALDI
A0A1A7XZM1_9TELE APLSAPAFSFCFPLNVTLGESSGS-----TEETENIMSRALQV
A0A0P7V1U6_9TELE KPLSAPAFSFCFPLHAVLSQTPST-----SEEAESMLVRLVQI
A0A1A7WWE1_9TELE APLSAPAFSFCFPLNVTLGESSGS-----TEETENIMSRALQV

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GCN1_YEAST	ISVHAEAF-----EDPSIPRISIVEVLLSLL-SLPSKAK-IAKDCF	1320
GCN1_SCHPO	LEFQALYS-----ASLRRMRSKLIKSLHLLLEIAPTQYQ-ENKNSL	
GCN1_DICDI	IQKHTAQG-----QAYPRGSMISSLIIVV-STNSRLEAQARNTI	
GCN1_MOUSE	LTVHAQLR-ASPDTPPERVDENGPELLPRVAMLRLLLTWVIGTGSPrLQVLASDTL	
GCN1_HUMAN	LTVHAQLR-ASPNTPPGRVDENGPELLPRVAMLRLLLTWVIGTGSPrLQVLASDTL	
M7ANV9_CHEMY	LTVHAQLR--SASGQTLTLDVDENGPELLPRTDMLLLLTRVIGTGSPrLQVLASNTL	
H8X4E7_CANO9	ISAHAEAF-----ADAGIPRTSILKILVLSLM-AVPSKSK-LVKECF	
W6A2P0 ICTPU	IHTHSQLR-SSSDATDELIDENGPELLPRVNMLLLLTKVIGTSTPQLQVLASGCL	
B6JZI6_SCHJY	LIMQAPTA-----HELYAMRCKYLESLLHLVAAVPSQYH-EVRDAM	
R4WJK2_RIPPE	LSTRVRLR----GSSNRNPDLHSPVLLPRQMMTLCIDI ISSSGGRVQQASACL	
W8CCK9_CERCA	IETYAEIR--GYTVLGDLDCKHPKYMPCREMLKLLLYFIKNSHGRVQTNAAAVL	
B0W357_CULQU	IAYHAQLK-GDTVGDQDFEDLYHPYMPREMLKLLRLIQNHRGRVQTQAVAAL	
E1ZX97_CAMFO	IQEHAQR---GGSTDLKDIRHPRLLPRKQMFDDLIELMETTTGRVQSHAVATL	
W5JJ28_ANODA	IAYHAQLK-GDTVGDGKDFDDLYHPVFMPLRLEMIRLLLRLIQKHRGRVQTQAVAAL	
F1KPR4_ASCSU	IAAAFSCR-----FIKNGEVCMLPLSRLCSMLLAVLEDESVELSQLSCSAL	
V9K7F0_CALMI	ISEHSQLR-SAGDDVDELIDENGPELLPRTEMLLLLTRVMGTSSPrLQVLASNTL	
W0T7Q3_KLUMA	ISSHGAEF-----QDTSIPRSSIISVLLSLL-ALPSKAK-LAKEYF	
S9R951_SCHUY	LGFQAPYS-----SSLRGMRALFLKVLHLLLETVPAPHYQ-DVKNSL	
S9W134_SCHCR	LGFQAPYS-----FCLRGMRAFLLKALLHLLLETVPAPHYQ-DIKNSL	
H0GUK0_SACCK	ISVHASAF-----EDPSIPRISIEVLLSLL-SLPSKAK-IAKECF	
E5R2E4_ARTGP	ISFHTNSF-----SDARLPRETLRHLINSMRKHTAHYK-LVRDAL	
J8Q888_SACAR	ISVHAEAF-----EDPSIPRTSIEVLLSLL-SLPSKAK-IAKDCF	
C5G992_AJEDR	LSFHTNSF-----SDNRLPRTIQLSLISSMQIYTQHYK-IIRDTL	
G4MR95_MAGO7	LSFHTDTA-----SSEALPRAQMLETLISSMQVYNQHYK-IIRDCF	
C9SQ16_VERA1	LSFHTNVC-----EDQTPRGQVLSVLVTAMQQYTQHFK-IKDCF	
B2WNI9_PYRTR	LAFHTDSC-----TDPRLPRKSLEILVWSMQRYQQHYK-MIKDCI	
S3CN37_OPHP1	LSFHTDVC-----ADEAIPRSDLLSSLISSMETYSQHYK-IKDCF	
G3ALT0_SPAPN	ISAHADSF-----EDEGIPRSSILEVLISLM-KLPSKAK-LSKDCF	
Q7S5P0_NEUCR	LSFHTDVY-----ADEATPRAEILSTLITSMQYNQHYK-IKDCF	
A0A165FVX9_9PEZI	ISFHTDAF-----SRQSLQRNELLSLIFAMQKYTQHYR-LVKDCL	
A0A178DN93_9PLEO	LTFFHTNSC-----TDTRLPRKELLETLIWSMQRYQQHYK-LIKDCL	
A0A177D7J2_ALTAL	LTFFHTNSC-----TDPRLPRKALLEILVWSLQKYQQHYK-IKDCI	
A0A0C4DS68_MAGP6	LGFHTDTS-----ADEALPRAEMLETLISSMRQYNQHYK-IIRDCF	
A0A151N4J5_ALLMI	LMVHAQMRSSLANGQTLTLDVDENGPELLPRTDMLLLLTRVIGTGSPrLQVLASNAL	
A0A146NKU7_FUNHE	INVHSQLR-ASTDSDDMAIDENGPELLPRVNMLLLLTRVISTATPrLQVLASQCL	
A0A0F7Z917_CROAD	ITVHAQLR-SAANNEDWLDVDENGPELLPRTDMLLLLTKVIGTGSPrVQVLGVAL	
A0A0W0DC37_CANGB	ISQAAPLF-----ENSSIPRASILQVLLSLL-SLPSKAK-IAKDCL	
A0A0L8RIK7_SACEU	ISVHAEAF-----VDPSIPRISIEVLLSLL-SLPSKAK-IAKDCF	
A0A178FRD2_TRIVO	ISFHTNSF-----SDARLPRIETLRHLINAMRKHTAHYK-LVRDAL	
A0A175WD14_9PEZI	LSFHTDAS-----ADEAIPRAEILSVLISSMQYQHYK-IKDCF	
A0A194VFU1_9PEZI	IQYHTDVC-----ADETIPRSDILSVLIFSMQTYAQHYK-ITRDCF	
A0A151TXV6_CAJCA	FYLHLDPH-----LPLPRIRMLSVLYHVLGVVPA-YQASIGPAL	
A0A0M9ABE9_9HYME	IQEHAQR---GSSS-DFRDMKHPQLLPRKHMFDLLIELMEITSGRVQSHAVATL	
A0A072U5F0_MEDTR	IYHLMDAH-----LPLPRVRMLSVLYHALSVVPA-YKASIGPAL	
A0A0K8V1F4_BACLA	IESHAQIR--GFTVFGEVTDYNHPKYMPCREMSKLLLNINIYQGRVQTQAVGAM	
A0A0A1XE05_BACCU	IESHAQIR--GFTVIGEVTDYNHPKYMPCREMSKLLLNINIYQGRVETQAAGAI	
A0A131YTA4_RHIAP	LSAHSVMR-----CTEPFVENPKNLPVEKMLETVVGLLGRTTGRIQLAQKVA	
A0A0J6I2R9_COCPO	LTIHANLF-----SDSRLPRTTEVLRTLISAMRIHAEHYK-LMRDLL	
A0A074XMM5_AURPU	LSFHADTC-----SEPRLARKEVLSVLVSSLQAYQQHFR-LFKDCF	
A0A167FV98_9ASCO	LSAHAEQL-----NNIPRGNLLQNLIDLMTSRMNSAK-HIKDCL	
A0A1A7XZM1_9TELE	INVHSQLR-AATDMDDSIIDENGSELLPRVNMLQLLIRIISTATPrLQVLASQCL	
A0A0P7V1U6_9TELE	IHEHAQLR-SHTDSLDFEYGPPEMLPRVNMLVLLTKVISTGAPRLQVLASHCL	
A0A1A7WWE1_9TELE	INVHSQLR-AATDMDDSIIDENGSELLPRVNMLQLLIRIISTATPrLQVLASQCL	

