

>DchGRAS1

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>DchGRAS2

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>DchGRAS3

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>DchGRAS4

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>DchGRAS5

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>DchGRAS6

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>DchGRAS7

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>DchGRAS8

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>DchGRAS9

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>DchGRAS10

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>DchGRAS11

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LVI

>DchGRAS12

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>DchGRAS13

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>DchGRAS14

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>DchGRAS15

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>DchGRAS16

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>DchGRAS17

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>DchGRAS18

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>DchGRAS19

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>DchGRAS20

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>DchGRAS21

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>DchGRAS22

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>DchGRAS23

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>DchGRAS24

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>DchGRAS26

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>DchGRAS27

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DIKEGLQWPSLIQALVSHKNGNFTSPSLRITAVASGKWSMAKVEETGQRLTAF AASVSLPFS
FDHCRLGRNQRF RPAAVRTVKGDAVILNCVLQWPQTPNRTATSVKSFIGGAAAVGACLVT
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>DchGRAS28

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TEVSSTNPVVVMVDSQEAGIRLVHALLACAESLQQENYKAADAILKQISILASSQAGAMR
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RRVHVIDFGIKQGMQWPALMQALALRPGGPPSFRLTGIGPPSPDNSNALQQVGWKLALQ
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RPRIMTVVEQEANHNAGSFLERFTESLHYYSTMFDSLEGVAGGEGQQDQVMSEVFLGRQI
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>DchGRAS29

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MSVIGSTNPAIVLVAEEEEADHNNHLLQLRFANSLKYAAIFDALNVSLPEDSSERAKIEKMF
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>DchGRAS30

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LLQLHPLLAPNDAAAPRKHFSTKIESFLTSLWGLSPKIMVVTEQESNHNGSTLKERFMEA
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>DchGRAS31

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DRILRMVKSLSPKVVTLVEQESNTNTAPFFPRFLETLDYYTAIFESIDAVLPRDHKERISVEQ
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>DchGRAS32

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DRILRMVKSLSPKVVTLVEQESNTNTAPFFPRFLETLDYYTAIFESIDAVLPRDHKERISVEQ
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>DchGRAS33

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>DchGRAS34

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FLQRFMIELERYMAIWESLEAGFPKQGRVREMERVILGPRITGAVRRAYGRNGNCEPVAE
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>DchGRAS35

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GGFVGSFMEEMKRYSAMWDSLEAGFPMQKGARGVVEKLILGPMIAGSVGRAYRRREEG
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>DchGRAS36

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>DchGRAS37

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ERRVVEGEAARLLEEEGEEGEGWGNRWKEKMEGEGFKEEGFGEEAVEAGRALLKKYD
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>DchGRAS38

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VIDFGIKQGMQWPALMQALALRPGPPSFRLTGITPPQSDNSDSLQQLGLKLAQLARTINV
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VEQEANHNAHGFFVERFTEALHYYSTLFDSMDGGSDEVSPKLMTEVFVGRQICNVVACE
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>DchGRAS39

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>DchGRAS40

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SVLQLHLLSETGPIDSVLTLIRELRPKILTVEQEADHNKPAFLDRFTEALFYYSTLFDSL
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VL

>DchGRAS41

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SVSTTNHRDRILRLVKSLTPKVVTLVEQESNTNTAAFFPRFMETLDYYTAIFESIDVTLPRE
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>DchGRAS42

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>DchGRAS43

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FNIVNSRTQELNQTTLLCEPGEALAVNFAFFLSRVADESVTANPRDELLRRVKSLSPRVVT
LVEQEMNGNTAPFATRFTEACAHFGALLES LDATAARESTERARVEACLARKAANSIARE
GADRVERCELYGKWRARMGMAGLNPVPLGSIVSEPVKLR LSSLRNNPGFTIKEEA AWLG
CGWMGRVLTVASAWR

>DchGRAS44

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>DchGRAS45

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FEPVLHPVQDLTAASFRVEPGEAVAVNFTLQLYTLLGDSDEAVNRVIRLAKSVRPSVVTLGE
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>DchGRAS46

