

Supplementary Material 6 - Alignment of P1 and P2 polyproteins of ArMV and GFLV isolates

Re-examination of nepovirus polyprotein cleavage sites highlights the diverse specificities and evolutionary relationships of nepovirus 3C-like proteases

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The sequence of the type isolate for the RNA1 and RNA2 polyproteins of ArMV and GFLV were used to conduct a BLAST search against other isolates available in NCBI. Alignments of selected isolates were generated using the NCBI interface. Cleavage sites are indicated above the alignments (positions P6 to P1'). Amino acids that differ from the cleavage site sequence of the type isolates are highlighted in green (positions P1 and P1'), yellow (position P4) or grey (positions P6, P5, P3 and P2).

ArMV isolates RNA1 polyproteins

YP_053925.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPAQDKAERITPLCNSNGGAAPTIPKSKR	80
AGT56093.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPAQDKAERITPLCNSNGGAAPTIPKSKR	80
QBZ78358.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPAQDKAERITPLCNSNGEAVPTTPKSKR	80
AGD98722.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPAQSGAERVTPLCNLNGGIAPTTLKSKR	80
DAZ85702.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPAQNEAERVITPLCGSNGGIAPTTLKSKR	80
QGY99255.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPTQSGAERITPLCNLNGGIAPTIPKSKR	80
DAZ85701.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPVSRIPAQNTAERVAPPICISNDGIAPTIPKSKR	80
DAZ85704.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPVHQKKERIAPLQNSNGRTAPTTPKSKR	80
QYU59218.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCIFGCLRVKVEVVPQLPEGRIAPAQFKAELMPSCDVNGRIAPTTHQSKR	80
ADJ39329.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILYNCLRVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRMAPTTPKFKR	80
QBZ78354.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPVQNVAAEVAPPFLNGGTAPTTPKSKR	80
QBZ78356.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILSCLRVKVEVVPQLPKSRIAPVQNVAAEVAPPFLNGGIAPTIPKSKR	80
QYA72350.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILYNCLRVKVEVVPQLPKSRIAPAHLMKERIAPLHNSNGRTAPTTPKSKR	80
ADJ39331.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCILYNCLRVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRMALTTPKSKR	80
DAZ85705.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFHNCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRTAPTTPKSKR	80
DAZ85709.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFVSCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRTAPTTPKSKR	80
DAZ85710.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFVSCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRTAPTTPKSKR	80
DAZ85703.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFHNCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRIAPTTPKSKR	80
ADJ39330.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFHNCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRMAPTTPKSKR	80
ACF32434.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFHNCRLVKVEVVPQLPKSRIAPAQQKKERIAPLQNSNGRIAPTTPKSKR	80
QYU59216.1	1	MQWISSEGSQCCCTGKTSWSNAEAKARYVNCDFYNCRLVKVEVVPQLPKSRIAPAHQKKERIAPLHNSNGRIAPTTPKSKR	80
YP_053925.1	81	AFEPRTPLIKQRCDVVVRVGPADLDLVYPALVQEEVAIPPTTEKVLQPTLKAENVRPVIFCAPKRMVAFPPKPTTKIASKRD	160
AGT56093.1	81	AFEPRTPLIKQRCDVVVRVGPADLDLVYPALVQEEVAIPPTTEKVLQPTLKAENVRPVIFCAPKRMVAFPPKPTTKIASKRD	160
QBZ78358.1	81	AFKPTCTPLIKQRCDVVVRVGPADLDLIYPALVQEEVVPPTTEKVPQPTLKAENVRPVSCAPKRMVAFPPRPVKIAPRRE	160
AGD98722.1	81	VFFVNVFLFKQRCDVVVRVGPANLDLVYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPKGV	160
DAZ85702.1	81	ALVPSAPLLKQRCDVVVRVGPADLDLVYPALVQEEVAIPPTTEKVLQPTLKAENVRPVACAPKRMVAFPPRPSTKIAPKGV	160
QGY99255.1	81	AFVFNAPLLKQRCDVIVRVGPPVDLDLVYPALVQEEVVPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPQPVTVAPKRE	160
DAZ85701.1	81	AFVFNAPLLKQRCDVVVRVGPANLDLVYPALVQEEVAIPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPSISVAPKGV	160
DAZ85704.1	81	AFVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAIPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
QYU59218.1	81	ALVFNAPLLKQRCDVVVRVGPADLDLIYPALVQEEVAIPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
ADJ39329.1	81	ASVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
QBZ78354.1	81	AFVFNAPLLKQRCDVVVRVGPADLDLVYPALVQEEVVPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPSISVAPKGV	160
QBZ78356.1	81	AFVFNAPLLKQRCDVVVRVGPADLDLIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPSISVAPKGV	160
QYA72350.1	81	AFKPTCTPLIKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
ADJ39331.1	81	AYVFNAPLLKQRCDVVVRVGPASLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
DAZ85705.1	81	ASVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
DAZ85709.1	81	AFVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVVPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
DAZ85710.1	81	AFVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVVPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
DAZ85703.1	81	ASVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
ADJ39330.1	81	ASVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
ACF32434.1	81	ASVFNAPLLKQRCDVVVRVGPANLELIYPALVQEEVAPPTTEKVLQPTLKAENVRPVSCAPKRMVAFPPKPKIAPRKE	160
QYU59216.1	81	ATVALPPLVKQRCDVVVRVGPANLELIYPALVQEEVAIPPTTKVLRPTTEKADIRVPVSCAPKRMVAFPPKPKIAPRKE	160
YP_053925.1	161	ALQFPAGAVAFNGINFDAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
AGT56093.1	161	ALQFPAGAVAFNGINFDAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QBZ78358.1	161	KAQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
AGD98722.1	161	ELQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85702.1	161	ELQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QGY99255.1	161	ALQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85701.1	161	ELQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85704.1	161	KMQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QYU59218.1	161	ELQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
ADJ39329.1	161	QTFQPKGAVCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QBZ78354.1	161	KLQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QBZ78356.1	161	KLQFPKGAFCYNGVNFIDVKGKVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QYA72350.1	161	KIRFPKGAFCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
ADJ39331.1	161	QTFQPKGAVCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85705.1	161	KTFQPKGAVCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85709.1	161	KTFQPKGAVCYNGVNFIDVKGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85710.1	161	KTFQPKGAVCYNGVNFIDVKGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
DAZ85703.1	161	KMQFPKGAFCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
ADJ39330.1	161	QTFQPKGAVCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
ACF32434.1	161	KTFQPKGAVCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240
QYU59216.1	161	KRQFPKGAFCYNGTNFLDAAGKVVVLESEGAKRILKGIIRVAKQQRQRTARRSAACKKVRKARDLALFKRLSEECTFQDLPGG	240

YP_053925.1 241 FAGEIPAGHACYRK-VAAPTTSFKKVSKGKKAKKSTPVLPAQDFSCVDSFDWGEKSSPVE--IEDDWVLEIEKPVLRQ 317
 AGT56093.1 241 FAGEIPAGHACYRK-VAAPTTSFKKVSKGKKAKKSTPVLPAQDFSCVDSFDWGEKSSPVE--IEDDWVLEIEKPVLRQ 317
 QBZ78358.1 241 FAGEVPAGHACYQK-VAAPASLKKEVSKRKKAKKSTPVLPAQDFSCVDSFDWGEKSSPVE--IEDDWVLEIEKPVLRQ 317
 AGD98722.1 241 FMGEIPIGNMICYGKPIASPNATFKKVVSKGKKTVKSSKPAHSVQDFSCIEDFDWGEKSSAVN--IEDDWVLEIEKPVLRQ 318
 DAZ85702.1 241 FMGEIPIGNMICYGKAIASPNATLKKVVSKGKKALMSKPVLPVQDFSCIEDFDWGEKSSAVD--IEDDWVLEIEKPVLRQ 318
 QGY99255.1 241 FMGEIPIGSMCYSTKVASPFATPEKVASKGKKAIKPSKPVLPVQDFSCIEDFDWGEKSSLAVE--IEDDWVLEIEKPVLRQ 318
 DAZ85701.1 241 FMGEIPIGHMICYGKTIASPTATFKKVVSKGKKAKPSKMLPVQDFSCIEDFDWGEKSLDVD--IEDDWVLEIEKPVLRQ 318
 DAZ85704.1 241 FAGEIPAGFFSYGKTVASPSATPKKVVSKRKRASKPSPIAVPVQDFSCVDAFDWGEKSLPVEEAIEDDWVLEIEKPVLRQ 320
 QYU59218.1 241 FMGEIPIGNMICYGNTIAPPVATPNKVASGKKAVKPSKPLPAQDFSCVEDFDWGEKSLAID--IEDDWVLEIEKPVLRQ 318
 ADJ39329.1 241 FAGEIPAGFFSYGKTVASPIATPKKVVTKRKRVPKSTIAVPVQDFSCIDAFDWGEKSFNNEEAIEDDWVLEIEKPVLRQ 320
 QBZ78354.1 241 FMGEIPIGNMICYGKTVASPTATLKKVASKGKKATKPSKPLPVQDFSCIEGFDWGEKSLDVD--IEDDWVLEIEKPVLRQ 318
 QBZ78356.1 241 FMGEIPIGNMICYGKTVASPTATLKKVASKGKKATKPSKPLPVQDFSCIEGFDWGEKSLDVD--IEDDWVLEIEKPVLRQ 318
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 DAZ85710.1 241 FAGEIPAGFFSYGKTVATPTATPKKVASKRRTAKSSTNVTVPVQDFSCIDAFDWGEKSFVPGEAIEDDWVLEIEKPVLRQ 320
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 ADJ39330.1 241 FAGEIPAGFFSYGKTVASPIATPKKVVSKRKRVPKSTIAVPVQDFSCIDAFDWGEKSFNNEEAIEDDWVLEIEKPVLRQ 320
 ACF32434.1 241 FAGEMPVGFSSYGKTVAIPTATPKKVVSKRKRASKPSTVAVPVQDFSCIDAFDWGEKSFVKEVIEDDWVLEIEKPVLRQ 320
 QYU59216.1 241 FAGEIPAGHAFY-SFLYNPTTTFKKVVSKRKRVRVKSISTPV-VQDFSCIDSFWDWGEKSFSEE-IEDDWVLEIEKPVLRQ 317