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GCN1_YEAST	NALCQSISVA-----PNQEDLDMILSNLLSPNQFVVRSTILETLDN-----	1375
GCN1_SCHPO	LSLCEGLHST-----YTDEELNLLLSNLFHPESSIRSVAVLQALQA-----	
GCN1_DICDI	FQLIEG-----VETSDIGELMEGIIISKHVQVRSICLQAIIEKIPSIYSPSFV	
GCN1_MOUSE	TALCASSSGEDGCAFAEQEEVDVLLAALQSPCASVRETALRGLMELRL-VLPSPD	
GCN1_HUMAN	TTLCASSSGDDGCAFAEQEEVDVLLCALQSPCASVRETVALRGLMELHM-VLPAPD	
M7ANV9_CHEMY	TALCTSSSGEDGCAYAEQEEIDVLLQALQSPYMNVRDAALRGLMELQM-VLPTPD	
H8X4E7_CANO9	LSLCQYIAVN-----ISDEDLQLLLENVVSPhVFVRSTILEGLDS-----	
W6A2P0 ICTPU	TALCLSAGGQDSCALAEQAEIDVLLLEALLSPCFSVRDAALRGLLELEL-ALPT-D	
B6JZI6_SCHJY	ISFAQSISSSE-----YTEEELQLLLSKVCASDSSLRTAVLQTLQC-----	
R4WJK2_RIPPE	LDLAQASSGAEGCAVASSEIDTLLTALQQSSSHVRDAALRALLAITQ-VFPKPK	
W8CCK9_CERCA	LEVANLSSGEDYCGFASEDEIKLILNFLQCDKQVREACLRALQIKRSILLENV	
B0W357_CULQU	LDVAESSSGSEYTAKEHREIEVLLVALQDELGAVRDVALRALAIMIK-VLPSIA	
E1ZX97_CAMFO	LDVAQSGSGQPGTAIATSEIDSLIGALQNSLSTVRDAALRGLTVIRQ-AFPSQK	
W5JJ28_ANODA	LDVADSSSGREYRARADERIECLLVALQDDLEAVRDVALRALAIMID-VLPSIA	
F1KPR4_ASCSU	RSLCQLVDDAPRREVRMVQMLEELLSKLTTLTKTNVRENVL-SILSVPHQLYQYAL	
V9K7F0_CALMI	TSLCASSSGEEGCAYAEQEEIDVLLQALLSPCSSVRDAALRGLLEMNM-VLPTPD	
W0T7Q3_KLUMA	MTLCQNI SMT-----PTEEDLNLLLSLLTPNQFVQATILEALDD-----	
S9R951_SCHUY	LSLVQGIGAS-----YTDNELKLLLEHTCHNETSVRSVAVLQSLQV-----	
S9W134_SCHCR	LSLVQGIRTS-----YTDNELNILLQHACHNESSVRSVAVLQSLQV-----	
H0GUK0_SACCK	NALCQSISVA-----PNQEDLDIILSNLLSPNQFVVRSTILEILDN-----	
E5R2E4_ARTGP	SDLCRAMAAN-----IQPEELEILLQGSISREIPVRTAVLQSVLS-----	
J8Q888_SACAR	NALCQSISVS-----PNQEDLDMILSNLLSPNQFVVRSTILETLDN-----	
C5G992_AJEDR	FDLRCRCIAQN-----IEQEELEVILKASIVPEISVRTSVLQAILS-----	
G4MR95_MAGO7	SDMVRCVAPN-----ISEKEIGVVARGAIVPQTSVRTTVLQSI SA-----	
C9SQ16_VERA1	ADACRCIAPN-----ITSEEIGVLRGSLVPQVSVRSTVLQSI SA-----	
B2WNI9_PYRTR	TDLASGLAPN-----ISNEELGALLRGTIVPETGVRTATLQAIDA-----	
S3CN37_OPHP1	SDMVRCVAPN-----INQDETAI LAQGIIVPQASVRSTVLQSI SA-----	
G3ALT0_SPAPN	LSLCQHVSIN-----ISESDLQLLSNIVTPEVFVRSTILEGIDA-----	
Q7S5P0_NEUCR	SDMVRCIAPN-----ISAEEI AVL SRGAI V P Q V A V R T A A L Q A I S S-----	
A0A165FVX9_9PEZI	TDSCRFLAPN-----IAPELQIVLRGVILPEIPVRTALLQAIHS-----	
A0A178DN93_9PLEO	TNLAGSLAPN-----ITNEELASLLRGTIVPEPAVRTATLQAIDT-----	
A0A177D7J2_ALTAL	TNLAGSLAPN-----IDNDELGALLRGTIAPETGVRTAILQAIDA-----	
A0A0C4DS68_MAGP6	SDMVRCVAPN-----INEKEIGVVARGAIVPQTSVRTTVLQSI SA-----	
A0A151N4J5_ALLMI	TALCTSSSGEDGCAYAEQEEIDVLLQALQSPCMNVRDAALRGLMEMQM-VLPTPD	
A0A146NKU7_FUNHE	TALCASAGGDDGCTVAEQEEIDVLLNALLSSCFSVRDAALRGLVEMEF-ALPT-D	
A0A0F7Z917_CROAD	TALCASSSGEDGCAYAEQEEINVLLQALQSPCMNVRDAALRGLMELQM-VLPTPD	
A0A0W0DC37_CANGB	NTLSQSI SVH-----PTENDLKI I I S S L L S G H S F V R T T I L E I L D N-----	
A0A0L8RIK7_SACEU	NALCQSISVA-----PNQEDLTIMLSNLLSPNQFVVRSTILETIDN-----	
A0A178FRD2_TRIVO	SDLCRAMAAN-----IQPDELEVLLRGSISREIAVRTAVLQSI LS-----	
A0A175WD14_9PEZI	ADMVRCVAPN-----LLPEEIVVLARGTIVPQASVRTAVLQAI SA-----	
A0A194VFU1_9PEZI	ADLVRCIAPN-----ITHDELAVLARGVIVPQASVRTTVLQSI SA-----	
A0A151TXV6_CAJCA	NELSLG-----LQPAEVASALYGVYAKDVHVRMACLNAVKCI PAVANRSLP	
A0A0M9ABE9_9HYME	LDVAQSGSGQSGTAIATNEDIDSLIGALQNSLSTIRDAALRALIVVRQ-AFPSQK	
A0A072U5F0_MEDTR	NELSLG-----FQPDEVASALYGVYAKDVHVRMACLNAVKCI PAVSSRSLP	
A0A0K8V1F4_BACLA	LEVANLSSGEDYCYATDDEIEFLNSLENSKESVREVALRVLKIIKKVILINNE	
A0A0A1XE05_BACCU	LEVANLSSGEDYCTYATDDEIALFLNSLESGKESVREVSRLALKI I K K V I L F E T E	
A0A131YTA4_RHIAP	VDVCF SISGLENC SRADVAEVKLLGALYSPELVVRETALQCLLMLQL-VVP THE	
A0A0J6I2R9_COCPO	IDICRSVTDN-----VQPDEL T I L L Q G V I V P E T S V R T A V L Q A I E A-----	
A0A074XMM5_AURPU	TDVCRSVAPN-----ATEAETDVVVKATIVPESSVREVALQAI SA-----	
A0A167FV98_9ASCO	VAIIQNVSGT-----ISETEINVLLSNVLSGDFVVRTTLEVIDG-----	
A0A1A7XZM1_9TELE	TALCVSAGGGDGCVAEQQEIDVLLDALLSPCFSVRDAALRGLLEMEF-ALPT-D	
A0A0P7V1U6_9TELE	TSLCASAGGGEGCALAEQEEIDVLLLEALLSPCFSVRDAALRGLLELEL-ALPT-D	
A0A1A7WWE1_9TELE	TALCVSAGGGDGCVAEQQEIDVLLDALLSPCFSVRDAALRGLLEMEF-ALPT-D	

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHYA
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
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A0A178FRD2_TRIVO
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A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

-EFE-LEPFMKYSPEVFCRFDSDPSN-REIADFIW--EFNKFVVNDEL-LKSLF 1430
--FD--LSRFEFIKEIFLELYDDNETN-ASIAHQIS--TQNGLDATETS-FFELQ
WEDK-----YIGSLWFARFDNHDANTSALAEKIWLATNQPTQLPEDF-MKLLS
TDEK---SGLSLRRLRWVVKFDEKEI-RKLAERLW--STMGLDLQSDL-CSLLI
TDEK---NGLNLLRRLWVVKFDEKEI-RKLAERLW--SMMGLDLQPD-LCSLLI
SDEK---NGLNLLRRLWVVKFDEVEI-RKLAETLW--ESMGLELQPD-LCSLLI
-EFE----LSAYSKEVYVATYDTDNNC-RELAQTIW--EDNSLSVPDPT--NLL
SAEP---NGLNVLRLRWVAKFDVEEEG-KALADKLW--QTLRLELVPEL-CPLLI
--LD--LHRFDIFIKEIFLELYDDTDAN-ASLAHDIS--KSNTFEADESS-LKELL
QNAE---QAFRLTKRIWVAKFDVVTEN-RDVADKVW--ANANLSHDTKGLSEGLL
IHRN---LISDIKRLWVAKHDI SEEN-CILATDLW--ESLEFSF-PNI--EDIL
DDYE---LGLRLTRRLWVAKHDVCEET-KLLAEHVW--TQGEFEVPIVM-ADELM
EDRD---QLDRLTRRVWIARFDVNDEN-KILASELW--NAADFTAHAEVLCIELI
DDYE---LGLRLTRRIWVAKHDVAEDT-KQLADTVW--VQGNYPVIM-ADELM
SNAECAHLVLLIRRIYIARHDTNEDC-AKLASVIW--HNEGLQTNPEL-CTEVL
SDEK---NGLNLLRRLWVQFVDVEES-RLQAKKLW--DTMGLELQPD-LCSLLI
-EYD-LQPYSYSPEIYITCFSEDVNN-RDVANFIW--DSNQFKVTDEL-AQSLL
--LD--LTQFSFIKEIFLELYDDNESN-AAVAHQIS--TQNGLDANEDS-YSELL
--LD--LTQYSFIKEIFLELYDDNESN-AAVAHQIS--TQNGLDANEDS-YSELL
-EFE-LEPFMKFSPEIFICRFDSDPSN-RDVADFIW--EFNKFEINDEL-LKSLF
-EID--LTDIDFSVYIWIAYHDSVAEN-AEVAKEIW--EENALDVDEQS-PDLII
-EFE-LQPFMEYSPEVFCRFDSDSSN-REVADFIW--EFNKFSINDGL-LKSLF
-ELD--LTDLDFSEYIWLGCNDNLAEN-RETAEVIW--EQNALDVDENS-ANLLV
-DVD--MSELEFSEEIWIAYHEDSEEN-VELAKEIW--EESGFQTSKDV-PVKML
-EVD--MSEAVFSTEIWLACHDDVEEN-SELGREIW--TEGFVSEKL-AFEML
-ELD--MNDLTFSEEIWIACHDDVPEN-AELARTIW--DENDLELKPA-GVRML
-EVD--MSELP TSEEVWLACHDDIEEN-VDVGHEIW--DESEFKVTEDL-PERTL
-EFD-LQGEIEYSNELWVATHDNDNSNC-KELANTIW--EDNNLHIIPET-PKLL
-DVD--MSELSTSEEIWLACHDDVPEN-ADLGRDIW--EESFQVTEEL-AFKML
-ELD--LTDDEFSEEIWLAYHDDVSEN-RELAQAIW--AENGLEVDQRS-GIKMI
-ELD--MNDLDFSEEIWIACHDDVPEN-VELARTIW--EENELQLTPDA-GIKML
-ELD--MNDLKFSEEIWIACHDDPEN-AELARTIW--EENDLELKADA-GVQLL
-DVD--MSELEFSEEIWLACHEDNVEN-VDLGREIW--EESGFEISEDV-PTKML
SDEK---NGLNLLRRLWVVKFDEVEI-RKLAERLW--ESMGLELQPD-LCSLLI
STES---SGMSLLRRLWVARFDVEEEG-RLLAEKLW--ESLGLLELVPEL-CSMLI
SDER---NGMNLRLRLWVVKFDREEEI-RLLAERLW--TSMALELQSDI-CSILI
-EYE-LQEFMKFSPEIFMCRFDSDNN-RELANFIW--EFNKFEIVPEL-LDGLL
-EFE-LEPFLKYSPEVFCRFDSDPSN-RETADFIW--EFNKFCINDKL-MKSLL
-EID--LTDIDFSVHLWIAIYHDNVAEN-AETAREIW--EENALDVDEQS-PDLII
-DVD--MSEVGVSEEIWLACHDDEEN-VDLGREIW--EESFQVTEEL-AHKML
-EVD--MSDLSFSEEIWLACHDDVDEN-VELGKEIW--QSEFETSNEA-ALKMI
ENSE-----VATSIWIALHDPEKSV-AQVAEDIW--DHYGFDFGTDF--SGLF
EDSV---QLSHLVRRWIWAKFDICDEN-KILANELW--TAADLVMHADKLADLI
QNTE-----VATSIWIALHDPEKSV-AEVAEDIW--DHYGFDFGTDF--SGIF
MHQN---LISRLKLLLWIAIYDTSDEN-RILASDLW--EAAKFS-PPEL--DDVL
AHRN---IISRLKRLRWIWKFDISVEN-RILASDLW--ESVKFSP-PDL--DDVL
TDPE---NSLELAARLWVARFDSKEEI-KALAEKLW--RELKLEPEPSL-CARLL
-EID--LTDLDFSEYIWLGCNDHVSSEN-AEISKAIW--EENGLEVDANS-PDFIM
-EFE--LSGKDFYDEIFLATHDDVQEN-VELAHEIW--VENELKTSPE-ATSIL
-ELDNCLVDRGFSSEIWIWERFDELVI-ANLATEIW--QYNEFKTDEQT-PRKLL
STEA---SGMSLLRRLWVARFDVEEEG-RALAEKLW--ESLDLELVSD-LCSMLI
SSEG---SGLSVLRLRWVARFDVEEEG-RMLADKLW--QSLCLELVPEL-CALLI
STEA---SGMSLLRRLWVARFDVEEEG-RALAEKLW--ESLDLELVSD-LCSMLI

