

Results colour-coded for transmembrane structure

The current colourscheme of the alignment is for **transmembrane structure type**.

The transmembrane structure for each sequence is represented by a colour. If a sequence in the alignment has no colours assigned, this means that no prediction was possible for that sequence (if this was requested).
The colour assignment is:

TM SEGMENT (T) You have selected to perform transmembrane structure prediction using **PHOBIUS** ([Kall et. al. 2005](#)).

		..... 10	..... 20	..... 30	..... 40	..... 50
(PRED)	gi_13633932_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_118573879_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13633915_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_341942042_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13959533_sp_	---MTSMASL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13959566_sp_	---MTSMASL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13959559_sp_	---MTSMASL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_82121811_sp_	---MTSMASL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_21264062_sp_	---MTSMSSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13633872_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13959539_sp_	MHSTTPISSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_21264049_sp_	----MNVTSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_66774168_sp_	MHPSTPISSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_13959527_sp_	MHPSTPISSL	FSFTSPAVKR	LLGWKQ----	-----	GDEEEKWAEK
(PRED)	gi_51338669_sp_	-----MSSI	LPFTTPIVKR	LLGWKK----	-----GEQ	NGQEEKWCEK
(PRED)	gi_60414603_sp_	-----MSSI	LPFTTPIVKR	LLGWKK----	-----GEQ	NGQEEKWCEK
(PRED)	gi_117949830_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSAGG	SG-GAGGGGEQ	NGQEEKWCEK
(PRED)	gi_13633871_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSAGG	SG-GAGGGGEQ	NGQEEKWCEK
(PRED)	gi_13633914_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSAGG	SG-GAGGGGEQ	NGQEEKWCEK
(PRED)	gi_75041393_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSAGG	SG-GAGGGGEQ	NGQEEKWCEK
(PRED)	gi_110826300_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSAGG	SG-GAGGGGEQ	NGQEEKWCEK
(PRED)	gi_21264050_sp_	-----MSSI	LPFTPPVVKR	LLGWKKSASG	SSGAGGGGEQ	NGQEEKWCEK
		..... 60	..... 70	..... 80	..... 90	..... 100
(PRED)	gi_13633932_sp_	AVDALVKKLK	KKKGAMEELE	KALSCPGQPS	NCVTIP----	-----
(PRED)	gi_118573879_sp_	AVDALVKKLK	KKKGAMEELE	KALSCPGQPS	NCVTIP----	-----
(PRED)	gi_13633915_sp_	AVDALVKKLK	KKKGAMEELE	KALSCPGQPS	NCVTIP----	-----
(PRED)	gi_341942042_sp_	AVDALVKKLK	KKKGAMEELE	KALSCPGQPS	NCVTIP----	-----
(PRED)	gi_13959533_sp_	AVDALVKKLK	KKKGAMEELE	KALSSPGQPS	KCVTIP----	-----
(PRED)	gi_13959566_sp_	AVDALVKKLK	KKKGAMEELE	KALSSPGQPS	KCVTIP----	-----
(PRED)	gi_13959559_sp_	AVDALVKKLK	KKKGAMEELE	KALSSPGQPS	KCVTIP----	-----
(PRED)	gi_82121811_sp_	AVDALVKKLK	KKKGAMEELE	KALSSPGQPS	KCVTIP----	-----
(PRED)	gi_21264062_sp_	AVDALVKKLK	KKKGAMEDLE	KALSSPGQPS	KCVTIP----	-----
(PRED)	gi_13633872_sp_	AVDALVKKLK	KKKGAMEELE	KALSCPGQPS	NCVTIP----	-----
(PRED)	gi_13959539_sp_	AVDSL VKKLK	KKKGAMDELE	RALSCPGQPS	KCVTIP----	-----
(PRED)	gi_21264049_sp_	AVDALVKKLK	KKKGAMEELE	RALSCPGQPS	NCVTIP----	-----
(PRED)	gi_66774168_sp_	AVDSL VKKLK	KKKGAMDELE	RALSCPGQPS	KCVTIP----	-----
(PRED)	gi_13959527_sp_	AVDSL VKKLK	KKKGAMDELE	RALSCPGQPS	KCVTIP----	-----
(PRED)	gi_51338669_sp_	AVKSLVKKLK	K-TGQLDELE	KAIT TQNVNT	KCITIP----	-----
(PRED)	gi_60414603_sp_	AVKSLVKKLK	K-TGQLDELE	KAIT TQNINT	KCITIP----	-----
(PRED)	gi_117949830_sp_	AVKSLVKKLK	K-TGRLDELE	KAIT TQNCNT	KCVTIPSTCS	EIWGLSTANT
(PRED)	gi_13633871_sp_	AVKSLVKKLK	K-TGRLDELE	KAIT TQNCNT	KCVTIPSTCS	EIWGLSTANT
(PRED)	gi_13633914_sp_	AVKSLVKKLK	K-TGRLDELE	KAIT TQNCNT	KCVTIPSTCS	EIWGLSTPNT
(PRED)	gi_75041393_sp_	AVKSLVKKLK	K-TGRLDELE	KAIT TQNCNT	KCVTIPSTCS	EIWGLSTPNT
(PRED)	gi_110826300_sp_	AVKSLVKKLK	K-TGRLDELE	KAIT TQNCNT	KCVTIPSTCS	EIWGLSTPNT
(PRED)	gi_21264050_sp_	AVKSLVKKLK	K-TGQLDELE	KAIT TQNRNT	KCVTIPSNCS	EIWGLSTPNT
		..... 110	..... 120	..... 130	..... 140	..... 150
(PRED)	gi_13633932_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_118573879_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13633915_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_341942042_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13959533_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13959566_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13959559_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_82121811_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_21264062_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13633872_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13959539_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_21264049_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_66774168_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_13959527_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRVW	RWPD LQSHHE
(PRED)	gi_51338669_sp_	-----	-----RSLD	GRLQVSHRKG	LPHVIYCRLW	RWPD L HSHHE