YP_053925.1 318 AAHSAQGRATEALTRFAASGGFTVKAHQKVEELASSGEAGHLIAGEFAELCLRSLVYNDAPVLSASIEELITEQDFKDAI 397
 AGT56093.1 318 AAHSAQGRATEALTRFAASGGFTVKAHQKVEELASSGEAGHLIAGEFAELCLRSLVYNDAPVLSASIEELITEQDFKDAI 397
 QBZ78358.1 318 AAHSAQGRATEALTRFAASGGFTIKAHQKVEELASSGEAGHLIAGEFAELCLXXXXXXXXXVLSASIEELVTEQDFKDAI 397
 AGD98722.1 319 AAHSVQGRATEALTRFAASGGFTVKAHQKVEELASTSEAGHLIAGEFAELCLRSLVYNDAPVLSASIEELVTEQDFKDAI 398
 DAZ85702.1 319 AAHSVQGRATEALTRFAASGGFTVKAHQKVEELASTSEASHLIAGEFAELCLRSLVYNDAPVLSASIEDLVTEQDFKDAI 398
 QGY99255.1 319 AAHSVQGRATEALTRFAASGGFTTGAHQVREELASSGEAGHLIAGEFAELCLRSLVYNDALTLSASIEELATEQDFKDAI 398
 DAZ85701.1 319 AAHSVQGRATEALTRFAATSGFTLEAHQVREELASSGEAGYLIAGEFAELCLRSLVYNDAPVLSASIEGLVVEQDFKDAI 398
 DAZ85704.1 321 AAHSVQGRATEALTRFAASGGFTMKAHQKVEELAAKDAAGHLIAGEFADCLRSLVYNDAPTLSASIEELACEQDFKDAI 400
 QYU59218.1 319 AAHSVQGRAVEALTRFAASGGFTIKAHQVREELASSGEAGCLIAGEFAELCLKSLAYNDAPVLSASIEELITEQDFEDAI 398
 ADJ39329.1 321 AAHSVQGRATEALTRFAASGGFTTGAHQKVEELASSGEAGHLIAGEFAELCLRSLVYNDAPILSASIEVLACEQDFKDAI 400
 QBZ78354.1 319 AAHSVQGRATEALTRFAASGGFTTGAHQVREELASSGEAGHLVAGEFAELCLRSLYNDAPVLSASIEELGTEQDFKDAI 398
 QBZ78356.1 319 AAHSVQGRATEALTRFAASGGFTTGAHQVREELASSGEAGHLVAGEFAELCLRSLYNDAPVLSASIEELGTEQDFKDAI 398
 QYA72350.1 319 AAHSVQGRATEALTRFAASGGFTIKAHQVREELAAASNAAGHLIAGEFAELCLRSLVYNDAPVLSASIEELACEQDFKDAI 398
 ADJ39331.1 321 AAHSAQGRATEALTRFAASGGFTVKAHQKVEELAAIDAASHLIAGEFADCLRSLVYNDAPTLSASIEELACTQDFRDAI 400
 DAZ85705.1 321 AVHSAQGRATEALTRFAASGGFTIKAHQKVEELAAASDAASHLIAGEFAELCLRSLVYNDAPTLSASIEELACEQDFKDAI 400
 DAZ85709.1 321 AAHSAQGRATEALTRFAASGGFTAHAHQKVEELAAARDAAGHLIAGEFADPCLRSLVYNDAPLLSASIEELATEQDFKDAI 400
 DAZ85710.1 321 AAHSAQGRATEALTRFAASGGFTAHAHQKVEELAAARDAAGHLIAGEFADPCLRSLVYNDAPLLSASIEELATEQDFKDAI 400
 DAZ85703.1 321 AAHSVQGRATEALTRFAASGGFTIKAHQKVEELAAARDAASHLIAGEFAELCLRSLVYNDAPTLSASIEELACEQDFKDAI 400
 ADJ39330.1 321 AAHSVQGRATEALTRFAASGGFTTGAHQKVEELAAASGAAGHLIAGEFAELCLRSLVYNDAPTLSASIEELACEQDFKDAI 400
 ACF32434.1 321 AVHSAQGRATEALTRFAASGGFTVKAHQKVEELALSSEAGHLIAGEFADCLRSLVYNDAPVLSASIEELACEQDFKDAI 400
 QYU59216.1 318 AAHTVQGRASEALVRFAATSGFTAGAHQKVEEFAASGAANHLIAGEFVDCLRSLVYNDAPQLSTSIEELATEQDFKDAI 397

X1-X2 cleavage site

YP_053925.1 398 ELFNIELAEIPTDSTTCGQFNDWASAAKMAKGVGSIVGDFARMSGAGVLITFDRCIEYLQKKALTFCQKVFNATMAPYL 477
 AGT56093.1 398 ELFNIELAEIPTDSTTCGQFNDWASAAKMAKGVGSIVGDFARMSGAGVLITFDRCIEYLQKKALTFCQKVFNATMAPYL 477
 QBZ78358.1 398 ELFSVELAEIPTDSTTCGQFNDWASAAKMAKGVGSVMGDFARMSGAGVLITFDKCI EYLQEKALILCKKVFNATMAPYL 477
 AGD98722.1 399 ELFNVELAEIPTSTTCGRFNDWASTAKTMAKGVGSVMGDFARMSGAGVLITFDKCI EYLQEKALTLQKRVFNATMAPYL 478
 DAZ85702.1 399 ELFNVELAEIPTSTTCGRFNDWASTAKTMAKGVGSVMGDFARMSGAGVLITFDKCI EYLQEKALTLQKRVFNATMAPYL 478
 QGY99255.1 399 ELFNIELAEIPTDSTTCGHNWATSAKTMAKGVGNLVGDFARMSGALTLITFDKCI EYLQEKALTLQKRVFNATMAPYL 478
 DAZ85701.1 399 ELFNIELAEIPTDSTTCGRFNDWASAAKMAKGVGSVMGDFARMSGAGVLITFDKCI EYLQERALTLCQKVFNATMAPYL 478
 DAZ85704.1 401 ELFNIELAEIPTDSTTCGRFNDWASSAKIMAKGVGSVLGDSRLVSGSLVITYDKAIEFLQEKALTLQKVFNATMAPYL 480
 QYU59218.1 399 ELFNIELAEIPTDSTTCGRFNAAWASAKTMAKGVGSVMGDLARMSGALTLITFDKCI EYLQEKALTLQKVFNATMAPYL 478
 ADJ39329.1 401 ELFNIELAEIPTDSTTCGRFNEWASSVKTMAKGVGSVLGDFARGAGTLITFDKCI EYLQEKALTLQKVFNATMAPYL 480
 QBZ78354.1 399 ELFNIELAEIPTDSTTCGRFNAAWASAKTMAKGVGNLVGDFARLSGALTLITFDKCI EYLQEKALTLQKVFNATMAPYL 478
 QBZ78356.1 399 ELFNIELAEIPTDSTTCGRFNAAWASAKTMAKGVGNLVGDFARLSGALTLITFDKCI EYLQEKALTLQKVFNATMAPYL 478
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 DAZ85705.1 401 ELFNIELAEIPTDSTTCGRFNDWASSVKTMAKGVGSVLGDSRLVSGSLVITYDKAIEFLQEKALTLQKVFNATMAPYL 480
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 DAZ85703.1 401 ELFNIELAEIPTDSTTCGRFNEWASSAKTARGVGSVLGDFARGAGAMTLITFDKCI EYLQEKALTLQKVFNATMAPYL 480
 ADJ39330.1 401 ELFNIELAEIPTDSTTCGRFNDWASAKTMAKGTGSLVGDRLARGAGALITFDKCI EYLQEKALTLQKVFNATMAPYL 480
 ACF32434.1 401 ELFNIELAEIPTDSTTCGRFNDWASAKTMAKGVGSVLGDLARATGAGALITFDKCI EYLQEKALTLQKVFNATMAPYL 480
 QYU59216.1 398 ELFNIELAEIPTDSTTCGRFNDWAAKTMAKGVGSVMGDLRLAGAGALITFDKCI EYLQERALTLCQKVFNATMAPYL 477

YP_053925.1	478	SHLAEASNIISKIWKKLAEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKVIPNCGIVLGAFLLTF	557
AGT56093.1	478	SHLAEASNIISKIWKKLAEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKVIPNCGIVLGAFLLTF	557
QBZ78358.1	478	SHLAEASNIIXKIWKKLAEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	557
AGD98722.1	479	SHLAEASNIISKIWKKLAEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
DAZ85702.1	479	SHLAEASNIISKIWKKLAEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
QGY99255.1	479	SHLAEASNIINKIWKKLGEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
DAZ85701.1	479	SHLAEASNIINKIWKKLGEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
DAZ85704.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
QYU59218.1	479	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
ADJ39329.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
QBZ78354.1	479	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
QBZ78356.1	479	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
QYA72350.1	479	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	558
ADJ39331.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
DAZ85705.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
DAZ85709.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
DAZ85710.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
DAZ85703.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
ADJ39330.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
ACF32434.1	481	SHLAEASNIINKIWKKLSEWMSLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	560
QYU59216.1	478	SHLSEAFHPFTELLPNFIILEASLKGKAGLALEVLQAHAIFALGAIVVGGVVVLVEKVLVACKIIPSCGIVLGAFLLTF	557