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHOY
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
A0A0L8RIK7_SACEU
A0A178FRD2_TRIVO
A0A175WD14_9PEZI
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A0A151TXV6_CAJCA
A0A0M9ABE9_9HYME
A0A072U5F0_MEDTR
A0A0K8V1F4_BACLA
A0A0A1XE05_BACCU
A0A131YTA4_RHIAP
A0A0J6I2R9_COCPO
A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

PLFNQDDSGRLRIFAANAYAFGAVSLFTSE--ENSSK-DYLNDDLNFYKEKAKPLE
IFFTQDSYDYLQOIIGKSLI-DLLDEFEEEL--GQFI----PKELMRTYRENALPSA
DSTFNVNSETRKINALAIK-EAATCHTHM--IPEI----VDNLFIEIYEQNYP---
DDVIYHEAAVRQAGAEALS-QAVARYQRQ--AAEV----MGRLEIYQEKLYRPP
DDVIYHEAAVRQAGAEALS-QAVARYQRQ--AAEV----MGRLEIYQEKLYRPP
KDIYYEEAVRQAGAEALS-KAVEQYRNQ--AAEV----MSKLEIYQEKLYRPP
ELFGLQDPGLRMSVAQAYRDASIQTHIN-----LEELFNFIYEKKNPPA
KDVTHHEETVRVAVAEALS-SAVSQYKEE--SATV----LSQLTELYQQKLYRPP
PFLDNESAYVHEILGKALC-DLIDDYEEF--STSI----PRELMSNYRVKALPTP
DDVVHPVAEIQQAAASALA-ALLQTGSSQTTVDVV----LQLLLNIYNDKNNMVP
IDVTHNEVCIQRAASAAMV-PLLFKDYSQ--VKSI----VKSLLGIYKEKLIMIP
KDIHPEPCIQKAASFALV-SILAEDSSI--IDSI----VEQLLEIYQEKLTMIP
QDIAHPVEPVQAAAHALA-ESLASVPHL--TPSV----LDNLLQLYQEKLAMIP
KDIVHPELCIQKAAAGALV-SILMEDAST--VDGV----QEQLLEIYREKLTMIP
DDVTSVEEFMRKSASHALE-SLIVAYPEK--LDVV----LRLDALYSELSEMRG
KDVIYHEEAIRHAGAEALS-NAVAQYQSQ--AAQV----MTKLIEIYQEKLFRRP
KFFEQTDSGLRLFTAKAYA-SAVAQLEKE--NPGSFTRYFHTLLDFYVQKAEPPK
PLLNVKSNYLHTLVGKSFV-DLIDDEFEDF--SSVL----PKKLEIYSKNALPSP
PLLDVKSNYLHTLIGKSFV-DLIDDEFEDF--SSVL----PKKLEIYSKNALPSP
SLFNQDDSGRLRIFAANAYAFGVSFLFTSE--GSSSN-TYLDALMSFYKQKAKPLE
KHLANDDLPLRSAAALALA-HACQLCPSI--FPDT----LKKLESYREQVHSHK
LLFNQDDSGRLRIFAANAYAFGAVSLFTSE--GSSSPNTYLNELMEYYKEKAKLLE
KYLDSKDSQLRGAARALA-HACEVSPAV--FTDI----LEKLQSKYREEVVRPKA
PYLESKDGQLRKAASRALA-EACSNHPET--VNLI----LEKLRLAYVEFAKPRV
PYLSSKDGQLRRAAARSLA-EASSVHPQV--IEPL----IEKLEETYAEELAKPRQ
PYLDSLKQLRRAAARSIG-EIITKFPDT--FQDL----LQRLRESYTEKAKPRV
PYLESKDAQLRRAAARALA-ESISTLKSTKIFDAI----TEQLRSSYTEQAKPRV
ELFGNHDSGLRVSIATAYV-DAVNQLRQ--EESVLGSCLEDDLIELYHEKKNPPA
PYLESKDGQLRRAAAKGLA-EALGQNLISA--VNPI----LEKLRESYTELAKPRL
PYLRNVKQLRRAASRALA-HAVELNPSS--CAEI----LARLEDEYREAAKPRV
PYLDSLKQLRRAAARAIG-EIITQFPDT--FERL----LQNLRESYVEKAKPKL
PYLDSLKQLRRAAARAIG-EVITKFPDT--FDDI----LRLRETYAEELAKPRV
PYLESKDNQLRRAASRALA-EACKRHRKT--VNPI----LEKLRLSYVEFAKPRV
KDVIYYEEAVRQAGAEALS-KAVAQYRDQ--AADV----MNKLEIYEEKLFRRP
GDITHHEEAIRTAEEALS-SAVSQYREQ--AATV----LGQLTELYHQKLYRPP
NDVIHHEQAVRQAGAEALS-KGVEQYRSQ--TRDV----MAKLMEIYQEKLYRPP
SLFYQQDSGLRLFLARGFAYATYNVKGEE--YLEQ---SLKMLMNFYNEKAQPLT
PLFNQDDSGRLRFVANAYAFGAIITISTSE--HRSPD-VYLNLMDFYKENARPLE
KHLANDDLSLRSAAIALA-HACELCPSI--FSDT----LKKLESYREQVHTKP
PYLESKDAQLRRAAKSLA-EIVNHHPTV--IDPV----LDKLRASYTELAKPRV
PYVQSKDVQLRRAAARSLA-EAVQLHSST--MQEV----LEQLRSSYIELAKPRK
KALSHLNYNVRVAAAALALA-AALDEHPES--IQET----LSTLFSLYIRDMGVGD
QDIAHPVEPVQAAAACALA-QCLTEVLPL--VPII----LDKLLQLYQEKLTMIP
KALSHVNYNVRLAAAALALA-AALDEHPDL--IQES----LSTLFSLYIRDMGIGN
LLVTHKELCIQKAASASLV-QLLSTNHQQ--VKYT----VKSLEIYREKLTMIP
LVVTHKELCIQKAASASLL-ELLSTNHQE--IKYT----IKSLEIYREKLTMIP
SDVMHPQAETRSTAAQALK-SLLQAFPDC--LHDV----LLQLMDAYRQHLQRPE
EYLG TADS QL RGA AVALA-HACKFSPSV--FTTT----LEKLETKYQDEIKPRA
KYLASHDIQLRRAAARSLA-ALVQEHSSI--SETV----ISNLQDQTYKEDAKPRA
EFLGSEHASLRHACARSIA-ASVGANKTL--ASAT----YQSLINLFIKSKPPP
GDITHHEEAIRSAAADALS-SAVSQYREQ--SASV----LGQLTDLYHQKLYRPP
DDVTHHEGAVRAAGAEALS-NAVSCYREQ--APAV----LARLTLYHQKLYRPP
GDITHHEEAIRSAAADALS-SAVSQYREQ--SASV----LGQLTDLYHQKLYRPP

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHYA
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
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GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
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-----LGDRNQFVRTEMLTAAVAVDLHGSANITSLLP--VFENFMDKAPK-I
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
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GCN1_YEAST
GCN1_SCHPO
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GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
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IGNMYSL-TDQKDLSPYLPSPVTPGLKASLLDPVPEVRTVSAKALGAMVK-GMGES
IGNMYSL-TDQKDLSPYLPSPVTPGLKASLLDPVPEVRTVSAKALGAMVK-GMGES
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GCN1_YEAST
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GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_CHUYO
S9W134_SCHCR
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E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
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A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
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A0A0L8RIK7_SACEU
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A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

TNF--RAYIREGFMPLLLFLPVCFGSQFAPYINQIIQPIILSGLADNDENIRDTAL
SSP--VPHIRESFISLLIYLPATFGSRFQPYLARAIIPPIILSGLADDSSELVQTASL
NSP--RPHVREGILSIFIFTPISLGLDLFLPYLPKVLPQVLKGLADSDPVEVCM
SKVDIAPHVRDGYIMMFNYLPITFGDKFTPYVGPPIPCILKALADENEFVRDTAL
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SKVDIAPHVRDGYIMMFNYLPITFGDKFTPYVGPPIPCILKALADENEFVRDTAL
SSP--RAAVRAGFMPLLLFLPVCFGSQFAPYLNRIIPPIINGLADQDEEIRETAL
SKVDIASHVRDGYIMMFIYLPITFGGERFTPYVGPPIPCILKALADENEYVRDTAL
SNG--NPSIRESFISLLIYLPATFGARFQPYLARAIIPPIINGLADESDFVQSASL
ERSDIAPHVKDGYIMMFIYMPVFTNEFTPYIGEIVPILKALADENEYVRDTAL
ERNDIAPHVKDGYIMMFIYMPGFPKFTPYIGQIINPILKALADENEYVRDTAL
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TNY--RAYIREGFMPMLLFLPVCFGQQFAPYINQIIQPIILSGLADTDENIRDTAL
SSP--RAYIRESFISLLIYLPATFGARFQPYLARAIIPPILAGLADSELVQTASL
SSP--TPYIRESFISLLIYLPATFGARFQPYLARAIIPPIILSGLADSELVQTASL
TNF--RAYIREGFMPLLLFLPVCFGSQFASYINQIIQPIILSGLADNDENIRDTAL
SSS--KPTVREGFMTLFIPLPACFGNSFATYLNRIIPPIILVGLADEVESIRETSL
TNF--RAYVREGFMPLLLFLPVCFGSQFASYINQIIQPIILSGLADNDENIRDTAL
SSA--KASVREGFMSLFVFLPACFGNSFASYLNKIIPPILAGLADDVEAIRETSL
ESS--KPAVREGFMSLFIPLPVCFGNSFANYLGRIIPPIILSGLADDIEAIRETAL
ESS--KPAVREGFMSLFIPLPVCFGNSFASYLGRIIPPILAGLADDVESIRETAL
SSN--RASVREGFMSLFIPLPVCFGNSFANYLSKIIIPPIILGGLADDVESIRETAL
ESS--KPSVREGFMSLFIPLPVCFGNSFAAYLGKIIIPPILAGLADDVDSIRETAL
SSP--RSHIRAGFMPLLLFLPVCFGSQFSPYLNKIIPPIINGLADQDEEIRDTAL
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SSS--KPAVREGFMSLFIPLPACFGNSFASAYLNRIIPPILAGLADDEVDSIRETSL
ASN--KASVREGFMSLFIPLPACFGNSFANYLSKIIIPPIILGGLADDVESIRETAL
ASN--RASVREGFMSLFIPLPVCFGNSFANYLSKIIIPPIILGGLADDVESIRETAL
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TNY--RSFVREGFMPLLLFLPICFGAQFAPYINQIIQPIILAGLADIDENIRDTSL
TNF--RTYIREGFMPLLLFLPVCFGSQFASYINQIIQPIILSGLADNDENIRDTAL
SSS--KATVREGFMTLFIPLPACFGNSFAAYLNRIIPPIILVGLADEVESIRETSL
ESA--KASVREGFMSLFIPLPVCFGNSFANYLGKIIIPPIILSGLADDVESIRDTAL
ESS--KPAIREGFMSLFIPLPVCFGNSFANYLAKIIIPPIILSGLADDVESIRETAL
SHL--KASVRDGYLTLFKYLPRSLGVQFQNYLPQVLPAILDGLADENESVRDAAL
ERTDIAPHVKDGYIMMFIYMPGFPNDFTPYIGQIINPILKALADENEYVRETAL
SHQ--KASVRDGYLTLFKYLPRSLGVQFQNYLPQVLPAILDGLADENESVRDAAL
ERTDIAPHVKDGYIMMFIYMPGFPNDFTPYIGQIINPILKALADENEYVRDTAL
ERTDIAPHVKDGYIMMFIYMPGFPNDFTPYIGQIINPILKALADENEYVRETAL
ERTDIAPHVKDGYVMMFIYLPGVFQKFTPYISQIINPILKALADENEYVRETAL
SSA--KSAVREGFMSLFIPLPACFGNSFASYLNRIIPPIILSGLADDVEAIRETSL
SSS--KPAVREGFMSLFIYLPACFGNSFANYLSKIIIPPIILSGLADDIDTIRETAL
TSS--KSWIRQGYMPMLLYLPACFGASLSPYLNQIIIPPIILSGLADNVEDVRDTAL
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SKVDIASHVRDGYIMMFIYLPITFGDKFTPYVGPPIPCILKALADENEYVRDTAL
SKVDIASHVRDGYIMMFIYLPITFGDKFTPYVGPPIPCILKALADENEYVRDTAL