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(PRED) gi_60414603_sp_-----RSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_117949830_spVDQWDTTGLY SFSEQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_13633871_sp_ VDQWDTTGLY SFSEQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_13633914_sp_ IDQWDTTGLY SFSEQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_75041393_sp_ IDQWDTTGLY SFSEQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_110826300_spIDQWDTTGLY SFSEQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE
(PRED) gi_21264050_sp_ IEQWDTSGLY SYPDQTRSLD GRLQVSHRKG LPHVIYCRLW RWPDLHSHHE

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..... 160..... 170..... 180..... 190..... 200
(PRED) gi_13633932_sp_ LKPLECCEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEYNPQHSL
(PRED) gi_118573879_sp LKPLECCEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEYNPQHSL
(PRED) gi_13633915_sp_ LKPLECCEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEYNPQHSL
(PRED) gi_341942042_sp LKPLECCEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEYNPQHSL
(PRED) gi_13959533_sp_ LKPLDICEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HNEFNPQHSL
(PRED) gi_13959566_sp_ LKPLDICEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HNEFNPQHSL
(PRED) gi_13959559_sp_ LKPLDICEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HNEFNPQHSL
(PRED) gi_82121811_sp_ LKPLDICEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEFNPQHSL
(PRED) gi_21264062_sp_ LKPLEVCEYP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEFNPQHSL
(PRED) gi_13633872_sp_ LKPLECCEFP FGSKQKEVCI NPYHYKRVES PVLPPVLVPR HSEYNPQHSL
(PRED) gi_13959539_sp_ LKPLECCEFP FGSKQKEVCI NPYHYRRVET PVLPPVLVPR HSEYNPQLSL
(PRED) gi_21264049_sp_ LKALECCEFP FGSKQKDVCI NPYHYKRVD S PVLPPVLVPR NSEFNAKLSM
(PRED) gi_66774168_sp_ LKPLECCEFP FGSKQKEVCI NPYHYRRVET PVLPPVLVPR HSEYNPQLSL
(PRED) gi_13959527_sp_ LKPLECCEFP FGSKQKEVCI NPYHYRRVET PVLPPVLVPR HSEYNPQLSL
(PRED) gi_51338669_sp_ LRAMELCEFA FNMKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEIPAEFPP
(PRED) gi_60414603_sp_ LRAMEMCEYA FNMKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEIPAEFPP
(PRED) gi_117949830_sp LKAIENCEYA FNLKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP
(PRED) gi_13633871_sp_ LKAIENCEYA FSLKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP
(PRED) gi_13633914_sp_ LKAIENCEYA FNLKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP
(PRED) gi_75041393_sp_ LKAIENCEYA FNLKEDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP
(PRED) gi_110826300_sp LKAIENCEYA FNLKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP
(PRED) gi_21264050_sp_ LRAIETCEYA FNLKKDEV CV NPYHYQ RVET PVLPPVLVPR HTEILTELPP