X2-NTB cleavage site

YP_053925.1	558	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPMNEAEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	637
AGT56093.1	558	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPMNEAEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	637
QBZ78358.1	558	ASLGLTALECTAEIIFRMHQCKGAIYINMYSVKEPMNEGEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	637
AGD98722.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPMNEAEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
DAZ85702.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
QGY99255.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
DAZ85701.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
DAZ85704.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
QYU59218.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
ADJ39329.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
QBZ78354.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
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QYA72350.1	559	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	638
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DAZ85705.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
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DAZ85703.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
ADJ39330.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
ACF32434.1	561	ASLGLTALECTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	640
QYU59216.1	558	ASLGLTALEYTAEIIFRMHQCKGAIYSMSYVKEPTEGSSVTMGVLQGLDNASALTRVGQSMISFKLGSFSYYAKI	637

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AGD98722.1	639	AQGFQDLARGKKAIGELTGWLIDLGVSVYSKVSGQESTFFDELSTIVCLDVRSWLLKSKRVRLQVETMAIGDRITLDTIS	718
DAZ85702.1	639	AQGFQDLARGKKAIGELTGWLIDLGVSVYSKVSGQESTFFDELSTIVCLDVRSWLLKSKRVRLQVETMAIGDRITLDTIS	718
QGY99255.1	639	AQGFQDLARGKKAIGELTGWLIDLGVSVYSKVSGQESTFFDELSTIVCLDVRSWLLKSKRVRLQVETMAIGDRITLDTIS	718
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ACF32434.1	641	AQGFQDLARGKKAIGELTGWLIDLGVSVYSKVSGQESTFFDELSTIVCLDVRSWLLKSKRVRLQVETMAIGDRITLDTIS	720
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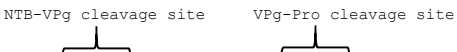
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DAZ85702.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVDLMGKDSSEQQAFFKR 1117
QGY99255.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1117
DAZ85701.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVDLMGKDSSEQQAFFKR 1117
DAZ85704.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
QYU59218.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVDLMGKDSSEQQAFFKR 1117
ADJ39329.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
QBZ78354.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVDLMGKDSSEQQAFFKR 1117
QBZ78356.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVDLMGKDSSEQQAFFKR 1117
QYA72350.1 1038 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1117
ADJ39331.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
DAZ85705.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
DAZ85709.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
DAZ85710.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
DAZ85703.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
ADJ39330.1 1040 VLGLKNPCETVPPHPNVPWLEEKTLITIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
ACF32434.1 1040 VLGLKNPCETVPPHPNVPWLEERTLDKVHWDVHKHIATGPRNALVACFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1119
QYU59216.1 1037 VLGLKNPCETVPPHPNVPWLEEKTLISIVHWDVHKHIATGPRNALVSCFLQGLVQDQSRVQSVELMGKDSSEQQAFFKR 1116

YP_053925.1 1118 LTLSEIRYLRLCQIRIDAVKKEQLSSVSRGALDVLDRDCMYKSKAKLVENYSLLLTLVAILVLIATAYSLSLTLVGLAGCS 1197
AGT56093.1 1117 LTLSEIRYLRLCQIRIDAVKKEQLSSVSRGALDVLDRDCMYKSKAKLVENYSLLLTLVAILVLIATAYSLSLTLVGLAGCS 1196
QBZ78358.1 1117 LTLSEIRYLRLCQIRIDAVKKEQLSGVSRGALDVLDRDCMHKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCS 1196
AGD98722.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDVLDRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCS 1197
DAZ85702.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDVLDRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCS 1197
QGY99255.1 1118 LSLSEIRYLRLCQIRIDTVKKEQLNGVSRGVLDILRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
DAZ85701.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDILRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
DAZ85704.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
QYU59218.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDILRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
ADJ39329.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
QBZ78354.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDILRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
QBZ78356.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLNGVSRGVLDILRDCMNKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
QYA72350.1 1118 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1197
ADJ39331.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
DAZ85705.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
DAZ85709.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
DAZ85710.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
DAZ85703.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLCENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
ADJ39330.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDILKDCMAKSKAKLVENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
ACF32434.1 1120 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLDRDCMAKSKAKLAENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1199
QYU59216.1 1117 LSLSEIRYLRLCQIRIDAVKKEQLSGPSRGTLDVLKDCMAKSKAKLVENYSLLLTLVAILVLIATAYSLSLTLVGLAGCT 1196

			
			
YP_053925.1	1198	SFAGGMVALNHVSNASIPCSERPLEEGYIPRNKFVSRISTRGDGPAQGGQGDHEELVTELYYYFDGVKRLISCCWFKGRS	1277
AGT56093.1	1197	SFAGGMVALNHVSNASIPCSERPLEEGYIPRNKFVSRISTRGDGPAQGGQGDHEELVTELYYYFDGVKRLISCCWFKGRS	1276
QBZ78358.1	1197	SFAGGMVALNHVSNASIPCSERPLEEGYIPRNKFVSRISTRGDGPAQGGQGDHEELVTELYYYFDGVKRLISCCWFKGRA	1276
AGD98722.1	1198	SFAGGLVALNHVSSASIPCSERPLEEGYIPRNKFVSRISTRGDGPAQGGQGDHEDLVTELYYYFDGVKRLISCCWFKGRS	1277
DAZ85702.1	1198	SFAGGLVALNHVSSASIPCSERPLEEGYIPRNKFVSRISTRGDGPAQGGQGDHEELVTELYYYFDGVKRLISCCWFKGRS	1277
QGY99255.1	1198	SFAGGMVALTHVSGASIPCSERPLEDGYIPRNRFVSRISTRGDGPAQGGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
DAZ85701.1	1198	SFAGGMVALTHVSGASIPCSERPLEERYIPRNHFVSRISTRGDGPAQGGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
DAZ85704.1	1200	SFAGGMVAMNQVSNASIPCSERPMEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
QYU59218.1	1198	SFAGGMVALTHVSGASIPCSERPLEEGYIPRNRFVSRISTRGDGPAQGGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
ADJ39329.1	1200	SFAGGIVAMQVSNASIPCSERPLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
QBZ78354.1	1198	SFAGGMVALTHVSGASIPCSERPLEERYIPRNHFVSRISTRGDGPAQGGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
QBZ78356.1	1198	SFAGGMVALTHVSGASIPCSERPLEERYIPRNHFVSRISTRGDGPAQGGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
QYA72350.1	1198	SFAGGMVAMKEVSNASMLSEPRLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1277
ADJ39331.1	1200	SFAGGMVAMKDVRNASIPCSERPLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
DAZ85705.1	1200	SFAGGMVAMNQVSSASIPCSERPLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
DAZ85709.1	1200	SFAGGMVAMKEVSSASMLSEPRLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
DAZ85710.1	1200	SFAGGMVAMKEVSSASMLSEPRLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
DAZ85703.1	1200	SFAGGMVAMNQVSSASIPCSERPLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
ADJ39330.1	1200	SFAGGLVSMQVSNASMPCEPRLEDRYAARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
ACF32434.1	1200	SFAGGMVAMNQVSNASMPCEPRLEEYSARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1279
QYU59216.1	1197	SFAGGMVAMNQVSNASIPCSERPLEERYTARNRFVSRISTRARGDGPAGKGQGEHEELVTELYYYFDGVKRLISCCWFKGRS	1276
YP_053925.1	1278	LLLTRHQAMAIPIGNEIQVIYADGTERKLVWPGRQEDRSCKGYIEFPDNLVVFHARLLTMPIKYEKFFVDDPDHQISP	1357
AGT56093.1	1277	LLLTRHQAMAIPIGNEIQVIYADGTERKLVWPGRQEDRSCKGYIEFPDNLVVFHARLLTMPIKYEKFFVDDPDHQISP	1356
QBZ78358.1	1277	LLLTRHQAMAIPIGNEIQVIYADGTERKLVWPGKQENGSCCKGYVEFPDNLVVFHTRLLTMPIKYEKFFVDDPDYQISP	1356
AGD98722.1	1278	LLMTRHQAMAIPLGNEVQIIYADGTERKLVWPGRQEDGSCCKGYIEFPDNLVVFHARLLTMPVKEYEYFVDDPDHQISP	1357
DAZ85702.1	1278	LLMTRHQALAIPIGNEVQIIYADGTERKLVWPGRQENSSCKGYIEFPDNLVVFHARLLTMPIKYEKFFVDDPDHQISP	1357
QGY99255.1	1278	LLLTRHQAMAIPIGNEVQIIYADGTERKLVWPGKQENGSCCKGYIEFPDNLVVFHRSLLTMPIKYEKFFVDDPDQRISP	1357
DAZ85701.1	1278	LLLTRHQAMAIPIGNEVQIIYADGTERKLVWPGKQENGSCCKGYIEFPDNLVVFHRSLLTMPIKYEKFFVDDPDQRISP	1357
DAZ85704.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
QYU59218.1	1278	LLLTRHQAMAIPIGNEVQIIYADGTERKLVWPGRQENGSCCKGYIEFPDNLVVFHRSLLTMPIKYEKFFVDDPDQRISP	1357
ADJ39329.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPVKEYEYFVDDPDQRISP	1359
QBZ78354.1	1278	LLLTRHQAMAIPIGNEVQIIYADGTERKLVWPGKQENGSCCKGYIEFPDNLVVFHRSLLTMPIKYEKFFVDDPDQRISP	1357
QBZ78356.1	1278	LLLTRHQAMAIPIGNEVQIIYADGTERKLVWPGKQENGSCCKGYIEFPDNLVVFHRSLLTMPIKYEKFFVDDPDQRISP	1357
QYA72350.1	1278	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1357
ADJ39331.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQENGSCCKGYIEFPENELVVFHRSLLTMPVKEYEYFVDDPDQRISP	1359
DAZ85705.1	1280	LLMTRHQALAIPIGNEVQVIYADGTERKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
DAZ85709.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
DAZ85710.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
DAZ85703.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
ADJ39330.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
ACF32434.1	1280	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPIKYEKFFVDDPDQRISP	1359
QYU59216.1	1277	LLMTRHQALAIPIGNEVQVIYADGTRKLVWPGKQEDGSCCKGYIEFPENELVVFHARLLTMPVKEYEYFVDDPDQRISP	1356
YP_053925.1	1358	NVAVKCCVARLEDGIPQFHFWNKYASARSVDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVLAML	1437
AGT56093.1	1357	NVAVKCCVARLEDGIPQFHFWNKYASARSDIHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVAML	1436
QBZ78358.1	1357	NVAVKCCVARLEDGLPQFHFWNKYASARSVDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVVXXX	1436
AGD98722.1	1358	NVAVKCCVARLEDGLPQFHFWNKYASARSVDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
DAZ85702.1	1358	NVAVKCCVARLEDGLPQFHFWNKYASARSVDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
QGY99255.1	1358	NVAVKCCVARLVDEIPQFHFWNKYASARSVDVHTIRDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
DAZ85701.1	1358	NVAVKCCVARLVDEIPQFHFWNKYASARNVDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
DAZ85704.1	1360	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
QYU59218.1	1358	NVAVKCCVARLVDEIPQFHFWNKYASTRNDVHTIKDEGGSVAVYQNKIRRYIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
ADJ39329.1	1360	NVAVKCCVARLEELPQFHFWNKYASARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRVPKVIAML	1439
QBZ78354.1	1358	NVAVKCCVARLEDEIPQFHFWNKYASARNVDVHTIKDEGGSVAVYQNKIRRYIYSHEAKRNDCGAIAVAEIQRTPKVIAML	1437
QBZ78356.1	1358	NVAVKCCVARLEDEIPQFHFWNKYASARNVDVHTIKDEGGSVAVYQNKIRRYIYSHEAKRNDCGAIAVAEIQRTPKVIAML	1437
QYA72350.1	1358	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1437
ADJ39331.1	1360	NVAVKCCVARLEELPQFHFWNKYASARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRVPKVIAML	1439
DAZ85705.1	1360	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
DAZ85709.1	1360	NVAVKCCVARLEEGFPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
DAZ85710.1	1360	NVAVKCCVARLEEGFPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
DAZ85703.1	1360	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
ADJ39330.1	1360	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
ACF32434.1	1360	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTVVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRTPKVIAML	1439
QYU59216.1	1357	NVAVKCCVARLEELPQFHFWNKYATARSVDVHTIVDEGGSVAVYQNKIRRHIIYAHEAKRNDCGAIAVAEIQRVPKVIAML	1436