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W6A2P0 ICTPU
B6JZI6_SCHJY
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B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_CHOY
S9W134_SCHCR
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J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
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A0A177D7J2_ALTAL
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H0GUK0_SACCK
E5R2E4_ARTGP
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-----NEFS--EEDGDHNGEFSGKLVLDVVGQDRRDRI L AALFVCRNDTSGIVRAT 2200
-----ALQEDEEEEGTHSDVSRKALLDI GQERHDRILSTLYIVRQDIAAVVRTP
VQSNSSSYNAKDDDDDEPGSSGNDIQKILGKERLGRILSSLYMMRFDDNNSVVRQK
-----TTETASEDDNFGTAQSNKAI I TALGVDRNRVLAGLYMGRSDTQLVVRQA
-----TTETASEDDNFGTAQSNKAI I TALGVERRNRVLAGLYMGRSDTQLVVRQA
-----TTETASEDDNFGTAQSNKAI I SALGVERRNRVLAGLYMGRSDAQLVVRQA
-----NELI--EDQ-----TVSKTLAQVLGQERRDRIL AALFVCRSDVAGMVRNA
-----TTETASEDDNFGTAQSNKAI I GALGVDRNRVLSGLYMGRSDTQLVVRQA
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-----TSATSNEDD TMGMEAGKAI VRQLGQACRDRVLAGIYLARSVDALTVRQV
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-----NEFD--EEDGDFNSEIGKQMVVLGEERRARILSALFVCRSDVSGIVRAT
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-----NEFS--EEDGDHNGEFSGKLVLDVVGQDRRDRI L AALFVCRNDISGIVRAT
-----TDG---EEEIDSAIQAGQSLLEVLGEERRNKVLSLYICRCDTSGLVRSA
-----NEFS--EEDGDHNGEFSGKLVLDVVGQDRRDRI L AALFVCRNDTSGIVRAT
-----GEE---DEEDDKAVQAGQSLLEVLGEDKRNKVLSSLYICRCDTSGLVRSA
-----TEDGD-EDEEEKVKEAGNSLREALGDEKRNKILSALYICRCDTATSVRAA
-----AEPG---EEEEEMAREAGASLREVLGEEKRNKILSALYVCRCDTANAVRSA
-----VEE---DEVEEGAKEAGQSLLEVLGEEKRNKVL SLYICRCDSGLVRTA
-----QEMEEGEMEEDAVREAGATLREVLGEDKRDKILSALYICRCDTSAVRAA
-----NELS--EDQFEVSGEVNKTLEVLGQDRRDRI L AALFVCRSDVSGIVRAT
-----DGEDE-EEDIETVKEAGASLREILGEEKRNKVLSSLYICRCDTSGAVRSA
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-----VEE---EEVEEGAKEAGQSLLEVLGEEKRNKVL SLYICRCDTSGLVRTA
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-----NEF---SEEGEIGSEFSGKMDVVGQERRDRVLSL FVCRNDTSGIVRAS
-----NEFS--EEDGDHNGEFSGKLVLDVVGQDRRDRI L AALFVCRNDTSGIVRAT
-----ADG---EEEIDSAIQAGQSLLEVLGEERRNKVLSSTIYICRCDTSGLVRSA
-----TELGE-EEDQEMTKEAGTSLREILGEEKRNKILSALYVCRCDTAGAVRSA
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H0GUK0_SACCK
E5R2E4_ARTGP
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A0A1A7WWE1_9TELE

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SLHVWVKIVSNTPRTLREILPTLFSLLLGFLLASTCADKRTVAARTLGDGLVRRKGE
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SLHVWVKIVSNTPRTLREILPTLFTLLLGFLLASTFPDKRTIAARTLGDGLVRRKGE
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SLHVWVKIVSNTPRTLREVLPTLFGLLLGFLLASTCADKRTIAARTLGDGLVRRKGE
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AQQIWKNIIVVNTPRTVREILPTLTSIIIVSNLNSAGNDRRAMCVKSLGDLLKAGF
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AIAVWKALVA-TPRTLRELVPPTLSQLIIRRLASPNMEQKVIAGNALGELIKKAGE
AVAVWKALVS-SPKTLKELVPTLTQLIIRRLGSSNMEHKVIASNALGELIRKAGD
AIGVWKALVS-SPRTLKELVPTLTQLIIRRLGSSNMEHKVIASNALGELIRKAGD
SINVWKALVA-SPRTLRELIPTLTQLIIRRLASSSMEQKHIASSALGELIRKAGD
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AIGVWKALVH-SPRTLKELVPTLTQLIIRRLGSSNMEHKVIASNALGELIRKAGD
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SINVWKALVA-SPRTLRELIPTLTQLIIRRLASSNMEQKVIAGNALGELIRKAGE
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SLHVWVKIVSNTPRTLREILPTLFSLLLGFLLASTCPDKRTIAARTLGDGLVRRKGE
SLHVWVKIVSNTPRTLREILPTLFSLLLGFLLASTCPDKRTIAARTLGDGLVRRKGE

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
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ALMDGDLEVRETAEEAFDSLQSI LGDRAVDVLPQLLKLESENQ---SEQALSA
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ALCDP LEEVREAAAKTFEQLHSTIGHQALEDILPFLKQLDDEEV---SEFALDG
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ALCDP LEEVREAAAKTFEQLHATIGHQALEDILPALLKQLEDEET---AEFALDG
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AISDP EMEVRKAAAATFTSFQCSVGSSAFDDIVAPLLDSLGEQDD-----CLLDG
ALCDP LEEVREAAAKTFEQLHSTIGYQALEDILPSLLQQLDDEEM---SEFALDG
TVIDEDES VREAAASCDFVYQEVVGKVAIDEIIPFLLNKLKPEPES---SEYALSA
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ALTDSDSNVREAAAGHAFDALQESLDEAA-DDILPD LIEQMONGDE-----SALSA
ALCDP LEEVREAAAKTFEQLHATIGHQALDDILPTLLKQLDDEET---AEFALDG
ALCDP LEEVREAAAKTFEQLHATIGHQALDDILPALLRQLDDEES---AEFALDG
ALCDP LEEVREAAAKTFEQLHATIGHQALDDILPTLLKQLDDEET---AEFALDG