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..... 210..... 220..... 230..... 240..... 250
(PRED) gi_13633932_sp_ LAQFRNLG-Q NEPHMPHNAT FPD SFQQPNS HPFPHSPN-- ----SSYPNS
(PRED) gi_118573879_sp LAQFRNLG-Q NEPHMPLNAT FPD SFQQPNS HPFPHSPN-- ----SSYPNS
(PRED) gi_13633915_sp_ LAQFRNLG-Q NEPHMPLNAT FPD SFQQPNS HPFPHSPN-- ----SSYPNS
(PRED) gi_341942042_sp LAQFRNLG-Q NEPHMPLNAT FPD SFQQPNS HPFPHSPN-- ----SSYPNS
(PRED) gi_13959533_sp_ LVQFRNLS-H NEPHMPQNAT FPD SFHQPN S TPFP LSPN-- ----SPYPPS
(PRED) gi_13959566_sp_ LVQFRNLS-H NEPHMPQNAT FPD SFHQPN S TPFP LSPN-- ----SPYPPS
(PRED) gi_13959559_sp_ LVQFRNLS-H NEPHMPQNAT FPD SFHQPN S APFP LSPN-- ----SPYPPS
(PRED) gi_82121811_sp_ LVQFRNLS-H NEPHMPHNAT FPD SFQQPNS TPFSISPN-- ----SPYPPS
(PRED) gi_21264062_sp_ LVQFRNLS-H NEPHMPLNAT FPESFQQHSG GSSFPI SP-- ----NSPYPP
(PRED) gi_13633872_sp_ LAQFRNLG-Q NEPHMPLNAT FPD SFQQPHS HPFAQYPN-- ----SSYPNS
(PRED) gi_13959539_sp_ LAKFRSASLH SEPLMPHNAT YPD SFQQPPC SALPPSPS-- ----HAFS QS
(PRED) gi_21264049_sp_ LPRFRNPLHQ TEPPMPQNAT FPD SFPPQPA NALPFTPN SP TNSYPSSPN S
(PRED) gi_66774168_sp_ LAKFRSASLH SEPLMPHNAT YPD SFQQSLC PAP-----
(PRED) gi_13959527_sp_ LAKFRSASLH SEPLMPHNAT YPD SFQQSLG PAP-----
(PRED) gi_51338669_sp_ LDDY-----SHSIPENTN FPAGI-EPQS NI-PETP---
(PRED) gi_60414603_sp_ LDDY-----SHSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_117949830_sp LDDY-----THSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_13633871_sp_ LDDY-----THSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_13633914_sp_ LDDY-----THSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_75041393_sp_ LDDY-----THSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_110826300_sp LDDY-----THSIPENTN FPAGI-EPQS NYIPETP---
(PRED) gi_21264050_sp_ LDDY-----TNSIPENTN FPTGI-EPPN NYIPETP---

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..... 260..... 270..... 280..... 290..... 300
(PRED) gi_13633932_sp_ PGSSSSSTYPH SPAS-SDPGS PFQMPADTPP PAYLPPEDQM THDTSQPM DT
(PRED) gi_118573879_sp PGSSSSSTYPH SPTS-SDPGS PFQMPADTPP PAYLPPEDPM TQDGSQPM DT
(PRED) gi_13633915_sp_ PGSSSSSTYPH SPTS-SDPGS PFQMPADTPP PAYLPPEDPM TQDGSQPM DT
(PRED) gi_341942042_sp PGGSSSTYPH SPTS-SDPGS PFQMPADTPP PAYLPPEDPM AQDGSQPM DT
(PRED) gi_13959533_sp_ PA--SSTYPN SPAS-SGPGS PFQLPADTPP PAYMPPDDQM GQDNSQPM DT
(PRED) gi_13959566_sp_ PA--SSTYPN SPAS-SGPGS PFQLPADTPP PAYMPPDDQM GQDNSQPM DT
(PRED) gi_13959559_sp_ PA--SSTYPN SPAS-SGPGS PFQLPADTPP PAYMPPDDQM APDNSQPM DT
(PRED) gi_82121811_sp_ PA--SSTYPS SPAS-SGPSS PFQLPADTPP PAYMPPDDQM GQDNSQSMDT
(PRED) gi_21264062_sp_ SPASSGTYPN SPAS-SGPSS PFQLPADTPP PAYMPPDEQM GQDGSQSMET
(PRED) gi_13633872_sp_ PGSSSSSTYPH SPTS-SDPGS PFQMPADTPP PAYLPPEDPM AQDGSQPM DT
(PRED) gi_13959539_sp_ PC--TASYPH SPGSPSEPES PYQHSVDTPP LPYHATEASE TQSGQPVDAT
(PRED) gi_21264049_sp_ GTGSTATFPH SPSS-SDPGS PFQMP-ETPP PAYMPPEEPM TQDCPQPM DT
(PRED) gi_66774168_sp_ -----PSS PGHVFPQSPC PTSYPHSPGS PSESDSPYQH
(PRED) gi_13959527_sp_ -----PSS PGHVFPQSPC PTSYPQSPGS PSESDSPYQH
(PRED) gi_51338669_sp_ -----PPG YLSEGETSD HQMNHSMDAG SPN-LSPNP-
(PRED) gi_60414603_sp_ -----PPG YLSEGETSD HQMNPSMDAG SPN-LSPNP-
(PRED) gi_117949830_sp_ -----PPG YISEGETSD QQLNQSMDTG SPAELSP TT-
(PRED) gi_13633871_sp_ -----PPG YISEGETSD QQLNQSMDTG SPAELSP TT-