Pro-Pol cleavage site

YF_053925.1 1438 VSGIGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1517
AGT56093.1 1437 VSGIGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1516
QBZ78358.1 1437 XSGIGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1516
AGD98722.1 1438 VSGIGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1517
DAZ85702.1 1438 VSGIGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1517
QGY99255.1 1438 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMAKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1517
DAZ85701.1 1438 VSGFGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSS 1517
DAZ85704.1 1440 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSD 1519
QYU59218.1 1438 VSGFGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1517
ADJ39329.1 1440 VSGAGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1519
QBZ78354.1 1438 VSGFGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSS 1517
QBZ78356.1 1438 VSGFGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSS 1517
QYA72350.1 1438 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSD 1517
ADJ39331.1 1440 VSGTGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSE 1519
DAZ85705.1 1440 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSD 1519
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ACF32434.1 1440 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1519
QYU59216.1 1437 VSGSGNVTYSSVIPSYSSSFVRGDDVPYVPEDGIKTNGYRKVGYLMMKDAPHVPSKTAFMKVPDEICFFYPNPKQPAILSA 1516

YF_053925.1 1518 EDERLIGTVHEGYTPIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEILEDVPLSIAINGDVDEEYFDPIAMDTSE 1597
AGT56093.1 1517 EDERLKGTVHEGYTPIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEYLEDVPLNIAINGDVDEEYFDPIAMDTSE 1596
QBZ78358.1 1517 EDERLIGTVHEGYTPVIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHIAINGDVDEEYFDPIAMDTSE 1596
AGD98722.1 1518 EDERLKGTVHEGYTPVIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLSIAINGDVDEEYFDPIAMDTSE 1597
DAZ85702.1 1518 EDERLKGTVHEGYTPVIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLDVAINGDANEYFDPIAMDTSE 1597
QGY99255.1 1518 EDERLKGTVHEGYTPVIREGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHVAINGDMEYFDPIAMDTSE 1597
DAZ85701.1 1518 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHVAINGDVDEEYFDPIAMDTSE 1597
DAZ85704.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEILEDVPLNIAINGDVDEEYFDPAMAMDTSE 1599
QYU59218.1 1518 EDVRLKGTVHEGYTPIRDGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHVAINGDVDEEYFDPIAMDTSE 1597
ADJ39329.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNIAINGDVDEEYFDPAMAMDTSE 1599
QBZ78354.1 1518 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHVAINGDVDEEYFDPIAMDTSE 1597
QBZ78356.1 1518 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDAQLLDEVAGDMVHTWFDAGEFLEDVPLHVAINGDVDEEYFDPIAMDTSE 1597
QYA72350.1 1518 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1597
ADJ39331.1 1520 EDVRLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1599
DAZ85705.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1599
DAZ85709.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNIAINGDVDEEYFDPAMAMDTSE 1599
DAZ85710.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNIAINGDVDEEYFDPAMAMDTSE 1599
DAZ85703.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1599
ADJ39330.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1599
ACF32434.1 1520 EDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNVAINGDVDEEYFDPAMAMDTSE 1599
QYU59216.1 1517 DDERLKGTVHEGYTPIRDGMKKFAEPMHLLDEKLLDEVAGDMVHTWFDAGEFLEDVPLNIAINGDVDEEYFDPAMAMDTSE 1596

YF_053925.1 1598 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1677
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AGD98722.1 1598 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1677
DAZ85702.1 1598 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1677
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DAZ85701.1 1598 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1677
DAZ85704.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
QYU59218.1 1598 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1677
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DAZ85709.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
DAZ85710.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
DAZ85703.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
ADJ39330.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
ACF32434.1 1600 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1679
QYU59216.1 1597 GYPEVLQRKNGEKGKARFFVGEFGAREFVPGCGPERAYLSLEEECKTRIPSLVSIETPKDERLKRSKIETPGTRLFSVLP 1676

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AGD98722.1 1678 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILTVIAKMINAGF 1757
DAZ85702.1 1678 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILTVIAKMINAGF 1757
QGY99255.1 1678 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILTVIAAMINAGF 1757
DAZ85701.1 1678 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILTVIAAMINSGF 1757
DAZ85704.1 1680 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILAVVAKMINAGY 1759
QYU59218.1 1678 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILTVIATMINAGF 1757
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ADJ39331.1 1680 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDVGYNCDYKGFGLITEQILAVVATMINAGY 1759
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DAZ85703.1 1680 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDAGYNCDYKGFGLITEQILATVATMINTGY 1759
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ACF32434.1 1680 LAYNLLLRVKFSLFSRLLMKKRSHLPCQVGINPYSREWTDLYHRLAEKSDIGYNCDYKGFGLITEQILAVVATMINTGY 1759
QYU59216.1 1677 LAYNLLLRVKFLAFSRLLMKKGHLPCQVGINPYMREWTDLYHRLAEKSDVGYNCDYKGFGLITEQVLAMIAMINAGY 1756

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AGT56093.1 1757 RDPVSNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1836
QBZ78358.1 1757 RNPVSNQQRSNLLMAISGRLSICGQVYETAGAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1836
AGD98722.1 1758 RNPVSNQQRSNLLMAISGRLSICGQVYETESGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
DAZ85702.1 1758 RNPVSNQQRSNLLMAISGRLSICGQVYETESGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
QGY99255.1 1758 RDPVSNLQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVLSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
DAZ85701.1 1758 RNPVSNLQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVLSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
DAZ85704.1 1760 QNPVSDQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
QYU59218.1 1758 RDPVSNLQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVLSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
ADJ39329.1 1760 QNPVANQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
QBZ78354.1 1758 RDPVSNLQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVLSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
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QYA72350.1 1758 RNPVGNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1837
ADJ39331.1 1760 QNPVANQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
DAZ85705.1 1760 QNPVSDQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
DAZ85709.1 1760 RNPIGNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
DAZ85710.1 1760 RNPIGNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
DAZ85703.1 1760 RNPVGNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
ADJ39330.1 1760 RNPVSNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
ACF32434.1 1760 RNPVSNQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1839
QYU59216.1 1757 RDPIGDQQRSNLLMAISGRLSICGQVYETEAGIPSGCALTVVINSIFNELLMRICYKKIVPPIYRECFCRCCVVLITYGD 1836