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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMY
S9R951_SCHOA
S9W134_SCHCR
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A0A0P7V1U6_9TELE
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LQEIMS--KKSVDVIFPILIPPTLLAPPIDAFRASALGSLAEVAGSALYKRLSIIIN 2420
LREIIS--RRSSTIFPVLIPTLIKKPVSAFNARALSSLAQVAGVTLNKRRLPSILN
LRQVIL--VRSSIVLPVLPKLLSRPISTSNVTALSSLAADAGEGLYVHLSTIIP
LKQVMA--VKS RVVLPYLVPKLTTPPV---NTRVLAFLSSVAGDALTRHLGVILP
LKQVMA--IKSRVVLPLYVLPKLTTPPV---NTRVLAFLSSVAGDALTRHLGVILP
LKQVMA--VKS RVVLPYLVPKLISPPV---NTRVLAFLSSVAGEALTRHLGVILP
LKELMA--SKSDIIFPITLPSLLEPPVD---AVALASLASVAGTALYKRLSTILN
LKQVMA--VKS RVVLPYLVPKLTAPPV---NTRVLAFLSAVTDALTRHLGVILP
LQEIIT--RRSSTIFPVLIPTLIKQPISAFNARALASLATAAGATLLRRLPSILT
LRQVMA--IKSRVVLPLYVLPQLTATPI---NTKALSILASVAGEALTKYLNKILP
LRQMMT--IKSRVVLPLYVLPQLTAAAPV---NTKALSILSVAGDALTKYLPKILD
LRQVMA--IKSRVVLPLYVLPQLTANPV---NTKALSILASVAGEALTKYLPKILP
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LRQVMA--IKSRVVLPLYVLPQLTATPV---NTKALSILASVAGEALTKYLPKILP
LSQIMR--MNSRQMLSYVLPKLTTRPPI---NARALCALSAVAGDSLTRNLGRILE
LKQVMA--VKS RVVLPYLVPKLTAPPV---NTRVLAFLSSVAGDALTRHLSVILP
LQEIMA--TKSEVIFPILIPPTLLKPPIDSFKANALGSLAEVAGPALYKRISTIIN
LKEIIA--RRSSTIFPVLIPTLIKQPITAFNARALASLAQAAGSTLNRRLPSILN
LKEIIA--RRSSTIFPVLIPTLIKQPISAFNARALASLAQAAGPTLNRRLPSILN
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LQEIMS--KKSVDVIFPILIPPTLLAPPMDAFRSSLGSLAEVAGSALYKRLSVIIN
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LKDIMA--TKADVIFPILIPPTLLAPPMDAFKASAISSLASVAGSALYRRLSLIIN
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LKQVMA--VKS RVVLPYLVPKLISPPV---NTRVLAFLSTVAGDALTRHLGVILP
LQDIMA--TKSDVIFPILMPPTLLASPIDFRASALGSLAEVAGPALYKRLSVIIN
LQEIMS--KKSVDVIFPILIPPTLLAPPIDAFRASALGSLAEVAGSALYKRLSIIIN
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LRQVMA--IKSRVVLPLYVLPQLTTPPV---NTKALSILASVAGEALTRFLHKILP
LKQILS--VRTSAVLPHILPKLVHPPLSAFNAHALGALAEVAGPGLDFHGLTVLP
LRQVMT--IKSRVVLPLYVLPQLTAPPV---NTKALSILSVAGDALTKYLPKILD
LRQVMT--IKSRVVLPLYVLPQLTAVPV---NTKALSILSVAGDALTKYLPKILD
LRQVMA--IKSRVVLPLYVLPQLTTPPV---NTKALSHLSAVAGESLSRHLPKILP
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LKEMMS--TKSDVVFVLIPTLLTPMTPFKARSLASVAVSGVALYKRLTSILN
MKQVMA--VKS RVVLPYLVPKLTAPPV---NTRVLAFLSAVAGDALTRHLGVILP
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MKQVMA--VKS RVVLPYLVPKLTAPPV---NTRVLAFLSAVAGDALTRHLGVILP
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
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B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
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ALMESSL--ASTGDDL-VALNGAIDKVNLSVKDQEGLOIIMAHFYFSFSESEDFRK
SLIESFT--NPNTISNAKEIKEAAVSICKSI-DEQGWDTLIGLLIEQTEIRLPNI
AVMLALK--EKLGTPDEQLEMANCQAVILSVEDDTGHRIIEYLLLEATRSPEVGM
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AMMSALK--EKLGSADQLEMANCQAVVLSVEDDVGQRIIEEDLLEATRSPEVGM
TLIASII-----AGEEISEEFNQVLLSVED-DGAHLLMQQLLALMKHEDPQI
ALLSSLK--EKLGTEEGPQELSSCQTVILSVVEDEVGQRIIEEDLLEATRGADAGL
ALMESTF--SASEGDL-EGLTSATDSIMVSVQDPEGITQMAYFTNLATNEDYRK
ALLTALA--ASDGSP---QELEYCQAVVLSVNDDEAGIRVIVDELLEATRSPEVGM
ALLHALS--EAQGTTHEYRELDYQAVILSVTDEVGIRTIVDTLMVSAKSDHINT
ALMTALA--TAQGTPEEAQLELEYCQAVILSVSDEVGVRTIMDTVMESTKSPET
ALLTALS--SAQGTANELQELEYCQAVVLSVTDEVGVRTVMDQLMEATRAEDLSK
ALMSALA--AAQGTPEEVLELEYCQAVILSVSDEVGIRTIMDTVMESTKSDKAET
SLLANCN-----DDEQVQCLQVLLSVTDPEGVSTIVSTLLQKALTQD---
ALMTALK--DKMGTSEGQEEELANCHTIVILSVVDEVGQRIIEEDLLEATKNDPVG
SVVNTLI--ETDDEDTKHSLEGLTKILLSVTDNEGLHPLLQQIMALLKHEDSSK
ALMESIL--VAKDDVL-QSLEESVDTIVLSIKDQEGGLAVLMAHLYSFTENEDYKK
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ALVDAAII-TTSDNESTKTALVALDRVFLSVTDDEGLHPLLQQIMSLKSDNIEK
AFMDTV--NTSDELKKEVEEAFDTILESVDYDGLNASMVMLTLVKHEDHRK
SLMDNLV--NCKDDSLREDLDASFHTVISSIDEYDGLNTVMNVLQLTKHEDHRK
SLMDNIV--NCKEDDLRVLETSTFDTVILSIDEHDGLNTVMNVLQLTKHEDHRK
TIMDNVI--ATKDEDLRAELETSTFDTVILSIDEYDGLNTAMSVMLALSKHDDERR
SLMDNII--NCDEDELREDLDTSTFDTVILSIDEHDGLNTVMNVLQLLKHEDHRK
TLVNAVVDNSPEETQKEITNAFDKILLADDEGVHPLMQQLMALVKHEDSRK
SLMDNII--NCTDDTLREELDESFTVILSIDEYDGLNMVMQTLQLLKHEDHRK
SLLDNIV--DCQNEELRTELDSFDTVLLSVDEYEGGLNTTMSVMLGLVKHDDHRK
TIMDNVI--ASKDELKSELEASFDKVLVSVDEYDGLNTAMSVMLALAKHDDERR
TMDNVI--ASKDEELKSELETAFDTVLLSVDFDGLNTAMSVMLALSKHDDERR
SLMENLV--NCTDDDLRADLDASFHTVILSIDEYDGLNTIMNVLQLTKHEDHRK
AMMSALK--EKLGTSDEQLEMANCQVILSVEDDAGQRIIEEDLLEATRSPEVGM
ALLSSLK--GKLGTEEEAQELCSCQTVILSVVEDEAGQRIIEEDLLEATRGADPGL
AMMSALK--EKLGTNDEQEQEMLNCQAVILSVVEDEAGQRIIEEDLDTTSAEVGM
SLVDTLI--SDDIDDTTKEGVKQALDRVFLSVKDDEGLHPLLQQIILALVKNDDMKK
ALVDAAII-TISGDESTKALEVALDRVFLSVTDDEGLHPLLQQIMSLKSDNIEK
TLMDEII--STEDSGLKSEVSDAFDTVLDSVDFDGLNVAMNMLALMKHDDHRR
SLMDNIV--SCTEEELREDLDNSFTVILSIDEYDGLNVVMNVLQLIKHEDHRK
SLMDNII--NCTDDELREDLDKSFDTVILSIDEYDGLNTMQTLQLMKHEDHRK
PLLSAM---GDEDKEVQTLAKEAAETVVLVI-DEEGVEPLISELVKGINDSQAVV
GLLTALS--SAQGTPEVQELEYCQTVILSVTDEVGIRTIMDQLMEATRADDLSR
PLLSAM---SDVDQEVQTSAKKAAETVVLVI-DEEGVEPLISELLKGVSDSQAAI
ALLHALS--DAQGTAYEYQELDYCQAVILSVTDEIGVRTIVDTLMMSAKSDSINI
ALLQALS--DAQGTAYEYQELDYCQAVILSVTDEIGVRTIVDTLMMSAKSDSINI
ALLTAFS--ASLDTPKQEELEHCQAVVLSVVEAGVQTVVEQLLAGAR--QPGQ
TLIDNSL--STKNEKLRPEINSAFDTVLNSVDFDGLNAAMNVMITLMKHEDHHR
ALMDSVL--GKDEELRADLENSFVAVLLSIDEFDGLNTAMSAAMLATKHEDHHR
ALVDALT-----RDRDESISEALDVTVLSVVEEAGVHPLMQHLLSLAKNEQISK
ALLSSLK--GKLGTEEEAQELCSCQTVILSVVEDEVGQRIIEEDLLEASRGADPGL
ALMSSLK--EKLGTEEGQELSSCQTVILSVVEDETGQRIIEEDLLEATRGADAGM
ALLSSLK--GKLGTEEEAQELCSCQTVILSVVEDEVGQRIIEEDLLEASRGADPGL