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FHAVVDQLEDVRLWMLHVKEGECLAVNCVLQLHKTLYDDTGGSRLDMSVIGSTNPAIV
LVAEEDADHNHLLQLRFANSLKYAAIFDALNVSLPEDSSERAKIEKMFARKIRNIIAREG
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>AtGRAS1

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VLHIVDFGILYGFQWPMFIQHLSKSNPGLRKLRLITGIEIPQHGLRPTERIQDTGRRLTEYCKR
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>AtGRAS2

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SWLHTPMP SNFVFQSTSRSNSVTGGGGGGNSAVYSGSGFDDLVSNMFKDDELAMQFKK
GV E EASKFLPKSSQLFIDVDSYIPMNSGSKENGSEV FVKTEKKDETEHHHHHSYAPPPNRL
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KV VTAQSN GAKIRGKKSTSTSHSND SKKETADLR TLLVLCQA VSVDDRRTANEMLRQIR
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>AtGRAS3

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>AtGRAS4

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>AtGRAS5

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RLLESLYTYAALFDCLETKVPRTSQDRIKVEKMLFGEEIKNIISCEGFERRERHEKLEKWSQ
RIDLAGFGNVPLSYAYMLQARRLLQGCGFDGYRIKEESGCAVICWQDRPLYSVSAWRCRK

>AtGRAS6

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KNNSSSTTSFSSNESPIQANNNNLSRFNNHSPEENNNNSPLSGSSATNTNETESLMLKDLE
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ALAVNFPLVLHHMPDESVTVENHRDRLLRLVKHLSPNVVTLVEQEANTNTAPFLPRFVET
MNHYLAVFESIDVKLARDHKERINVEQHCLAREVVNLIACEGVEREERHEPLGKWRSRFH
MAGFKPYPLSSYVNATIKGLLESYSEKYTLEERDGAALYLGWKNQPLITSCAWR

>AtGRAS7

MLTSFKSSSSSE DATATTTENPPPLCIASSSAATSASHHLRRLLF TAANFVSQSNFTA AQNL
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VCKEQFLFRTKNNNSDFESCYYLWLNQLTPFIRFGHLTANQAILDATETNDNGALHILDLDI
SQGLQWPPLMQALAERSSNPSSPPPSLRITGCGRDVTGLNRTGDRLTRFADSLGLQFQFHT
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MAEREANHGDHSFLNRFSEAVDHYMAIFDSLEATLPNSRERLTLEQRWFGKEILDVVAA
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GWQNRPLFSVSSWK

>AtGRAS8

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RGATEERTTGNINNNNNRNDLQRDFELVNLLTGCLDAIRSRNIAAINHFIARTGDLASPRGR
TPMTRLIAYYIEALALRVARMWPHIFHIAAPPREFDRTVEDESGNALRFLNQVTPIPKFIHFTA
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DFLGLIRSTNPIALVLAEQEAHNSEQLETRVCNSLKYYSAMFDAIHTNLATDSL MRVKVE
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>AtGRAS9

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HVTRRSKRTRIESELSSTRSVVVLDSQETGVRLVHALLACAEAVQQNNKLADALVKHVG
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LGQLASTIGVNFEFKSIALNNLSDLKPEMLDIRPGLESVAVNSVFELHRLLAHPGSIDKFLST
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>AtGRAS10

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GLDPVLPSPEICGFASDYDLKVIPGNAIYQFPAIDSSSSSNQNKRLKSCSSPD SMVTSTST
GTQIGGVIGTTVTTTTTTTTTAAGESTRSVILVDSQENG VRLVHALMACAEAIQNNLT LAE
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>AtGRAS11

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GGAPNIRITGVGDGSLVTVKKRLEKLAKKFDVPFRFNAVSRPSCEVEVENLDVRDGEAL
GVNFAYMLHHLPDSEVSMENHRDRLLRMVKSLSPKVVTLVEQECNTNTSPFLPRFLETLS
YYTAMFESIDVMLPRNHKERINIEQHCMARDVVNIACEGAERIERHELLGKWKSFRFSMA
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>AtGRAS12