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(PRED) gi_13633914_sp_-----PPG YISEDGETSD QQLNQSMDTG SPAELSPTT-
(PRED) gi_75041393_sp_-----PPG YISEDGETSD QQLNQSMDTG SPAELSPTT-
(PRED) gi_110826300_sp-----PPG YISEDGETSD QQLNQSMDTG SPAELSPTT-
(PRED) gi_21264050_sp_-----PPG YISEDGEASD QQMNQSMDTG SPAELSPST-
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..... 310..... 320..... 330..... 340..... 350

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(PRED) gi_13633932_sp_N--M-MAPGI HPDIHRGDVQ AVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_118573879_sp_N--M-MAPSL PSEINRGDVQ AVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_13633915_sp_N--M-MAPPL PSEINRGDVQ AVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_341942042_sp_N--M-MAPPL PAEISRGDVQ AVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_13959533_sp_S--NNMIPQI MPSISSRDVQ PVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_13959566_sp_S--NNMIPQI MPSISSRDVQ PVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_13959559_sp_S--SNMIPQT MPSISSRDVQ PVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_82121811_sp_S--NTMIPQI MPNISTRDVQ PVAYEEPKHW CSIVYYELNN RVGEAFHASS
(PRED) gi_21264062_sp_G--SSLAPQ--NMPRGDVQ PVEYQEP SHW CSIVYYELNN RVGEAYHASS
(PRED) gi_13633872_sp_NMTNMTAPT L PAEINRGDVQ AVAYEEPKHW CSIVYYELNN RVGERFHASS
(PRED) gi_13959539_sp_-----ADRHV VLSIPNGDFR PVCYEEPQHW CSVAYYELNN RVGETFQASS
(PRED) gi_21264049_sp_N--LLAPNLP LEISNRTDVH PVAYQEPKHW CSIVYYELNN RVGEAFLASS
(PRED) gi_66774168_sp_-----SDFR PVCYEEPQHW CSVAYYELNN RVGETFQASS
(PRED) gi_13959527_sp_-----SDFR PVCYEEPLHW CSVAYYELNN RVGETFQASS
(PRED) gi_51338669_sp_-----M SPAHNNLDLQ PVTYCEPAFW CSISYYELNQ RVGETFHASQ
(PRED) gi_60414603_sp_-----M SPAHNNLDLQ PVTYCEPAFW CSISYYELNQ RVGETFHASQ
(PRED) gi_117949830_sp_-----L SPVNHS LDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
(PRED) gi_13633871_sp_-----L SPVNHS LDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
(PRED) gi_13633914_sp_-----L SPVNHS LDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
(PRED) gi_75041393_sp_-----L SPVNHS LDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
(PRED) gi_110826300_sp_-----L SPVNHS LDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
(PRED) gi_21264050_sp_-----L SPVNHGMDLQ PVTYSEPAFW CSIAYYELNQ RVGETFHASQ
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..... 360..... 370..... 380..... 390..... 400

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(PRED) gi_13633932_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_118573879_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13633915_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_341942042_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13959533_sp_TSVLVDGFTD PANNKS RFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13959566_sp_TSVLVDGFTD PSNNKS RFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13959559_sp_TSVLVDGFTD PSNNKS RFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_82121811_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_21264062_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13633872_sp_TSVLVDGFTD PSNNKNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13959539_sp_RSVLIDGFTD PSNNRNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_21264049_sp_TSVLVDGFTD PSNNRNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_66774168_sp_RSVLIDGFTD PSNNRNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_13959527_sp_RSVLIDGFTD PSNNRNRFCL GLLSNVNRNS TIENRRHIG KGVHLYYVGG
(PRED) gi_51338669_sp_PSM TVDGFTD PSNS-ERFCL GLLSNVNRNA AVELTRRHIG RGVRLYYIGG
(PRED) gi_60414603_sp_PSM TVDGFTD PSNS-ERFCL GLLSNVNRNA AVELTRRHIG RGVRLYYIGG
(PRED) gi_117949830_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
(PRED) gi_13633871_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
(PRED) gi_13633914_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
(PRED) gi_75041393_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
(PRED) gi_110826300_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
(PRED) gi_21264050_sp_PSL TVDGFTD PSNS-ERFCL GLLSNVNRNA TVEMTRRHIG RGVRLYYIGG
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..... 410..... 420..... 430..... 440..... 450