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GCN1_YEAST
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GCN1_YEAST
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GCN1_YEAST
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GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
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B0W357_CULQU
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W5JJ28_ANODA
F1KPR4_ASCSU
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MLGS-NDKLAVAY--AKLIGSLSEILSN-DEAHKILQDKVLN--ADLDGETGKFA 2805
SAES-SEHMVIC---AKLYGALF'SHLPD-AQAKQLLESKVLS-----LEIQSEFS
YQPS-DDLRSMV---AQTIGASSKCF'TSLTELNQFIKTNLIS--PSQSVLSRYGK
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LGHD-EDATRMAS--AGCLAELCAFLSE-EELSTVLQQHLLADVSGIDWVMVRHGR
SIDS-----VSS--AKLLGSLANVLTPEETS-VLLQKKVIN-----SQSKFS
LGHD-EDATRMAS--AGCVGMLCAFLSE-EELRTVLQQHVLADVSGVDWVMVRHGR
EASD-MTDVVM---AKLYGAWFANLPD-ARASEFLEDKLS-----VEEDTTLR
LGHA-EDTTRTGA--AGCLGALTRSLTV-DQLTVTLNDHLLQDDLTSDWTLRHGR
IGHS-DDVTRSAA--GGCLGALLKHLSV-QQVNDILEHHILLDDND-DALLTHGR
LGHS-EDITRTAA--AGCFGALCRWLNPD-DQLDDALNTHLLNEDYGEDALRHGR
LSHP-EDVTRNAV--AGCFGALLRWLNPEQLAIALNDHLLCNDVNVDMWRHGR
LGHS-EDVTRAAA--AGCFGALVRWLPS-DLLDDALASHLLNEDYGDDATLRHGR
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MLGS-NDKLAVAY--AKLIGSLSEILSH-DEAHKILQDRVLN--ADLDGETGMFA
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MLGS-NDKLAVAY--AKLIGSLSEILSN-EEAHKILQDKVLN--ADLDGETGKFA
SNGR-DDTMNITN--ARLLGALVKTLPA-TTVVPLIKSRVLS-----PHLTHSS
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GDEK-DSAMTITS--AKLLGALIKNVPE-DAAGLLRNRVIT-----NQISKSS
TDDS-NDAMAITN--ARLLGALISCLPE-DVASSLLKARVLT-----THFSKAS
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ITVV-DDKSAVSY--ARLLGSLAGILSI-DEARNILKSKILE---KVDNSNDKFC
ADER-DDTMTITY--AKLFGALVKNVSD-EVAAQLLKNRVLT-----RDFSNS
IDES-DDAMAITN--ARLLGAIKKNLPE-ELAGSLIKNRILL-----VHHNKAS
TDDS-NDAMAITN--ARLLGALIGCLPE-DIGPGLLKARVLT-----THFNKAS
SDDS-NDAMAITN--ARLLGALISCLPE-EIASSLLKARVLT-----THYNKAS
TDEK-DDAMTITN--AKLLGALVKNVPA-DAASHLIKTRVLT-----PTPSSSS
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LGHD-EDATRMAS--AGCIGELCAFLSE-EELKNLLLQHVLDVSGVDWVMVRHGR
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SVD--DAATTITN--AKLAGALIKSLST-PTAIPLIKNRILA-----TQLTHQS
TDER-DNAMTITN--AKLFGALIKNVSA-EVATGLLKNRVMT-----KDVSISS
TDER-DDNMTITN--AKLFGALMKNVPT-DLTTNLLKNRVMT-----TNFSHSS
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IHHD-DDRVRVYA--ASILGVLTYLEA-VQFTELIQE-VTSLANSPPWPRHGS
IGHS-EDITRSAS--AGCLGALLKYLSP-QQVEDLLELHIFVAGNG-DGLLKHGR
IGHS-EDITRTAS--AGCLGALLKYLTP-QQVDDLLEHHILIAGNG-DGLLKHGR
LSSS-EDGCRATA--AGCLGSLCRWLPP-DELAVFAREHLLSDPSEDWTLRHGC
SADR-DEATNIAN--AQLVGALIKSLPE-ATAVPLIKNRVLT-----SHYTHLS
TGDS-DEASAITN--ARLLGALIKVLPE-DVGGGLVKARVLT-----PDHTYSS
LPSG-NGKPKVLSLLAKILSAIVGTVDG-EQAGKIIKQALQH-----EDENFS
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GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
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VLILNAVVRFGFEKI ISSGSES--AVA EYI SRLCANS DPFI SENAVKAAGKYLLT
STALFVALKEAPERLYKDDFKE--KVQKRLLVFLTADRVP IAMNGVRGCGYLFY
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VLALNAVLVESPE SLLGGPLAD--DLPEVLCHGMTNKT PFIADNFILATGKYLLS
VLALNAILLDAPEAL-TGSFAD--DTITVICQGI AHSQPFISDNAILAAGKYLLS
VLALNAVLL ESPEILFESELA E--TLPAYLSHG MVNKT PFIADNFILGTGKFLLS
VLSINSFLKYS PDHIFNTGLLS--EIVDFVLACSDSTIDYISDNATVAIGKLLLL
VLALNAVLL ESPE TLLES LVD--DLPELLCQGMASKNTF ITENFILATGKYLLS
VLGLNSILAESPLTL--APFTE--EVVGFICQGISNGNAYITEGCILAAGKYLLS
VLALNAILLDAPEAL-SESFPE--ETVATICQGI AHSQPFISDN AVLAAGKYLLA
VLALNAILLDAPEAL-TE SFAD--DTVSVICQGI SHAQPFISDN SILAAGKYLLS
MLGLNAVLL ES PKAILESPWAD--ELPDI LCQGMSSKIALIADNSILAAGKYLLC
SLALSVAVNVAPSRCLCPKYYN--TVQEMIFSNATADRIP IAI SGIRMGFLMKY
SLALAIIVKTAPEKLCGKDYCE--TVTETVLTNATADRIP IATSGIRALGYLMRH
SLALSVAVNTAASRLCAPKYSN--SVHEMIFSN TVADRIP IAIAGIRMGFLMKH
VLILNSFLKDAPSHIFSSGEIH--KFVKFITDAMTSTNVHFVENATLAAGKLLLL
ILTLNSFLKDAPIHIFNTGLVD--EVISYTVNAIQSPDVYFGENGAIAAGKLLLL
ILRLNAILVESPALL-NENFRS--EVPVAI CHAIRNSDVFISDNGLVLAAGKYLLS
VLALNAVLL ES PNTLLD SPLAD--DLPELLCQGMESKDTSIADNFIVAAGKYLLS
VLALNSVLL ES RSTLLD SPLAE--DLPELLCQGM AHNEPFIADNFILATGKYLLI
ILTIS S LFRYNPATICSSS LFP--TIVDCLRD TLKDEKFP LRETSTKALGRLLLY
SAALFVALKESPTTIYNSKEKD--RVCV VILSYLSADRIQI IMNGIRACGYLFQY
ILTIS S LLYRNPAPIFSSS L FQ--TVVDCLRDALKDEKFP LRESSTKALGRLLLY
TAVLFVALKESPTIIISKYES--KLIEFITSSITSDKINI ASSGVRAMTCLLHF
TAVLFVSLKESPSMIITPKFES--KVIEFITASILSDKINI ASSGVRAMTCLLQY
SVTLSVALKQAPERILTD DWRD--RVVKT LIKYMTADRVP IIVIGVVRGTGHCLRH
VLALNSILAESPRSI-TDTPFD--ETLSTICEGIKHKDVFIADNSVLAAGKYLLT
VLALNSILAEPGSL-TGPFAD--VLPSTICQGISSSQPAIADNCV LASGKYLLT
ILILNGVLKYGSETVKNTDL SA--SIYKYFAERASSEHSNVAEASII GLGKYLLS
SLAVAIIVKSAPEKLCGKDYCD--TVTETILANATADRIP IATSGIRAMGFLMRH
SVALAIIVKSAPEQLWAE EYRT--AVLDAI LASATADRIP VATSGIRAMGFLMKH
SLAVAIIVKSAPEKLCGKDYCD--TVTETILANATADRIP IATSGIRAMGFLMRH

: : . .

GCN1_YEAST	EGEKRSPPFVKKDAAEPFKIGDENINLLINELSKAVLQPASNSTDVRRRLALVVIRT	2915
GCN1_SCHPO	DIPQSF-----GNAKNLVEALKVNI EAPPSTSQDSRRLALLI IRV	
GCN1_DICDI	-----SPLTYAKDLVPSICH LIGDQSSSVSISALNVIKR	
GCN1_MOUSE	HIET-----GSGQLPPRLSLLIKCLQNPCSDIRLVAEKMIWW	
GCN1_HUMAN	HIET-----GGGQLPAKLSLFLVKCLQNPSSDIRLVAEKMIWW	
M7ANV9_CHEMY	HIET-----EGGNLPPKLANLFIKCLQNPSSDIKLI A EKMIWW	
H8X4E7_CANO9	GIKDES-----LYRQLAKNVIQPN SASPDTRRLSLIVIRT	
W6A2P0 ICTPU	QLRSA-----GEDAVSPRIITQLVKSLQNPSSDIRLVTERVLWW	
B6JZI6_SCHJY	EMNQNF-----NDAKRLIESLAECIQAPVSGSNDCKRLALVVLHT	
R4WJK2_RIPPE	LMS-----NNEPVPQPLLSPFVRS MNHQSNEVKQLLARVCSY	
W8CCK9_CERCA	YLI-----NNLTFSP IIVPCLARAMNHKSNEIKQIVAKSCNY	
B0W357_CULQU	GMST-----EGAKLPQPIIGPFVKSMNHVSNEVKQLLAKTCIY	
E1ZX97_CAMFO	LMN-----ESLPIPQQILSPFVRS MNNSNDVKQLLARVCIH	
W5JJ28_ANODA	CMTDA-----EGVKLPMTVIGPFVKSMNHSSHEVKQLLAKTCTY	
F1KPR4_ASCSU	-----NERTMDITLLSALVRGINHPSNDVKRIAAIGVHH	
V9K7F0_CALMI	QMQL-----KDESVSPKLLSLLVKS LQNSASDLKLI A EKMIWL	
W0T7Q3_KLUMA	EGETKSPYSSGDVKEPFH LGEENIQKMSVSELAKSMLKPN SNLSDRRLALVVVRT	
S9R951_CEROY	DIPQNF-----NESKTLFEALRVSIEVSPSGSQDAKRLSLVIRI	
S9W134_SCHCR	DVPQNF-----NESKVLFEALRISLEVSPSGSQDSKRLSLVIRI	
H0GUK0_SACCK	EGERKSPFVRTEAAEPFDIGDENINLLISELSKAILQPASNSTDVRRRLSLVVIRT	
E5R2E4_ARTGP	PQMDRKP-----EDEKEVFEALAGIV--QPGK PVDTRRLALVVLRT	
J8Q888_SACAR	EGEKKSPPFVKTEAAEPFKIGDENINALINELSKAVLEPASNSTDVRRRLTLVVIRT	
C5G992_AJEDR	EDITRNF-----ETDKPLVEALAPAI--KPGGPTDTRRIALVIVRT	
G4MR95_MAGO7	EQS-KPF-----EHTKAVFEALANTV--GPGNPTDSRRLSLVVVRT	
C9SQ16_VERA1	ESP-KTF-----EANKKIFETLAGII--QPGQPTDSRRLALVVART	
B2WNI9_PYRTR	EKSNSKF-----DHTKPIFEALAPVV--EPGHPVDTRRLALVVLRT	
S3CN37_OPHP1	QQA-KTF-----EDTKEIFETLAKII--PPGAAADSRRLSLVLVRT	
G3ALT0_SPAPN	HKENKSPFSKEAT-SIYEVDEESLDKLVRQLCVLVIQPKSSPDTRRLALVVLRT	
Q7S5P0_NEUCR	PVP-KSF-----EATKPLFSTISTLL--PPGQPTDSRRLALVLVRT	
A0A165FVX9_9PEZI	ESGDKSF-----ETTKSIFEVLAPII--KPGSPADARRALVVLRT	
A0A178DN93_9PLEO	EKTNKTF-----EHTKPLFEALAPVI--EPGHPVDTRRLALVVLRT	
A0A177D7J2_ALTAL	EKSNSKF-----DHTKPIFEALAPVV--EPGHPVDTRRLALVVLRT	
A0A0C4DS68_MAGP6	DSP-KSF-----ESTKSVFEALADII--QPGRPDTRRLSLVIVRT	
A0A151N4J5_ALLMI	HIEA-----EGGNLPLKLSNFFIKCLQNPSSDIRLVAEKMIWW	
A0A146NKU7_FUNHE	QLRTE-----GGSSISQRTITQFVKCLQNPSSDIRLVSE RVLWW	
A0A0F7Z917_CROAD	HIEA-----NGGNLPPKLSNLFIKCLQNPSSDIKLI A EKMIWW	
A0A0W0DC37_CANGB	HNETKSPYTNMKNVDVTFIVPEEDIKSLVEELAKSALVPSSNTDQRRLSLVVLRT	
A0A0L8RIK7_SACEU	EGERRSPFVKTDAPEAFKIGDENISLLIKELSKAVLQPASNSTDVRRRLALVVIRT	
A0A178FRD2_TRIVO	AHMDRKP-----EDEKEVFEALAGIV--QPGK PVDTRRLTLVVLRT	
A0A175WD14_9PEZI	DAP-KAF-----EATKPIFTTLSKII--PPGQPTDSRRLALVLVRT	
A0A194VFU1_9PEZI	DTP-KSF-----ESTKAI FESLAVLI--PPGAALDSRRLSLVVVRT	
A0A151TXV6_CAJCA	RAQTDP-----SDTL LYKDVLSLLVSS THDDSSEVRRRALS A IKA	
A0A0M9ABE9_9HYME	LMN-----EGQPIPQQILPPFIRSMNNSNDVKQLLAKVCIH	
A0A072U5F0_MEDTR	RAQEDP-----SDTVLYKDVLSLLVTSTRDESSEVRRRALS A IKA	
A0A0K8V1F4_BACLA	YMS-----NNIMFSP IIVSCFTRAMNHKSNEIKQIVAKSCNY	
A0A0A1XE05_BACCU	YMS-----NDIIFPLTIVSCFIRAMNHKSNEIKQVVAISCN Y	
A0A131YTA4_RHIAP	MLLT-----NSEELPQVLLTTFAKCLN HGSNEVKQLVAQT VQW	
A0A0J6I2R9_COCPO	TDIDRDA-----ETDRVVLEALTSVI--PPGNPADTRRVALVVLRT	
A0A074XMM5_AURPU	PTSDTSF-----EPVKQIMEALAAAV--APGK PVDTRRLALVVLRT	
A0A167FV98_9ASCO	ISIPES-----EETEEI I KKLAE SIEKSES RSTDRRLALVVLRT	
A0A1A7XZM1_9TELE	HLKTE-----GGSSVLQRIVTQLVKCLQNPSSDIRLVSERVLWW	
A0A0P7V1U6_9TELE	HIVTE-----GGAGVSPRIVTQFIKCLQNPSSDIRLVAERMLWW	
A0A1A7WWE1_9TELE	HLKTE-----GGSSVLQRIVTQLVKCLQNPSSDIRLVSERVLWW	