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SSPGGSSYASTTTTSSDSQWSFDCLENNRPSSWLQTPIPSNFIFQSTSTRASSGNAVFGSSFS
GDLVSNMFDNTDLALQFKKGMEASKFLPKSSQLVIDNSVPNRLTGKKSHWREEEHLTEE
RSKKQSAIYVDETDELTDMDNILIFGEAKEQPVCILNESFPKEPAKASTFSKSPKGEKPEA
SGNSYTKETPDLRMTLVSCAQAVSINDRRTADELLSRIRQHSSSYGDGTERLAHYFANSLE
ARLAGIGTQVYTALSSKKTSTSDMLKAYQTYISVCPFKKIAIIFANHSIMRLASSANAktiHI
IDFGISDGFQWPSLIHRLAWRRGSSCKLRITGIELPQGRFPAEGVIETGRRLAKYCQKFNIP
FEYNAIAQKWESIKLEDLKLKEGEFVAVNSLFRFRNLLDETVAVHSPRDTVLLKIRKIPDV
FIPGILSGSYNAPFFVTRFREVLFHYSSLFDMCDTNLTREDPMRVMFEKEFYGREIMNVVA
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WLLQGWKGRIVYGSSIWVPL

>AtGRAS13

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SDAESALQFKKGVEEASKFLPNSDQWVINLDIERSERRDSVKEEMGLDQLRVKKNHERDF
EEVRSSKQFASNVEDSKVTDMFDKVLLLDGECDPQTLLDSEIQAIRSSKNIGEKGKKKKK
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GSTGPMIQTYYNALTSSLKDTAADTIRAYRVYLS SSPFVTLMYFFSIWMILDVAKDAPVLHI
VDFGILYGFQWPMFIQSISDRKDVPKRRLITGIELPQCGFRPAERIEETGRRLAEYCKRFNV
PFEYKAIASQNWETIRIEDLDIRPNEVLAVNAGLRLKLNQDETGSEENCPRDAVLKLIRNM
NPDVFIHAIVNGSFNAPFFISRFKEAVYHYSALFDMFDSTLPRDNKERIRFEREFYGREAMN
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>AtGRAS14

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PPSPERNLAFAERNSENLDREVPGNYTGGDCIGFGNGGIKPLSSGFTLDFRNPQSCSSILSV
PQSNGLITIYGDGIDESSKNNRENHQS VWLFRREIEEANRFNPEENELIVNFREENCVSKAR
KNSSRDEICVEEERSSKLPAVFGEDILRSVVDKILVHVPGGESMKEFNALRDVLKKGVEK
KKASDAQGGKRRARGRGRGRGGGGGQNGKKEVVDLRSLLIHCAQAVAADDRRCAG
QLLKQIRLHSTPFGDGNQRLAHCFAANGLEARLAGTGSQIYKGIVSKPRSAAVLKAHQLF
LACCPFRKLSYFITNKTIKIRDLVGNLSQRVHVIDFGILYGFQWPTLIHRFSMYGSPKVRITGIEF
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AENLHDES VKVESCRDTVLNLIGKINPDLFVFGIVNGAYNAPFFVTRFREALFHSSIFDML
ETIVPREDEERMFLMEVFGREALNVIACEGWERVERPETYKQWHVRAMRSLGVQVPFD
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>AtGRAS15

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SSSTAVAMVPVPSPGMAGDDQSVIIEQLFNAAELIGTTGNNNGDHTVLAQGILARLNHHL
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QSILESCNESGFDRIHIDFDVGYGGQWSSLMQELASGVGGRRRRNRASSLKLTVFAPPPSTV
SDEFELRFTEENLKTFAGEVKIPFEIELLSVELLLNPAYWPLSLRSSEKEAIAVNLPVNSVAS
GYLPLILRFLKQLSPNIVVCSDRGCDRNDAPFPNAVIHSLQYHTSLLES LDANQNQDDSSIE
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>AtGRAS16

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SCVDRSEYDLRAIPGLSAFPKEEEVFDEEASSKRIRLGSWCESSDESTRSVVLVDSQETGVR
LVHALVACAEAIHQENLNLADALVKRVGTLAGSQAGAMGKVATYFAQALARRIYRDYTA
ETDVCAAVNPSFEEVLEMHFYESC PYLKFAHFTANQAILEAVTTARRVHVIDLGLNQGMQ
WPALMQALALRPGGPPSFRLTGIGPPQTENS DSLQQLGWKLAQFAQNMGVEFEFGKGLAA
ESLSDLEPEMFETRPESETLVVNSVFELHRL LARS GSIEKLLNTVKAIKPSIVTVVEQ EANH
NGIVFLDRFNEALHYSSLFDSLEDSYSLPSQDRVMSEVYLGRQILNVVAAEGSDRVERHE
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TSAWKLA