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AGT56093.1 1837 DNVFTVSQSIMTSFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1916
QBZ78358.1 1837 DNVFTVSQSIMTHFTGDTLKAEMAKLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1916
AGD98722.1 1838 DNVFTVSQSIMTHFTGDALKAEMAGLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
DAZ85702.1 1838 DNVFTVSQSIMAYFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
QGY99255.1 1838 DNVFTVSQSIMASFTGDALKAEMAKLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
DAZ85701.1 1838 DNVFTVSQSIMASFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
DAZ85704.1 1840 DNVFTVAQSIMESFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1919
QYU59218.1 1838 DNVFTVSQSIMASFTGDALKAEMASLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
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QBZ78354.1 1838 DNVFTVSQSIMASFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
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QYA72350.1 1838 DNVFTVSQSIMESFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1917
ADJ39331.1 1840 DNVFTVSQSIMESFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1919
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DAZ85710.1 1840 DNIFTVSQSIMESFTGDVLAEMAKLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1919
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ACF32434.1 1840 DNVFTVSQSIMESFTGDALKAEMANLGVTTITDGDKSLATIPARPLLEFLKRGFKKGNGLIYAPLEKLSIMSSLVYI 1919
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QBZ78358.1 1917 RSDGSDMLQKLVNDVNTALVELYLHQDGYSDSVRNFFYLKRLPFGSYKELTTWYEAQAFHECQLSGESGWKPQGLIEVSH 1996
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QGY99255.1 1918 RSDGSDMLQKLVNDVNTALIELYLHQDREYESVRDFFYLEKLPFGSFKELETTWYEAQTFHECQLSGESGWKPQGLIEVSH 1997
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ACF32434.1 1920 RSDGSDMLQKLVNDVNTALVELFLHQDKEYFESVRNFYLEKLPFGSYKELTTWYQAQTFHECQLSGESNWKPPQGLIEISH 1999
QYU59216.1 1917 RSDGSDMLQKLLDNDVNSALIELFLHQDRDYFESVRNFYLEKLPFGSYKELITWYQAQTFHECQLSGESNWKPPQGLIEISH 1996

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ACF32434.1 2000 GVGFAFVQQDGTLELERHDICPGLAISGARYIAKSEEEIILMSLSLLPGDVNAHKLKLCXGDIIGRLPSKASVLAQRKPGI 2079
QYU59216.1 1997 GSGFASVQQDGTLELERHDICPGLAISGARYIAKDDEIILMSLSLLPGDVGAHKLKLCXGDIIGRLPSKMSCLAQRKPGV 2076

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AGT56093.1 2077 VMQLCARAIKEKKTIVIRDERPYIGGWAMACICGESFGFSIKDTLALYANLMGPNRKNGLATYFTDFDPSVHVKKIHAIT 2156
QBZ78358.1 2077 AMQMCARALKEKKTIVIRDERPYIGGWAMACVCGESFGFSIKDTLALYANLMGPNRKNGLATYFTDFDPSVHVKKIHAIT 2156
AGD98722.1 2078 VMQLCARALKEKKTIVIRDERPYIGGWAMACICGESFGFSIKDTLALYANLMGPNRKNGLATYFTDFDPSVHVKKVHAVT 2157
DAZ85702.1 2078 VMQLCARALKEKKTIVIRDERPYIGGWAMACICGESFGFSIKDTLALYANLMGPNRKNGLATYFTDFDGPVHVKKVHAIT 2157
QGY99255.1 2078 VMQLCKRAREEKTIVIRDERPYIGGWAIACICGESFGFSTRDTLALYANLMGPNRNTNGLASYFADFESPVCVKKVHAIT 2157
DAZ85701.1 2078 VMRLCKRAREEKTIVIRDERPYIGGWAIACICGESFGFSTRDTLALYANLMGPNRNTNGLASYFADFESPVCVKKVHAIT 2157
DAZ85704.1 2080 VMRLCKQAIDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESPVHVKKVHAIT 2159
QYU59218.1 2078 VMRLCKRAREEKTIVIRDERPYIGGWAIACICGESFGFSIRDTLALYANLMGPNRNTNGLASYFTDFESPVHVKKVHAIT 2157
ADJ39329.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESPVHVKKVHAIT 2159
QBZ78354.1 2078 VMRLCKRAREEKTIVIRDERPYIGGWAIACICGESFGFSIRDTLALYANLMGPNRTNGLASYFANFESPVCVKKVHAIT 2157
QBZ78356.1 2078 VMRLCKRAREEKTIVIRDERPYVGGWAIACICGESFGFSIRDTLALYANLMGPNRTNGLASYFANFESPVCVKKVHAIT 2157
QYA72350.1 2078 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESPVHVKKVHAIT 2157
ADJ39331.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESPVHVKKVHAIT 2159
DAZ85705.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESSVHVKKVHAIT 2159
DAZ85709.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPNRKNGLAAYFLNFESPVHVKKVHAIT 2159
DAZ85710.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPNRKNGLAAYFLNFESPVHVKKVHAIT 2159
DAZ85703.1 2080 VMRLCKQALDEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPERKNGLAGYFSNFESPVHVKKVHAIA 2159
ADJ39330.1 2080 VMRLCKQALNEKKTIVIRDERPYIGGWAMACICGESFGFSIRDTLALYANLLGPNRKNGLAGYFSNFESPVHVKKVHAIT 2159
ACF32434.1 2080 VMRLCKQALEEKTIVIRDERPYIGGWAMACICGESFGFSIRSTLALYANLLGPNRKNGLAGYFSNFESPVHVKKVHAIT 2159
QYU59216.1 2077 VMRLCKRALDEKKTIVIRDERPYIGGWAIACICGESFGFIRSTLALYANLLGPNRKNGLAGYFTDFESPVNIKKVFAKT 2156

YP_053925.1 2158 NGEEGVAMLKDSFAFCEPTTIAATSCDTRKEMVSHLPTSFNNIVLIGGISYPKEGGEFGALYSPTDVVMSKKLQGVYVSE 2237
AGT56093.1 2157 NGEEGVAMLKDSFAFCEPTTIAATSCDTRKEMVSHLPTSFNNIVLIGGISYPKEGGEFGALYSPTDVVMSKKLQGVYVSE 2236
QBZ78358.1 2157 NGEEGVAMLKDSFAFCEPTIVEATLCDTRKEMLSHPSTSFNNIVLIGGISYPKEGGEFGALYSPTDVVMAKKVQGVYVSE 2236
AGD98722.1 2158 NGEEGVAMLKESFAFCEPTTVVATSCDTRREMVSHPMSFPNVVLIGGISFPKEGGEFGALYSSTDVVMSKKLQGVYVSE 2237
DAZ85702.1 2158 NGEEGVAMLKDSFAFCEPTVVATSCDTRREMVSHPVSFPNSVVLIGGISFPKEGGEFGALYSSTDVVMSKKIQGVYVSE 2237
QGY99255.1 2158 NGEEGATMLRDVFAFCEPRIVNATFSNTRKEMLAHQPELYPNVVLIGGISFPKESGEFGALYSHVDVAMSKEVKGVFVSE 2237
DAZ85701.1 2158 NGEEGATMLRDVFTFCEPRIVNATFSNTRKEMLIHQPESEFPNNIVLIGGISFPKEGGEFGALYSHVDVMSKEVKGVFVSE 2237
DAZ85704.1 2160 NGEEGAAMLKEVFTFCEPKIIAATSRDTRKEMLTHPPSEFPNVVLIGGVSFPPKEGGEFGASYSHTDVIMSKKTKGVYVSE 2239
QYU59218.1 2158 NGEEGAITLKDVFACFEPKVVNATFSNTRREMLTHRPSEFPNVVLIGGISFPKENGEFGALYSHTDVAMSKEVKGVYVSE 2237
ADJ39329.1 2160 NGEEGAAMLKEVFTFCEPKIYAATSCDTRREMLTHPPSEFPNNIVLIGGVSFPPKEGGEFGALYSHTDITMSKKTGVYVSE 2239
QBZ78354.1 2158 NGEEGATILKDVFACFEPKIVNATFSNTRKEMLIHHPSEFPNVVLIGGISFPNSESGEFGALYSHVDVMSKNKVGYYVSE 2237
QBZ78356.1 2158 NGEEGATILKDVFACFEPKIVNATFSNTRKEMLIHHPSEFPNVVLIGGISFPNENGEFGALYSHVDVMSKNKVGYYVSE 2237
QYA72350.1 2158 NGEEGAAMLKEVFTFCDPKIIAATSHETRKEMLTHPPSEFPNVVLIGGISFPKEGGEFGALYSHTDIVMSKKTGVYVSE 2237
ADJ39331.1 2160 NGEEGAAMLKEVFTFCEPKICAATSCDTRREMLAHPPPEFPNNIVLIGGVSFPPKEGGEFGALYSHTDIVMSKKTGVYVSE 2239
DAZ85705.1 2160 NGEEGAAMLKEVFTFCEPKIVAATFCDTRKEMLTHPPSEFPNVVLIGGVSFPPKEGGEFGALYSHTDVAMSKEVKGVYVSE 2239
DAZ85709.1 2160 NGDEGVEALKDVFTFCEPKIVSASHDTRKEMLTHPPSEFPNVVLIGGVSFPPKEGGEFGALYSHTDITMAKQVKGYVSE 2239
DAZ85710.1 2160 NGDEGVEALKDVFTFCEPKIVSASHDTRKEMLTHPPSEFPNVVLIGGVSFPPKEGGEFGALYSHTDITMAKQVKGYVSE 2239
DAZ85703.1 2160 NGEEGAAMLKEVFTFCEPKIVAATSCDTRKEMLTHPPSEFPNVVLIGGVSFPPKEGGEFGALYSHTDITMSKKTGVYVSE 2239
ADJ39330.1 2160 NGEEGAELKEVFTFCEPRIVAASFGETRKEMLAHPPSEFPNVVLIGGISFPKEGGEFGALYSHTDIVMSKKTGVYVSE 2239
ACF32434.1 2160 NGEEGATELKEVFTLCEPKIVRASSCETRTEMLAHPSEAFPSVVLIGGISYPKEGGEFGALYSHTDVMSKKNKGVYVSE 2239
QYU59216.1 2157 NCDEGVAMLKKEVFTFCEPIKVQASKQETRSEMLSHPPPEAFPNVVLIGGISFPNENGEFGALYSQADKVMSEKVGYYVSE 2236