GCN1_YEAST
GCN1_SCHPO
GCN1_DICDI
GCN1_MOUSE
GCN1_HUMAN
M7ANV9_CHEMY
H8X4E7_CANO9
W6A2P0 ICTPU
B6JZI6_SCHJY
R4WJK2_RIPPE
W8CCK9_CERCA
B0W357_CULQU
E1ZX97_CAMFO
W5JJ28_ANODA
F1KPR4_ASCSU
V9K7F0_CALMI
W0T7Q3_KLUMA
S9R951_SCHRO
S9W134_SCHCR
H0GUK0_SACCK
E5R2E4_ARTGP
J8Q888_SACAR
C5G992_AJEDR
G4MR95_MAGO7
C9SQ16_VERA1
B2WNI9_PYRTR
S3CN37_OPHP1
G3ALT0_SPAPN
Q7S5P0_NEUCR
A0A165FVX9_9PEZI
A0A178DN93_9PLEO
A0A177D7J2_ALTAL
A0A0C4DS68_MAGP6
A0A151N4J5_ALLMI
A0A146NKU7_FUNHE
A0A0F7Z917_CROAD
A0A0W0DC37_CANGB
A0A0L8RIK7_SACEU
A0A178FRD2_TRIVO
A0A175WD14_9PEZI
A0A194VFU1_9PEZI
A0A151TXV6_CAJCA
A0A0M9ABE9_9HYME
A0A072U5F0_MEDTR
A0A0K8V1F4_BACLA
A0A0A1XE05_BACCU
A0A131YTA4_RHIAP
A0A0J6I2R9_COCPO
A0A074XMM5_AURPU
A0A167FV98_9ASCO
A0A1A7XZM1_9TELE
A0A0P7V1U6_9TELE
A0A1A7WWE1_9TELE

LARFKFDECIKQ-YFDVVGPSVFSCLRDPVPIPKLAAEKAYLALFKLV-EEDDMH 2970
VSKENYSL-IKP-HISILAPAI FGCVRV IPIVKLAAEAAFLALFQLV---EDDS
FCKSNQQL-SRQYLRDIVVPTMNRKERTNLPLKLAERTLVHSLQIF---KESI
ANKEPRPP-LEPQTIKPIKALLDNTKDKNTVVRAYSQAI VNLKMR---RGEE
ANKDPLPP-LDPQAIKPIKALLDNTKDKNTVVRAYSQAI VNLKMR---QGEE
ANKNHLPS-MDPQTIKPIKALLDNTKDKNTSVRAYSQAI VNLKMR---EGEE
AAHKA---IPQEYLDLVPVSVFSSVRDPI IPIKLAEEKAYLEVFSIV--DQELK
VWKEADTPVLEPFLIKPIKALLDNTKDKNTSVRAQSEHTIVNLLRLR---QGDS
VANSNFDV-VRA-HLPTLPAVFGCVRATV IPIVKLAAEETFLSLLQLR---ENEA
LARR---EINSPEFLKAVI PMLVNGTKEKNSYVKANSELSLVSVLRLR---NGDE
LAKELPIEKMSPDVILKLVMLVNGTKEKNGYVKSNSEIALISLLHLR---EDDT
LAKTVPADTAPAYLRLVI PMLVNGTKEKNGYVKSNSEIALVYVLRRLR---EGDE
LARNIPSENMSTELLRALLPMLVNGTKEKNGYVKANSELALIAVLRRLR---QGED
LARVVPKATAPEYLKLAIPMLVNGTKEKNGYVKSNSEIALVHVLRLR---DGEE
I AVR D---LSPVQMKAI I PMLVNGTKEKNTAVRVACEHALCDALKLR---VNST
VNKDNLQP-LEIQTIKPIKALLDNTKDKNTSVRAYSEQAI VSLRLR---EGEE
LARFKFEEAHS-NYDILGPSVFSCLRDPV IPIKLAEEKAYLAMFHLV---EEEGME
LSKEYDI -VRP-HLNILAPAVFSCIRAI T IPIKLAEEAFLAMFKLV---DDDS
LSKEYDI -VRP-HLNILAPAVFSCIRAI T IPIKLAEEAFLAMFKLV---DDDS
LARFKFDECLKQ-YDVGPSVFAFLRDPV IPIKLAEEKAYLALFKLV-EEDDMN
VARENQDM-IAP-YRSLVPPVFGGVRDVI IPIVKLAAEAAFLGIFSVM---ECEGE
LARFKFDECIKQ-YDVGPSVFAFLRDPV IPIKLAEEKAYLALFELV-DEDNMD
VSRVNMDL-ARP-HLPQLAGPVFASVRDVI IPIVKLAAEAAFLALFSVM---EEST
LSRVMDM-VRP-HTPLLATPVFASVRDVI IPIVKLAAEAAFLALFSVM---DEESK
LAREHNEL-VRP-HIALVVPVVFASVRDVI IPIVKLSAEAAFLSIFSVM---DEEGA
LARVHPDM-VRP-HLPLLAPPVFAVSRDLVI IPIVKLSAEAAFLALFDVI---DEETK
VARLKFDE-VHD-NLDLIVPSIFASIRDPI IPIKLAEEKAYLAVFQLV-EDQDMK
LARTNPDL-VRP-HLALLAPPVFAVSRDMVI IPIVKLAAEAAFLALFAVA---DEESK
VSRMDNEL-VRP-HLALLAPPVFAVSRDMVI IPIVKLSAEAAFLALFSVM---DDESA
VAREHNEL-VRP-HIPLLPVFAVSRDVI IPIVKLSAEAAFLTIFSVM---DEETA
VAREHNDL-VRP-HIPLLPVFAVSRDVI IPIVKLSAEAAFLAIFSVM---DEEAA
VSRANIDM-ARA-HLPLLAPPVFAVSRDVI IPIVKLAAEAAFLALFNVA---DDESK
ANKKQMP- LDPQTIKPIKALLDNTKDKNTSVRAYSQAI VNLKMR---EGEE
VFKDPDTPSMDASQIKPLLSLLDNTKDKNTTVRAQSEHTIVNLLRLR---QGED
ANKAPLPP-LDPPVAKPIKALLDNTKDKNTSVRAYSQAI VNLKMR---EGEE
IARLKNEETVKP-YLDVLAPAVFSCVRDVI IPIKLAEEKAYLALFGLI---EEDMA
LARFKFEECIKP-YYNLLGPSVFAFLRDPV IPIKLAEEKAYLALFKLA-EENDMH
VARENQEM-IAR-YRSLVPPVFGGVRDVI IPIVKLAAEAAFLAIFSVM---ESEGE
LARTH PDM-ARP-HLGLLAPPVFAVSRDMVI IPIVKLAAEAAFLALFAVA---DEEGK
VSRANMDM-VRP-HLGLLAPPVFAVSRDMVI IPIVKLAAEAAFLALFNVA---DDESK
VAKANPSA IML--HGTIVGPALAECLKDANTPVRLAAERCAHAFQLTKGSDNVQ
LARNIPPEKMSPELLKSLPMLVNGTKEKNGYVKANSELALIAVLRRLK---QGEE
VAKANPSA IMS--HGTIVGPALAECLKDANTPVRLAAERCAHAFQLTKGSENVQ
LAKTLAIDKMSPDVILKLVMLVNGTKEKNGYVKSNSEIALVSIHLR---ENDT
LAKMLALDKMSPDVILKLVMLVNGTKEKNGYVKSNSEIALVSIHLR---ENDT
LSRSLDKG-VPPQLLRTLVPLVNGTKEKNTMVRANSEYALVALLHLR---TSTQ
VSRLEPGL-VGP-HLSLLIPVFSVSRDLVI IPIKLGAEATFLALLQVV---DAGSV
VSREQNDL-IRP-HLALLTAVFGSVRDMVI IPIVKLAAEAAFLAMFSVM---EEDDA
IAREKYQL-VSP-YIDLIAVPLFGCVRDMI IPIVKLAAEKVYLTIFKLV-EDPEGK
VFRDPSVPPMDTSLIKPLLSLLDNTKDKNTTVRAQSEHTIVNLLQLR---QGEE
VCRDPSTPALESSI IKPLLSLLDNTKDKNTGVRAQSEHTIVSLLRLR---QGEQ
VFRDPSVPPMDTSLIKPLLSLLDNTKDKNTTVRAQSEHTIVNLLQLR---QGEQ