>AtGRAS17

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NRRLAAFGRLALQHHLSSSSVSSSFWPVFTFASAEVKMFQKTLLKFYEVSPWFALPNMA
NSAILQILAQDPKDKKDLHIIDIGVSHGMQWPTLLEALSCRLEGPPPRVRITVISDLTADIPF
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GETLKAVRSLRPGKVVL CENNGECSSADFAAGFSKKLEYVWKFLDSTSSGFKEENSEER
KLMEGEATKVL MNAGDMNEGKEKWYERMREAGFFVEAFEEDAVDGA KSLLRKYDNN
WEIRMEDGDTFAGLMWKGEAVSFCSLWK

>AtGRAS18

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LHQPEVSEESTRRYRHRDDDEDDDES GRKSKLPAISTVDELA EKFEVLLVCQKNDQGE
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HGDATQRLGYHFAEAL EARITGTM TTPISATSSRTSMVDILKAYKGFVQACPTLIMCYFTA
NRTINELASKATTLHIIDFGILYGFQWPCLIQALSKRDIGPPLL RVTGIELPQSGFRPSERVEE
TGRRLKRFCDFKNVPFEYSFIAKNWENITLDDL VINSGETTVVNCILRLQYTPDET VLSNSP
RDTALKLFRDINPDLFVFAEINGTYNSPFFLTRFREALFHCSSLFDMYETTLSEDDNCRTL V
ERELIIRDAMSVIACEGSERFARPETYKQWQVRILRAGFRPAKLSKQIVKD GKEIVKERYH
KDFVIDNDNHWMFQGWKGRVLYAVSCWKPAKK

>AtGRAS19

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ANAAILTAVEGYSTVHIVDLSLTHCMQIPTLIDAMASRLNKPPPLLKLTVVSSSDHFPPFINI
SYEELGSKLVNFATTRNITMEFTIVPSTYSDGFSSLLQQLRIYPSSFNEALVVNCHMMLRYIP
EEPLTSSSSSLRTVFLKQLRSLNPRIVTLIEEDVDLTSENLVNRLKSAFNFWIPFDTTDTFM
SEQRRWYEAEISWKIENVVAKEGAERVERTETKRRWIERMREAEEFGGVRVKEDAVADVK
AMLEEHAVGWGMKKEDDDDES LVLTWKGHSVVFATVWVPI

>AtGRAS20

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SRLSAPSYLNRVNKDDDSASQQLPPPPASTAIWSPSPSPQHPPPPPPQPDFDLNQPIFKAIHD
YARKPETKPD TLIRIKESVSESGDPIQRVGYFAEALSHKETESPSSSSSSSLEDFILSYKTLN
DACPYSKFAHLTANQAILEATNQSNNIHIVDFGIFQGIQWSALLQALATRSSGKPTRIRISGIP
APSLGDS PGPSLIATGNRLRDFAAILDNLFEFYPVLTPIQLLNGSSFRVDPDEVLVVNFMLEL
YKLLDETATTVG TALRLARSLNPRIVTLGEYEVSLNRVEFANRVKNSLRFYS AVFESLEPNL
DRDSKERLRVERVLFGRRIMDLVRSDDDNNKPGTRFGLMEEKEQWRVLM EKAGFEPVKP
SNYAVSQAKLLLWNYNYSTLYSLVESEPGFISLAWNNVPLLT VSSWR