YP_053925.1 2238 AVLKCLLRCPGAAVKTVLQTSFPGSSLSQAHFRSLRRVQSHRCMRKS 2284
AGT56093.1 2237 AVLKCLLRCPGAAVKTVLQTSFPGSSLSQAHFRSLRRVQSHRCMRKS 2283
QBZ78358.1 2237 AVLKCLLRCPGAVAVKTVLQTSFPGSSLSQAHFRSIRVQVSHRCVRKS 2283
AGD98722.1 2238 AILKCLLRCPGAVAVKTVLQTSFPGSSLSQAHFRSLRRIQSHRCVRKP 2284
DAZ85702.1 2238 AILKCLLRCPGAAVKTVIQTSFPGSSLSQAHYRSLCRIQSHRCVRRT 2284
QGY99255.1 2238 AVLKCKKRCPGVATKTVLHTSTFGTNLSKAHSRSLRQLQTHQCVRR- 2283
DAZ85701.1 2238 AVLKCCMRCPGVATKTVLHNSTFGANLSKAHSRSLRQLQTHRCVRR- 2283
DAZ85704.1 2240 AILKCLLRCPGVTTKTVLQSTIGSSLSKAHLKSLRQLQTHQCVRR- 2285
QYU59218.1 2238 AVLKCCMRCPGVATRTVLHTSTFGTNLSKAHLRSLRQLQTHQCTRR- 2283
ADJ39329.1 2240 AILKCLLRCPGVSTKTVLQSTTVGSNLSKAHLKSLRQLQTHQCVRR- 2285
QBZ78354.1 2238 AVLKCCMRCPGVATKTVLHTSTFGANLSKAHLRSLRQLQTHQCVRR- 2283
QBZ78356.1 2238 AVLKCCMRCPGVATKTVLHTSTFGANLSKAHLRSLRQLQTHQCVRR- 2283
QYA72350.1 2238 AILKCLLRCPGVTTKTVLQSTIGSNLPAHLKSLRQLQTHQCVRR- 2283
ADJ39331.1 2240 AILKCLLRCPGVTTKTVLQSTIGSSLSKAHLKSLRQLQTHQCVRR- 2285
DAZ85705.1 2240 AILKCLLRCPGVSTRTVLQSTIGSNLSKAHLKSLRQLQTHRCVRK- 2285
DAZ85709.1 2240 AILKCLLRCPGVTTKTVLQSTIGSNLCKAHLKSLRQLQTHQCVRR- 2285
DAZ85710.1 2240 AILKCLLRCPGVTTKTVLQSTIGSNLCKAHLKSLRQLQTHQCVRR- 2285
DAZ85703.1 2240 AILKCLLRCPGVTTKTVLQSTIGSNLSKAHLKSLRQLQTHQCVRR- 2285
ADJ39330.1 2240 AILKCLLRCPGVTTKTVLQSTIGSSLSKAHLKSLRQLQTHQCVRR- 2285
ACF32434.1 2240 AILKCLLRCPGVATKTVLQTEIGSSLSKAHLKSLRRLQTHQCVRR- 2285
QYU59216.1 2237 AILKCLLRCPGVTTKTVLHTTDIGSSIAKAHLRSLRKIQTHQCVRR- 2282

ArMV isolates RNA2 polyprotein

YP_053924.1	1	MAKFYYSNRRRLACWAAGKNPHLG-GSIESWLAAIKSDSSFRQTVKEDVQVNRLQPTAVRMFSWKVSGSPIDNPEKCNWHY	79
DAZ85714.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSIEQWLAAINTDSSFRQTVKEDVQENRLQPTAVRMFSYKIGSGPIDNPDMSDWQF	79
QBZ78359.1	1	MTRFYNSNRRRLACWAAGKNPHLG-GSIERWLAAITDSSFRQTVKEDVQENRNEPTAIRMFSWKIGCGPIDNPAKCNWHY	79
QBZ78357.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSVEQWLAAINTDSSFRQTVKEDVQENRLQPTAVRMFSYKIGSGPIDNPDMLDWQF	79
QBZ78355.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSVEQWLAAINTDSSFRQTVKEDVQENRLQPTAVRMFSYKIGSGPIDNPDMLDWQF	79
ABR09918.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSVEWLAAITDSSFRQTVKEDVQENRDEPTAIRMFSWKIGYGPIDNPEKCNWHF	79
QGY99256.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSVEQWLAAINTDSSFRQTVKEDVQENRLQPTAVRMFSYKVGSGPIDNPDVSDWQF	79
QYA72351.1	1	MKGFFYSSRRRLACWAAGKNPHLG-GSIEQWLAAINTDSSFRQTVKEDVQANRAEPTAIRMFSWKVSGSPIDNPDMLDWQF	79
AEK20744.1	1	MKGFFYNSNRRRLACWAAGKSPDVR-GSIEQWLAAITDSSFRQTVKEDVQANRSEPTAIRMFSWKVGTGPIDNPEMCNWHY	79
DAZ85717.1	1	MKGFFYNSNRRRLACWVAGKNPHLG-GSIEQWLAAINTDSSFRQTVKEDVQNNRNEPTAIRVFSWKVGYGPIDNPDSCNWF	79
ADJ39333.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFRAEVKARVQSEREEVVRKRLFSYPVGRGPAEDPRGVNWAY	78
DAZ85715.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFRAEVKARVQSEREEVVRKRLFSYCPVGRGPAEDPRGVNWAY	78
DAZ85721.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFKAEVKARVQSEREEVVRKRLFSYCPVGRGPAEDPRGVNWAY	78
ACF32435.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFKAEVKARVQSEREEVVRKRLFSYPVGRGPAEDPRGVNWAY	78
ADJ39332.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFRAEVKARVQTEREEVVRKRLFSHPVGRGPAEDPRGVNWAY	78
QYU59217.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFAQWLQCMQ-DSAFRAEVKARVQTEREEVVRKRLFSRVPGLGPAEDPRGVNWAY	78
DAZ85724.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFKAEVKARVQSEREEVVRKRLFSYCPVGRGPAEDPRGVNWAY	78
DAZ85722.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFKAEVKARVQSEREEVVRKRLFSYCPVGRGPAEDPRGVNWAY	78
Q65030.1	1	MKGFFYNSNRRRLACYAQTNRHLG-GSFEQWLQCMQ-DSAFRAEVKARVQSEREEVVRRLFSYPVSGSGPAEDPRGVNWAY	78
DAZ85716.1	1	MGIFYSYQRFAGPPKVEAPYV-----RPMTFLE-----ARASMRMAQAEYAAQLFK---ELPLEYPQGA----	58
BAF35853.1	1	MGILYSVVRWIDGPPAPPTIYNIY-GNFEIQTALR-----EENARQNMVMFLLEPLEYPQGA----	57
CAA57413.1	1	MGILYSYRRFACQPPVDVPIYI-----RPTTFLE-----ARASMRMAQAEGAAALFA---ELPLEYPQGV----	58
BAF35852.1	1	MGILYSIYRFIDGPPPERTFNLYQGNFRETTAILR-----EAEARQNMVRFLEPLEYPQGA----	58
Q91HK5.1	1	MKGFFYNSNRRRLACWAAGKNPHLG-GSVEQWLAAINTDSSFRQTVKEDVQDNREQPTAIRMFSWKVGFSGPIDNPEKCDWHF	79
BAF35851.2	1	MVKFFYNSNRRRLVCWAVSKNHLG-GSVEQWLQCMQ-DSAFRAEVKSDVVANRDHPTAIRTFYSKVGYPIDDPDYADWGY	78
YP_053924.1	80	VLTGVEP-----AQP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPVGAFAPTRSGFI	131
DAZ85714.1	80	VLTGKLS-----RQP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPIGAFAPTRLGFI	131
QBZ78359.1	80	VLTGVEP-----VQP-TEPAKAQEVV-VP-----PVK---VVPSPPPMPR-PYFRPIGAFAPTRSGFI	131
QBZ78357.1	80	VLTGKPS-----RQP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPVGAFAPTRSGFI	131
QBZ78355.1	80	VLTGKPS-----RQP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPVGAFAPTRSGFI	131
ABR09918.1	80	VLTGGERP-----AQP-SELVEAQKV-VP-----PVK---VIPSPPPMPR-PYFRPVGAFAPTRSGFI	131
QGY99256.1	80	VLTGKSS-----RQP-IEPVKAQEVV-VS-----PVK---VIPSPPPVPR-PYFRPIGAFAPTRSGFI	131
QYA72351.1	80	VLTGKLSR-----QP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYSRPIGAFAPTRSGFI	131
AEK20744.1	80	VLTGEEP-----AQP-TEPVKAQEVV-VP-----PVK---VIPSPPPMPR-PHFRPIGAFAPTRSGFI	131
DAZ85717.1	80	VLGTRRPE-----QP-TGPFVRAQEVV-VP-----PVK---VIPSPPPMPR-PYFRPIGAFAPTRSGFI	131
ADJ39333.1	79	ICLGTAAHWAGVPGDMIAAP-VEPVEVPKV-VP-----PVK---VIPSPPPMPR-PYFRSIGAFAPTRSGFI	139
DAZ85715.1	79	ICLGTAAHWAGVPGDMVPP-PEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPVGAFAPTRSGFI	139
DAZ85721.1	79	ICLGTAAHWAGVPGDMIPP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYSRPIGAFAPTRSGFI	139
ACF32435.1	79	ICLGTAAHWAGVPGDMVSI-PKPPVAPKV-VP-----PVK---VIPSPPPVPR-PHFRPIGAFAPTRSGFI	139
ADJ39332.1	79	ICLGTAAHWAGVPGDMVPP-PDPVEVIKGG-VP-----PVK---VIPSPPPMPR-PYFRPIGAFAPTRSGFI	139
QYU59217.1	79	ICLGTAYWAGVPGDMVPP-PEPVQAQEVV-VP-----PVK---VIPSPPPVPR-PYFRPVGAFAPTRSGFI	139
DAZ85724.1	79	ICLGTAAHWAGVPGDMIPP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYSRPIGAFAPTRSGFI	139
DAZ85722.1	79	ICLGTAAHWAGVPGDMIPP-TEPVKAQEVV-VP-----PVK---VIPSPPPVPR-PYSRPIGAFAPTRSGFI	139
Q65030.1	79	ICLGTAAHWAGVPGDMVPP-PEPVKAQEVV-VQSVGEDGRTGYRRQCL--NIPNPPMPK-PYSRPIGAFAPTRSGFI	152
DAZ85716.1	59	-----PLVLP-TEPVKAQEVV-VP-----PVK---VIPSPPPMPR-PYFRPIGAFAPTRSGFI	105
BAF35853.1	58	-----PLVLP-TEPVKAQEVV-VP-----PVK---VIPSPPPMPR-PYSRPIGAFAPTRSGFI	104
CAA57413.1	59	-----PLVQP-TEPVKAQEVV-VP-----PVR---VIPSPPPVPR-PYSRPIGAFAPTRSGFI	105
BAF35852.1	59	-----PLVLP-TEPVKAQEVV-VP-----SVK---VIPSPPIPVR-PYFRPIGAFAPTRSGFI	105
Q91HK5.1	80	VLTGGERP-----AQP-TRPVKAQEVV-VI-----PQLKKVIPSPPPPPA-VYFRVAGAFAPTRSGFI	134
BAF35851.2	79	VLTVGATP--GLRGGVPPPTPEPVKAHEVVEVP-----QPRVE--IPSPPVPPTYTLRSVGAFAFAPTRSGFI	141
YP_053924.1	132	RATVERLSRKREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHATWRRWYDASDERALRVHFGGPPALPPPPPP	209
DAZ85714.1	132	RATVERLTREREESRAAALFAELPLEYPQGTPLVVPVG--FAAMRWYHTTWRWYDTSDERALRVHFGGPPALPPPPPP	209
QBZ78359.1	132	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDASDERALRVHFGGPPALPPPPPP	209
QBZ78357.1	132	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDERALRAHFGGPPALPPPPPP	209
QBZ78355.1	132	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDERALRAHFGGPPALPPPPPP	209
ABR09918.1	132	RATVERLSREREESRAAALFAELPLEYPQGVPLVVPVG--FAAMRWYHTTWRWYDTSDERALRVHFGGPPALPPPPPP	209
QGY99256.1	132	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDERALRVHFGGPPALPPSLPP	209
QYA72351.1	132	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHATWRRWYDTSDERALRVHFGGPPALPPPPPP	209
AEK20744.1	132	RATVERLSQEREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDERALRVHFGGPPALPPPPPP	209
DAZ85717.1	132	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWNYHATWRRWYDTSDERALCVHFGGPPALPPPPPP	209
ADJ39333.1	140	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWNYHATWRRWYDTSDERALRVHFGGPPALPPPPPP	217
DAZ85715.1	140	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWNYHATWRRWYDTSDERALRVHFGGPPALPPSPPP	217
DAZ85721.1	140	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDEAQRVHFGGPPALPPPPPP	217
ACF32435.1	140	RATVERLTREREESRAAALFTELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDASDERALRVHFGGPPALPPPPPP	217
ADJ39332.1	140	RATVERLTREREELRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDERALRVHFGGPPALPPPPPP	217
QYU59217.1	140	RATVERLSREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHATWRRWYDTSDERALRVHFGGPPALPPPPPP	217
DAZ85724.1	140	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDEAQRVHFGGPPALPPPPPP	217
DAZ85722.1	140	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHTTWRWYDTSDEAQRVHFGGPPALPPPPPP	217
Q65030.1	153	RATVRKLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHATWSRWYDTSDERALRTHFGGPPALPLPPPP	230
DAZ85716.1	106	RATVERLTREREESRAAALFAELPLEYPQGAFLVPIRG--FAAMRWNYHATWKRWYDTSDERALRVHFGGPPALPPPPPP	183
BAF35853.1	105	RATVERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWNYHATWRRWYDASDERVLCAHFGGPPALPPPPPL	182
CAA57413.1	106	RATMERLTREREESRAAALFAELPLEYPQGAFLVVPVG--FAAMRWYHATWRRWYDTSERPLRAHFGGPPALPPSPPP	183
BAF35852.1	106	RATVERLTREREESRAAALFAELPLEYPQGVPLVVPVG--FVAMRWYHATWRRWYDTSDERALRHFGGPPALPPSPPP	183
Q91HK5.1	135	RATVERLSREREESRAAALFAELPLEYPQGAFLKLKSLAMKFAMLK---HTTWKRWYDTSERLSEAHFGGPPCLPP---PP	208
BAF35851.2	142	RAIVERLRRKRAESTAAALFAELPLEYPQGAFLKLTVIQ---KMGVMVYQSWKLWYDTSARISGHYKGSFFPPPPPPPP	218