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GCN1_YEAST	TFNEWFAKISDRGNSIETVTGTTIQLRSVGDYTKRVGKRLANVERERIAAAGD--	3025
GCN1_SCHPO	VLNKYIETLEGP-----RARSFVDYSRRVAVKLA AAAERDRINS GSE--	
GCN1_DICDI	VMDDLKQLELSGDSS-----MANS LIDYHKRVLMKLS PDS D-----	
GCN1_MOUSE	LLQSLSKILDVA-----SLEALNECSRSLRKLACQ-----	
GCN1_HUMAN	VFQSLSKILDVA-----SLEVLNEVNRRSLKKLASQ-----	
M7ANV9_CHEMY	VLQSVSKILDAA-----SLELLNESCRRLKKLASQ-----	
H8X4E7_CANO9	VFDEWFNG---RTEITVTGTPIVPRSIGDYTKRVAVRLANVERERIEQGGD--	
W6A2P0 ICTPU	VMQNISAILDTA-----SNELLSECYRRSLKKSGL-----	
B6JZI6_SCHJY	FAEKFISTLQTP-----RARSISDYTRRVAFKLA AAAERDR IASGSG--	
R4WJK2_RIPPE	KLQSCIAVLDPG-----AAEALTDVITKVLRKVALQ-----	
W8CCK9_CERCA	TYNNVCQILEVG-----AKDSLNEVVHKVLRKVA VQ-----	
B0W357_CULQU	VHQKCIALLEPG-----ARDFLAEVVSKVLRKVALQ-----	
E1ZX97_CAMFO	EHQRCAFLDIG-----AKESLSDVVS KVL RKVLSQ-----	
W5JJ28_ANODA	FHQRC LTLLEPG-----ARESLSEVVS RALRKVAMQSV-----	
F1KPR4_ASCSU	VYDQYLATLEGA-----AREVLIETHRQLLKLKIQQ-----	
V9K7F0_CALMI	IYQNVSKILDTA-----SLDLLAESYRRSLKKLASQ-----	
W0T7Q3_KLUMA	TFNSWFSKLEGSTVSN SIG--DTLQLRSIGDYTKRVGKRLASVEREKI SAGD--	
S9R951_CHOYA	VINKYMETLEGP-----RARSFGDYTRRVAFKLAAGERDR IASGSG--	
S9W134_SCHCR	IINKYMETLEGP-----RARSFTDYTRRVAFKLAAGERDR IASGSG--	
H0GUK0_SACCK	TFNEWFSRASDGADRIETITGTSIQLRSIGDYTKRVGKRLANVERERIAAAGD--	
E5R2E4_ARTGP	VFEEYMKG-PGAELPAG-----PKRSMQDYFKRVALRLGGQARERREAEAGG-Q	
J8Q888_SACAR	TFNEWFSRISDGKSTIESVTGTIIQLRSIGDYTKRVGKRLANVERERIAAAGD--	
C5G992_AJEDR	VFEKYMNG-PGAELPTG-----TKRSLQDYFKRVALRLANQARERREAEAGG-Q	
G4MR95_MAGO7	VFDKFMAS PAGESMPAN-----AKRSMQDYFKRVALRLGAQVRRERREAEAGG-A	
C9SQ16_VERA1	VFDKYVDN---AGLAPN-----AKRSMQDYFKRVALRLGAQVRRERREAEAGG-Q	
B2WNI9_PYRTR	VFDKYMSG-PGKELSPG-----QQRSMGDYFKRVATRLAGQARERKEAEAGG-A	
S3CN37_OPHP1	VFDKYMASPSAAELPPA-----TKRVMGDYFKRVTLRLATQARERRDAEAGG-T	
G3ALT0_SPAPN	LFNQWFEG---KSTVTTVTGTSIVPRSIGDYTKRVASRLAGVERERIEAGD--	
Q7S5P0_NEUCR	VFEKYLE S-QEGNMAPN-----VKRSMQDYFKRVALRLGAQVRRERREAEAGG-T	
A0A165FVX9_9PEZI	VFDKYMAG-AGAE LPPN-----VKRSMGDYFKRVAIRLGNQARERKEAEAGG-H	
A0A178DN93_9PLEO	VFDKYMSG-PGKSL SAG-----QQRSMGDYFKRVALRLAGQARERKEAEAGG-A	
A0A177D7J2_ALTAL	VFDKYMAG-PGKTL SAG-----QQRSMGDYFKRVAMRLAGQARERKEAEAGG-A	
A0A0C4DS68_MAGP6	VFDKFMAG-AGAE LPPN-----TKRSMQDYFKRVALRLGSQVRRERREAEAGG-A	
A0A151N4J5_ALLMI	VLQSVSKILDAA-----SLDLLNESCRRLKKLASQ-----	
A0A146NKU7_FUNHE	TMQSVTAILDSA-----SNELLSECHRRSLK KIASL-----	
A0A0F7Z917_CROAD	MLQSISKILDAA-----SLELLNESCRRLK KLANQ-----	
A0A0W0DC37_CANGB	TFNWNFESVSSNGATIDNIVGTTIQLRSIGDYTKRVAKRLAAVERERTAAGD--	
A0A0L8RIK7_SACEU	TFNEWFSGISGGESTIESITGTIIQLRSIGDYTKRVGKRLANVERERIAAAGD--	
A0A178FRD2_TRIVO	VFEEYMKG-PGAELPAG-----PKRSMQDYFKRVALRLGGQARERREAEAGG-Q	
A0A175WD14_9PEZI	VFDKWIAG---AELPPT-----VKRSMQDYFKRVALRLGAQVRRERREAEAGG-A	
A0A194VFU1_9PEZI	VFDKFMASDIGTALPPN-----VKRSMGDYFKRVALRLGSQARERREAEAGGMS	
A0A151TXV6_CAJCA	AAQKYITGLDAR-----RLSKFPEY--RYLFNQICI-----	
A0A0M9ABE9_9HYME	EYQRCAFLDVG-----ARESLSDVVS KVL RKVLSQ-----	
A0A072U5F0_MEDTR	AVQKYITGLDAR-----RLSKFPEFSDDSGSDSDM-----	
A0A0K8V1F4_BACLA	TFSYICQLEVG-----ARDSLNEVVNKVLRKVA VQ-----	
A0A0A1XE05_BACCU	TFSYVCQILEVG-----ARDSLNEVVNKVLRKVA VQ-----	
A0A131YTA4_RHIAP	GLDECLAVLDPG-----ARESLQDVYTKVLRKVASH-----	
A0A0J6I2R9_COCPO	IFDTYLQG-PGAGLPMT-----TKRSMQDYFKRVALRLATQARERRDAEAGG-A	
A0A074XMM5_AURPU	IFAKYMAG-PGAELAPG-----PKRSIQDYFKRIATRLGAQARERREAEAGG-Q	
A0A167FV98_9ASCO	IFEWFNNAKNSGVI PA-----PQQR SINDYTRRVAFRLQAERDR I AAGD--	
A0A1A7XZM1_9TELE	TMQSMTAILDSA-----SNELLSECHRRSLK KIASL-----	
A0A0P7V1U6_9TELE	LMQV-----RAGTYINTQ-----	
A0A1A7WWE1_9TELE	TMQSMTAILDSA-----SNELLSECHRRSLK KIASL-----	

GCN1_YEAST	-AETMFSDRFEDEREIWAVGGVEL-----TTDI	3059
GCN1_SCHPO	---RVKLEEVEDLAEINAVGRDNE-----VSTNDP	
GCN1_DICDI	-----IEK	
GCN1_MOUSE	---ADSVEQVDDT-----ILT	
GCN1_HUMAN	---ADSTEQVDDT-----ILT	
M7ANV9_CHEMY	---ADSVEQIDDT-----ILT	
H8X4E7_CANO9	-EETLFSDRIEDEKEIWSVGI-----	
W6A2P0 ICTPU	---PDSSEEIDDT-----ILT	
B6JZI6_SCHJY	---RIQIEEAENLAEINAIGADDG---MFSQQDA	
R4WJK2_RIPPE	--PEGKVEELDDT-----LLT	
W8CCK9_CERCA	--PLGKDEEFDDT-----ILN	
B0W357_CULQU	--PVGKEEELDDT-----ILT	
E1ZX97_CAMFO	--PEGKIEELDDT-----LLT	
W5JJ28_ANODA	---IGKDEELDDT-----ILT	
F1KPR4_ASCSU	--SDAGIEDISDIP-----CVP	
V9K7F0_CALMI	---PESTEHIDDT-----ILT	
W0T7Q3_KLUMA	-AEAMFSDRFEDENEIWAVGGIEL-----NPDA	
S9R951_SCHUY	---RVQLEEREDLAEITAVGRDNE---VVSNESW	
S9W134_SCHCR	---RIQLEEKEDLAEITAVGRDNE---VISNESW	
H0GUK0_SACCK	-AETMYSDRFEDEREIWAVGGVEL-----TTDI	
E5R2E4_ARTGP	GGLGLSSDEVEDEKEVWSVGKVDL---GESFGDD	
J8Q888_SACAR	-AETMFSDRFEDEREIWAVGGVEL-----PTDI	
C5G992_AJEDR	GGLGLSSDELEDEKEVWSVGKIDL---DESTSED	
G4MR95_MAGO7	GGLGLSNDEVEDEKEIWSVGRIDS--GEDVFGKD	
C9SQ16_VERA1	GGLGLSNDEVEDEKEIWSVGKVDV--GEDIFGK-	
B2WNI9_PYRTR	GGLGLSSDEVEDEREIWSVGKVEL---GDVFGDN	
S3CN37_OPHP1	GGLGLFDDEVEDEREIWSVGKVDV--GADVFGKE	
G3ALT0_SPAPN	-AETMFSDRFEDETEVWAVGGTEI-----AST	
Q7S5P0_NEUCR	GGLGLSNDEVEDEKELMSVGRVDVAGGGEMFD--	
A0A165FVX9_9PEZI	GGLGLSADELEDEREIWSVGRVDLG-GDLGFGDA	
A0A178DN93_9PLEO	GGLGLSSDEMEDEREIWSVGKVEL---GDVFGEN	
A0A177D7J2_ALTAL	GGLGLSSDEMEDEREIWSVGKVEL---GDVFGEN	
A0A0C4DS68_MAGP6	GGLGLSNDEVEDEKEIWSVGKMD--GANVFGQD	
A0A151N4J5_ALLMI	---SDSDEQIDDT-----ILT	
A0A146NKU7_FUNHE	---PDSNEEIDDT-----ILT	
A0A0F7Z917_CROAD	---ADSVEQIDDT-----ILT	
A0A0W0DC37_CANGB	-DEMMSDRYEDEREIWAVGGVEL-----PTDI	
A0A0L8RIK7_SACEU	-AETMFSDRFEDEREIWAVGGVEL-----TTDI	
A0A178FRD2_TRIVO	GGLGLSSDEVEDEKEVWSVGKVDL---GESFGDD	
A0A175WD14_9PEZI	GGLGLSNDEVEDEKELMAVGKVDV--GSDIFAAE	
A0A194VFU1_9PEZI	GTLGLSGDEVEDEKEIWSVGKVDV--GADVFGK-	
A0A151TXV6_CAJCA	-----SIE	
A0A0M9ABE9_9HYME	--PEGKIEELDDT-----LLT	
A0A072U5F0_MEDTR	-----STS	
A0A0K8V1F4_BACLA	---AIDKDEELDDT-----ILN	
A0A0A1XE05_BACCU	--SIGKDEEFDDT-----MLN	
A0A131YTA4_RHIAP	--PEPKEDLDDG-----ILS	
A0A0J6I2R9_COCPO	GGLDLASDEADDEKELWSVGKVDL----GDFSED	
A0A074XMM5_AURPU	GGLGLSSDEQEDMKEVWSVGKVDV--ESGAFKDE	
A0A167FV98_9ASCO	-DETLFSDRIEDMNEIWSVGNVEV-----SSRN	
A0A1A7XZM1_9TELE	---PDSNEEVDDT-----ILT	
A0A0P7V1U6_9TELE	-----ACPDCRDA-----AAP	
A0A1A7WWE1_9TELE	---PDSNEEVDDT-----ILT	