>AtGRAS21

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MSVQPM DQDSSSSSASPTVWVD AIIRDLIHSSTSVSIPQLIQNV RDII FPCNP NLGALLEYRL
RSLMLLD PSSSSDPSPQTFEPLYQISNNPSPQQQQQHQQQQQHKPPPPPIQQQERENSST
DAPPQPETVTATVPAVQTNTAEALRERKEEIKRQKQDEEGLHLLTLLQCAEAVSADNLEE
ANKLLEISQLSTPYGTSAQRVAAYFSEAMSARLLNSCLGIYAALPSRWMPQTHSLKMVS
AFQVFNGISPLVKFSHFTANQAIQEA FEKEDSVHIIDL DIMQGLQWPGLFHILASRPGGPPH
VRLTGLGTSMEALQATGKRLSDFADKLGLPFEFCPLAEKVGNL DTERLNRVKREAVAVH
WLQHSLYDVTGSDAHTLWLLQRLAPKVVTVVEQDLSHAGSFLGRFVEAIHYYSALFDSL
GASYGEESEERHVVEQQLLSKEIRNVLAVGGPSRSGEVKFESWREKMQQCGFKGISLAGN
AATQATLLLG MFPSDGYTLVDDNGTLKLGWKDLSLLTASAWTPRS

>AtGRAS22

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SIFRLIMAGDVVDPGSEFVGFDIGSGSDPVIDNPNPLFGYGF PFQNAPEEEKFQISINPNPGF
FSDPPSSPPAKRLNSGQPGSQHLQWVFPFSDPGHESHDPFLTPPKIAGEDQNDQDQSAVIID
QLFSAAAELTTNGGDNNPVLAQGILARLNHNLNNNDDTNNNPKPPFHRAASYITEALHS
LLQDSSLSPPSLSPQN LIFRIAAYRAFSETSPFLQFVNFTANQTILESFEFGFDRIHIVDFDIGY
GGQWASLIQELAGKRNRS SAPSLKITAFASPSTVSDEFELRFTEENLR SFAGETGVSFEIEL
LNMEILLNPTYWPLSLFRSSEKEAIAVNLPISSMVSGYLPLILRFLKQISPNVVVCS DRSCDR
NNDAPFPNGVINALQYYTSLLES LDSGNLNNAEAAATSIERFCVQPSIQKLLTNRYRWMERS
PPWRS LFGQCGFTPVTLSQTAETQAEYLLQRNPMRGFHLEKRQSSSPSLVLCWQRKELVT
VSAWKC

>AtGRAS23

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SSTVSSSHGGNSAVGGGGDATTDEQCGAIGLDWEEQVPHDHEQSILGLIMGDSTDPSLE
LNSILQTSPTFHDSYSSPGFGVVDTGFGLDHHSVPPSHVSGLLINQSQTHYTQNPAAIFYG
HHHHTPPPAAKRLNPGPGVITEQLVKAAEVIESDTCQAQGILARLNQQLSSSPVGKPLERAAF
YFKEALNNLLHNVSQTLNPYSLIFKIAAYKSFSEISPVLQFANFTSNQALLESFHGFHRLHII
DFDIGYGGQWASLMQELVLRDNAAPLSLKITVFASPDHHDQLELQFTQDNLKHFASEINIS
LDIQVLSLDLLGSISWPNSSEKEAVAVNISAASFSLPLVLRVFKHLSPTIIVCSDRGCERTDL
PFSQQLAHSLSHTALFESLDAVNANLDAMQKIERFLIQPEIEKLVLDERSPIERPMMTWQ
AMFLQMGFSPVTHSNFTESQAECVLRTPVRGFHVVEKKHNSLLLCWQRTLVGVSAWRC
RSS

>AtGRAS24

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SRELTRVILARLKDLVSPGDRTNMERLAAHFTNGLSKLLERDSVLCPPQHRDDVYDQADV
ISAFELLQNMSPYVNFGYLTATQAILEAVKYERRIHVDYDINEGVQWASLMQALVSRNTG
PSAQHLRITALSRATNGKKSVAAVQETGRRLTAFADSIGQPFSYQHCKLDTNAFSTSSKLKLV
RGEAVVINCMHLHLPFRSHQTPSSVISFLSEAKTLNPKLVTLVHEEVGLMGNQGFLYRFMDL
LHQFSAIFDSLEAGLSIANPARGFVERVFIGPWVANWLTRITANDAEVESFASWPQWLETN
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>AtGRAS25