2a-MP cleavage site

YP_053924.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVTSN 284
 DAZ85714.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 QBZ78359.1 210 PIQKPPSFEERLQAALQRQSCARAFALSTSLGNMAWVGMAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 QBZ78357.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 QBZ78355.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASS 284
 ABR09918.1 210 SIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGMAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 QGY99256.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASS 284
 QYA72351.1 210 PIQKPPSFEERLQAALQRQSYARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 AEK20744.1 210 PIQKPPSFEERLQAALERQSCARAFALSTSLGNMAWVGMAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 DAZ85717.1 210 PIQKPPSFEERLQAALQRQSRARAFALSTSLGNMAWVGKAVIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 284
 ADJ39333.1 218 PIQKPPSFEERLQAALQRQSCARAFALSTSLGNMAWVGTAATVPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 DAZ85715.1 218 PIQKPLSFEERLQAALQKSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 DAZ85721.1 218 PIQKPPSFEERLQAALQRQSCARAFALSTSLGNMAWVGKAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 ACF32435.1 218 PIQKPPSFEERLQAVLQRQSCARAFALSTSLGNMAWVGTAATVPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 ADJ39332.1 218 PIQKPPSFEERLQAALDRQSCARAFALSTSLGNMAWVGTAATVPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 QYU59217.1 218 PIQKPPSFEERLQAALKKQSCARAFALSTSLGNMAWVGTAATVPSTSVCCA-----DGRTTGGQTIQAEADPINHRVTSN 292
 DAZ85724.1 218 PIQKPPSFEERLQAALSRQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 DAZ85722.1 218 PIQKPPSFEERLQAALSRQSCARAFALSTSLGNMAWVGTAAPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 292
 Q65030.1 231 PIQKPPSFEERLQAALHRQSCARAFALSTSLGNMAWVGMAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVSSN 305
 DAZ85716.1 184 QIQKPPSFEERLQAALQRQSCARAFALSTSLGNMAWVGTAATVPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 258
 BAF35853.1 183 KIQKPPSFEERLQALRQACARASALSTSLGNMAWVKAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 257
 CAA57413.1 184 KIQKPPSFEERLQAALQRQSCARAFALSTSLGNMAWVGMAAIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 258
 BAF35852.1 184 PIQRSSSFEERLQAALQRQSCARAFALSTSLGNMAWVGKTTIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVASN 258
 Q91HK5.1 209 PIQNPPFFQERVREFRCMKSCARAFALSTSLGNMAWVGKLDIPSTSVCCA-----DGRTTGGQTIQAEADPINHRVTSN 283
 BAF35851.2 219 ---KPLTFREKLAAACSRQVSGRISFQTSLSLGNMAQTCRAVIPSITCCASSRGTDGRTTGGQTVQAEADPLYHRVASN 295

YP_053924.1 285 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 DAZ85714.1 285 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 QBZ78359.1 285 TAPGRAAWISERRSALRRREQAHSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 QBZ78357.1 285 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 QBZ78355.1 285 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 ABR09918.1 285 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 QGY99256.1 285 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 QYA72351.1 285 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 AEK20744.1 285 TAPGRAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 DAZ85717.1 285 TAPGRAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 362
 ADJ39333.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 DAZ85715.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 DAZ85721.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 ACF32435.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 ADJ39332.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 QYU59217.1 293 TAPGRAAWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 DAZ85724.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 DAZ85722.1 293 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 370
 Q65030.1 306 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 383
 DAZ85716.1 259 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 336
 BAF35853.1 258 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 335
 CAA57413.1 259 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 336
 BAF35852.1 259 TAPGRAQWISERRSALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRNAYAPRGLWRGPSTRAN 336
 Q91HK5.1 284 VAPGRAQWISERRQALRRREQANSLSLAAQTD--MTFEQARNAYLGAADMVEQGLPLLPPLRSAYAPRGLWRGPSTRAN 361
 BAF35851.2 296 TAPRAQWISERRQAIRRRREQANSLSLAAQTDQPVTFTEQARNAYLGAADMIDQGLPLLPPLRNAYAPRGLWRGPSTRAN 375