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(PRED) gi_13633932_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_118573879_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_13633915_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_341942042_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_13959533_sp_EVYAECLSDS SIFVQSRNCN FHHGFHPTTV CKIPSSCSLK IFNNQEFACL
(PRED) gi_13959566_sp_EVYAECLSDS SIFVQSRNCN FHHGFHPTTV CKIPSSCSLK IFNNQEFACL
(PRED) gi_13959559_sp_EVYAECLSDS SIFVQSRNCN FHHGFHPTTV CKIPSSCSLK IFNNQEFACL
(PRED) gi_82121811_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_21264062_sp_EVYAECLSDT SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_13633872_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSGCSLK IFNNQEFACL
(PRED) gi_13959539_sp_EVYAE CVSDS SIFVQSRNCN YQHGFHPATV CKIPSGCSLK VFNNQLFAQL
(PRED) gi_21264049_sp_EVYAECLSDS SIFVQSRNCN YHHGFHPTTV CKIPSRCSLK IFNNQEFACL
(PRED) gi_66774168_sp_EVYAE CVSDS SIFVQSRNCN YQHGFHPATV CKIPSGCSLK VFNNQLFAQL
(PRED) gi_13959527_sp_EVYAE CVSDS SIFVQSRNCN YQHGFHPATV CKIPSGCSLK VFNNQLFAQL
(PRED) gi_51338669_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_60414603_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_117949830_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_13633871_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_13633914_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_75041393_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEFACL
(PRED) gi_110826300_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQGFACL
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(PRED) gi_21264050_sp_EVFAECLSDS AIFVQSPNCN QRYGWHPATV CKIPPGCNLK IFNNQEF AAL

..... 460..... 470..... 480..... 490..... 500

(PRED) gi_13633932_sp_----LAQSVN HGFETVYELT KMCTLRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_118573879_sp_----LAQSVN HGFETVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13633915_sp_----LAQSVN HGFETVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_341942042_sp_----LAQSVN HGFETVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13959533_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13959566_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13959559_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_82121811_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_21264062_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13633872_sp_----LAQSVN HGFETEYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13959539_sp_----LAQSVH HGFEVVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_21264049_sp_----LAQSVN HGFEAVYELT KMCTIRMSFV KGWGAKYHRQ DVTSTPCWIE
(PRED) gi_66774168_sp_----LAQSVH HGFEVVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_13959527_sp_LAQLLAQSVH HGFEVVYELT KMCTIRMSFV KGWGAEYHRQ DVTSTPCWIE
(PRED) gi_51338669_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_60414603_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_117949830_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_13633871_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_13633914_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_75041393_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_110826300_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE
(PRED) gi_21264050_sp_----LAQSVN QGFEAVYQLT RMCTIRMSFV KGWGAEYRRQ TVTSTPCWIE

..... 510..... 520.....

(PRED) gi_13633932_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_118573879_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_13633915_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_341942042_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_13959533_sp_IHLHGPLQWL DKVLTQMGSP LNPISVS
(PRED) gi_13959566_sp_IHLHGPLQWL DKVLTQMGSP LNPISVS
(PRED) gi_13959559_sp_IHLHGPLQWL DKVLTQMGSP LNPISVS
(PRED) gi_82121811_sp_IHLHGPLQWL DKVLTQMGSP LNPISVS
(PRED) gi_21264062_sp_VHLHGPLQWL DKVLTQMGSP LNPISVS
(PRED) gi_13633872_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_13959539_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_21264049_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_66774168_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_13959527_sp_IHLHGPLQWL DKVLTQMGSP HNPISVS
(PRED) gi_51338669_sp_LHLNGPLQWL DKVLTQMGSP SIRCSSVS
(PRED) gi_60414603_sp_LHLNGPLQWL DKVLTQMGSP SIRCSSVS
(PRED) gi_117949830_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS
(PRED) gi_13633871_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS
(PRED) gi_13633914_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS
(PRED) gi_75041393_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS
(PRED) gi_110826300_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS
(PRED) gi_21264050_sp_LHLNGPLQWL DKVLTQMGSP SVRCSSMS