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TKVEEFGFSPAAGKSWNWDELLALTPQLDLKEVLVEAARAVADGDFATAYGFLDVLEQ
MVSVSGSPIQRLGTMAEGLRARLEGSGSNIYKSLKCNEPTGRELMSYMSVLYEICPYWK
FAYTTANVEILEAIAGETRVHIIDFQIAQGSQYMFLIQELAKRPGGPPLLRVTGVDDSDQSTY
ARGGGLSLVGERLATLAQSCGVPEFHDAIMSGCKVQREHLGLEPGFAVVVNFPPYVLHH
MPDESVSVENHRDRLLHLIKSLPKLVTLVEQESNTNTSPFLSRFVETLDYYTAMFESIDAA
RPRDDKQRISAEQHCVARDIVNMIACEESERVERHEVLGIWRVRMMMAGFTGWPVSTSA
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>AtGRAS26

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FIEDLIRVVDCVESDELQLAQVVLRLNQLRSPAGRPLQRAAFYFKEALGSFLTGSNRNPI
RLSSWSEIVQRIRAIKEYSGISPIPLFSHTANQAILDSLSSQSSSPFVHVVDIFEIGFGGQYAS
LMREITEKSVSGGFLRVTAVAEECAVETRLVKENLTQFAAEMKIRFQIEFVLMKTFEMLSF
KAIRFVEGERTVVLISPAIFRRLSGITDFVNNLRRVSPKVVFVDSEGWTEIAGSGSFRREFV
SALEFYTMVLESLDAAAPPGDLVKKIVEAFVLRPKISAAVETAADRRHTGEMTWREAFCA
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>AtGRAS27

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SAFSIPQTPPSFDFSANAKWADSVLLEAARAFSDKDTARAQQILWTLNELSSPYGDTEQKL
ASYFLQALFNRMGTSGGERCYRTMVTAAATEKTCSFESTRKTVLKFQEVSPWATFGHVAAN
GAILEAVDGEAKIHIVDISSTFCTQWPTLLEALATRSDDTPHLRLLTTVVVANKFVNDQTASH
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ASRGSPRDAVISSFRRLRPRIVTVVEEEADLVGEEEGGFDDEFLRGFGECLRWFRCFESW
EESFPRTSNERLMLERAAGRAIVDLVACEPSDSTERRETARKWSRRMRNSGFGAVGYSDE
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>AtGRAS28

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VKRVGLLAASQAGAMGKVATYFAEALARRIYRIHPSAAAIDPSFEEILQMNFYDSCPYLKF
AHFTANQAILEAVTTSRVVHVIDLGLNQGMQWPALMQALALRPGGPPSFRLTGVGNPNSNR
EGIQELGWKLAQLAQAGVEFKFNGLTTERLSDLPEPDMFETRTESETLVVNSVFELHPVLS
QPGSIEKLLATVKAVKPGLVTVVEQEANHNGDVFLDRFNEALHYSSLFDSLEDGVVIPSQ
DRVMSEVYLGRQILNLVATEGSDRIERHETLAQWRKRMGSAGFDPVNLGSDAFKQASLLL
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>AtGRAS29

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LSEISEICSPFGSSPERVVAYFAQALQTRVISSYLSGACSPLEKPLTVVQSQKIFSALQTYNS
VSPLIKFSHFTANQAIFQALDGEDSVHIIDLDMQGLQWPALFHILASRPRKLSIRITGFGS
SSDLLASTGRRLADFASLNLPFEFHPIEGHGNLIDPSQLATRQGEAVVVHWMQHRLYDVT
GNNLETLEILRRLKPNLITVVEQELSYDDGGSFLGRFVEALHYYSALFDALGDGLGEESGE
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>AtGRAS30

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>AtGRAS31

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>AtGRAS32

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NI

>AtGRAS33

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>AtGRAS34

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>OsGRAS1

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>OsGRAS2

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>OsGRAS3

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SSAWQ

>OsGRAS4

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CWKC

>OsGRAS5

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>OsGRAS6

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>OsGRAS7

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>OsGRAS8

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>OsGRAS9

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>OsGRAS10

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>OsGRAS11

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>OsGRAS12

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>OsGRAS13

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>OsGRAS14

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>OsGRAS15

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>OsGRAS16

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>OsGRAS17

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>OsGRAS18

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>OsGRAS19

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>OsGRAS20

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>OsGRAS21

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>OsGRAS22

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>OsGRAS23

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>OsGRAS24

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>OsGRAS25

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VLKTIRKMNP NLF IHGVVNGTYNAPFFVTRFKEALFYSSLFDMLETTASRV DENRLLIER
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>OsGRAS26

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>OsGRAS27

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>OsGRAS28

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>OsGRAS29

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CQELASVLSDPSSLGLRDGEAVVNCQSWLRHVAPDTRDLFLDTVRALNPCLLTVTDEDA
DLGSPSLASRMAGCFDFHWILLDALDMSAPKDSPPRLEQEA AVGRKIESVIGEEDGAERSE
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>OsGRAS30

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>OsGRAS31

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>OsGRAS32

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>OsGRAS33

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>OsGRAS34

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TQLDQVWGVCLFLLQGSYLEA INEDPTKGQNMRWLETWEAAIASPDVGRARSPSLLNPP
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>OsGRAS35

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>OsGRAS36

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>OsGRAS37

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>OsGRAS38

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>OsGRAS39

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P

>OsGRAS40

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WIPYDAVDTFLPKGSEQRRWYEAEVGWKVENVLAQEGVERVERQEDRTRWGQRMRAA
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>OsGRAS41

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>OsGRAS42

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>OsGRAS43

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>OsGRAS44

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>OsGRAS45

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>OsGRAS46

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>OsGRAS47

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MLVHQIIQELSPFVKFAHFTTNQAILDAIIGDMDVHVVDL NIGEGIQWSSLMSDLARCGGK
SFRLTAITTYADCHASTHDTVVRLLSEFADSLLELPFQYNSICVHNEDELHAF FEDCKG SVIV
SCDTTSMYYKSLSTLQSLLLVCVKKLQPKLVVTIEEDLV RIGRGVSPSSASFVEFFFEALHH
FTTVFESMASCFIGSSYEPCLRLVEMEL LGPRIQDFVVKYGSVRVEANASEVLEGFMACEL
SACNIAQARMLVGLFN RVFGVVFKKISLLMVYYISLGKNDLREP NKVIWSSLAAGCGSHG
IVVLA FYAADKLL EFKPKGIETYIHPAVERAHFHKEDRMWQEYEN

>OsGRAS48

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CCRHRRAATALSTVVLDGLQIGLGISARCCLAGKQTSRSAPSSSPRPSLHLHLHLRRRPPP
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>OsGRAS49

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MVTSSPKRDYMVSSPKREYMTSPRREMATS PRRATFSNLYTSSHGGGGGGGGHHLHHQS
YVHGGGMEGGGGGGHGAQPQYGGLAGHGKGKAQSPLHKVYINN VGGGSGGGGVKSNTP
STLSCASSYVVHGGESGLPSLPSMDPFLEEGYLG SYQLPEKAAGGVGGGGGGDINRSGAS

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HYSSAIFDSL DATFPAESTARMKVEQCLLAPEIRNVVACEGAERVARHERLERWRRLMEG
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>OsGRAS50

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FQWPGLFKCLSEREGGPPEVRITGIDFPQPGFRPADQIEETGRRLSNCARQFGVPFRFQAIA
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MRPHVVFVQCVVNGAYGAPFFLTRFRET LFFYSSQFDMLDATIPRDNDERLLIERDILGRWA
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>OsGRAS51

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>OsGRAS52

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>OsGRAS53

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>OsGRAS54

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FDILDATTTPRDSGLRLALEQNVLGYPYALNAIACEGADLVERPEKYKQWQARNHRAGMQQ
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>OsGRAS55

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>OsGRAS56

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>OsGRAS57

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MEDEKNFLEIKVKSNLCSILKLSHYNFKTLQGAIYVERSLMFNMVELQVVHIVDLSCSAA
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>OsGRAS58

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>OsGRAS59

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MAIQESANDLLQLQDDFSVPNADPLAASFEDERLAVAGHENGNNVATQESAGDLLLAG
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>OsGRAS60

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FVTRFREALFFYSALFDVLDATTPRESEQRLLEQNIFGRAALNVIACEGIDRVERPETYKQ
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