YP_053924.1 363 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 DAZ85714.1 363 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 QBZ78359.1 363 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 QBZ78357.1 363 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 QBZ78355.1 363 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 ABR09918.1 363 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 QGY99256.1 363 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 QYA72351.1 363 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 AEK20744.1 363 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 DAZ85717.1 363 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 442
 ADJ39333.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 DAZ85715.1 371 FTLDRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 DAZ85721.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 ACF32435.1 371 YTLDFRLNGIPTGQNTLEILYNFVDEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 ADJ39332.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 QYU59217.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 DAZ85724.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 DAZ85722.1 371 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 450
 Q65030.1 384 YTLDFRLNGIPTGQNTLEILYNFVSEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 463
 DAZ85716.1 337 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 416
 BAF35853.1 336 YTLDFRLNGIPTGQNTLEILYNFVSEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 415
 CAA57413.1 337 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 416
 BAF35852.1 337 YTLDFRLNGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 416
 Q91HK5.1 362 YTLDFRLNGIPTGQNTLEILYNFVSEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 441
 BAF35851.2 376 YTLDFRLSGIPTGQNTLEILYNFVADEEMDDYDRGMSAVVIDALEIAINPFGMPGNPTDLTVVATYGHERNMERAFIGS 455

YP_053924.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
DAZ85714.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
QBZ78359.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDTSI	522
QBZ78357.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
QBZ78355.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
ABR0918.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
QGY99256.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
QYA72351.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
AEK20744.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDTSI	522
DAZ85717.1	443	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	522
ADJ39333.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
DAZ85715.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
DAZ85721.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
ACF32435.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
ADJ39332.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
QYU59217.1	451	ASTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
DAZ85724.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
DAZ85722.1	451	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	530
Q65030.1	464	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	543
DAZ85716.1	417	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	496
BAF35853.1	416	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	495
CAA57413.1	417	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	496
BAF35852.2	417	SSTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	496
Q91HK5.1	442	ASTFLGNGLARAIFFPGLQYSQEEPRRESIIRLYVASTNATVDTSI	521
BAF35851.2	456	ASTFLGNGLSRAIFFPGLQYSQEEPRRESIIRLYVASTNATVDADSI	535

MP-CP cleavage site



YP_053924.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPGQ	600
DAZ85714.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPGQ	600
QBZ78359.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPGQ	600
QBZ78357.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
QBZ78355.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
ABR0918.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
QGY99256.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
QYA72351.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
AEK20744.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
DAZ85717.1	523	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	600
ADJ39333.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
DAZ85715.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
DAZ85721.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
ACF32435.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
ADJ39332.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
QYU59217.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
DAZ85722.1	531	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	608
Q65030.1	544	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	621
DAZ85716.1	497	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	574
BAF35853.1	496	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	573
CAA57413.1	497	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	574
BAF35852.2	497	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	574
Q91HK5.1	522	TLRATMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	601
BAF35851.2	536	TLRAAMMGNNAVVSPEGSLVGTPEANVQIGGSSMRMVGLAWENVEEPG	613

MP-CP cleavage site



YP_053924.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
DAZ85714.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
QBZ78359.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
QBZ78357.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
QBZ78355.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
ABR0918.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
QGY99256.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
QYA72351.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
AEK20744.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
DAZ85717.1	601	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	680
ADJ39333.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
DAZ85715.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
DAZ85721.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
ACF32435.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
ADJ39332.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
QYU59217.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
DAZ85724.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
DAZ85722.1	609	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	688
Q65030.1	622	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	701
DAZ85716.1	575	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	654
BAF35853.1	574	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	653
CAA57413.1	575	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	654
BAF35852.2	575	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	654
Q91HK5.1	602	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	681
BAF35851.2	614	STTTGLAGRGSVQVPKDCQAGRYLKTLDLRDMVSGFSGIQYKEKWI	693

YP_053924.1 681 ITSSITTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFNATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
DAZ85714.1 681 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFNATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
QBZ78359.1 681 ITSSISTTASPTTSLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
QBZ78357.1 681 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTVDYDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
QBZ78355.1 681 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTVDYDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
ABR09918.1 681 ITSSISTVASPTTSLSPVPHWLLHHKNGTTSCEIDYDYGELCGHAMWFNATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
QGY99256.1 681 ITSSISTTASPTTSLSPVPHWLLHHKNGTTSCTVDYDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
QYA72351.1 681 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
AEK20744.1 681 ITSSISTTANPVYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
DAZ85717.1 681 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 760
ADJ39333.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFNATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
DAZ85715.1 689 ITSSISTTASPTTSLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
DAZ85721.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
ACF32435.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
ADJ39332.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFNATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
QYU59217.1 689 ITSSISTTANPVYTLSPVPHWLLHHKNGTTSCTDIDYGALCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
DAZ85724.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
DAZ85722.1 689 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 768
Q65030.1 702 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 781
DAZ85716.1 655 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 734
BAF35853.1 654 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHALWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 733
CAA57413.1 655 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHAMWFGATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 734
BAF35852.2 655 ITSSISTTASPAYTLSPVPHWLLHHKNGTTSCTDIDYGELCGHALWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 734
Q91HK5.1 682 ITSRITTSADPVYTLSPVPHWLLHHKNGTTSCEIDYGELCGHAMWFKSTTFESPKLHFTCLTGNNKELAADWQAVVELYAE 761
BAF35851.2 694 ITSSITTTASPTTSLSPVPHWLLHHKNGTTCCEVDYDYGELCGHAMWFSATTFESPKLHFTCLTGNNKELAADWEFVVELYAE 773

YP_053924.1 761 FEAAKTFLGRPNFVVSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLIDGTHKVYNNNTLLSYLIGIGGVVK 840
DAZ85714.1 761 FEAAKTFLGRPNFVVSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
QBZ78359.1 761 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
QBZ78357.1 761 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
QBZ78355.1 761 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
ABR09918.1 761 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLGTTTAYKSVSLLLGQTLVDGAKHVYNNNTLLSYLIGIGGVVK 840
QGY99256.1 761 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
QYA72351.1 761 FEAAKSFLGKPNFIYSADAFNGSLKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
AEK20744.1 761 FEAAKTFLGRPNFVVSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
DAZ85717.1 761 FEAAKSFLGKPNFIYNADAFNGSLKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 840
ADJ39333.1 769 FEAAKTFLGRPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 848
DAZ85715.1 769 FEAAKTFLGKPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 848
DAZ85721.1 769 FEAAKSFLGKPNFIYNADAFNGSLKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 848
ACF32435.1 769 FEAAKTFLGKPNFIYSADAFNGSFKFLTIPPLEYDLSTTSAYKSVSLLLGQTLVDGTHKVYNNNTLLSYLIGIGGVVK 848
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Q91HK5.1 762 LEEASSFLGKPTLVDFDGVFNGKGFQFLTCPPIFDLTAVTALKSAGTLGQVPMVGTTKVYNLNSALVSCVLGMGGTIRG 841
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ABR09918.1 1081 LDKARSMKMLRILCKPRGNFEFYGRTCFRV 1110
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ADJ39332.1 1089 LDKAKSMKMLRVLCPRGNFEFYGRTCFRV 1118
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CAA57413.1 1055 LDKAKSMKMLRILCKPRGNFEFYGRTCFRV 1084
BAF35852.2 1055 LDKAKSMKMLRVLCPRGNFEFYGRTCFRV 1084
Q91HK5.1 1081 LDQAKSIKVLRLVLCPRGFSEFYGRTSFPV 1110
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GFLV isolates P1 polyprotein

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QGF72543.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEVPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
QYU59219.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEVPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
AGT42260.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEVPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
AC258633.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEAPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
QBZ78369.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEAPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
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QYA72352.1	1	MQQVPEGSQCCCTGKFSFNAAEAKELRYVCSWMGTRLVKAEEAPPQQRKSGIAPTLPSKSGTIQVSLPKVAGVPSIRES	80	
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ARO69888.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69853.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69903.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69865.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69902.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69861.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69850.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCSFMS	TRLVKAEAPPQPKRSG	IEPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
QYU59227.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	WMNTRLVKAEAPPQPKR	SRTPAAPLKSKG	ETIEVPSQVAVG	VMPSILKS	80
AFM91094.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTV	QVPPFKAGV	KSPISQKS	80
ARO69883.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
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ARO69846.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
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ARO69856.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTVKVP	SQVAVGVKS	ISPE	80
ARO69847.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTTA	QAPLPK	VAGVEPSILKS	80
ARO69875.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTTA	QAPLPK	VAGVEPSILKS	80
ARO69895.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTTA	QAPLPK	VAGVEPSILKS	80
ARO69880.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	MSYMSYTRLVKAEAPPQPKR	SGIAPTPLKSKGTTA	QAPLPK	VAGVEPSILKS	80
BCT87061.1	1	MQQVPEGSQCCTGKGSFNAEAKELRYVCS	WMNTRLVKVEVPQPKR	SRIAPAPLKSK	EVVQTSFPPK	VAGVMPSSPKS	80
QYU59225.1	1	MQQI1SEGQCCTGKGSWSNAEAKARYVCS	YLSRCLVKVGVPQPS	RKSGRIAPTPLKSKG	TVQVSPQ	VEVGVGKIPNKS	80
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QYW50223.1	81	KGASVAPAPILLKQRCVVVYGGPPADIELVYPLVRREEKSSKVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
ARO69887.1	81	KGASVAPAPILLKQRCVVVYGGPPADIELVYPLVRREEKSSKEVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
ARO69840.1	81	KGASVAPAPILLKQRCVVVYGGPPANIELVYPLVRREEKSSKEVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
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AND76470.1	81	KGASVAPAPILLKQRCVVVYGGPPADIELVYPLVRREEKSSKEVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
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ARO69877.1	81	KGASVAPAPILLKQRCVVVYGGPPANIELVYSLVRREEKSSKEVVLPTPKVDVRVPVCCAPKWMVAIPKPPVKLAKPA	160
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QYU59226.1	81	KGASVAPTPLLKQRCVVVYGGPPADIELVYPLVRREEKSSKTVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
ARO69852.1	81	KGASVAPAPILLKQRCVVVYGGPPANIELVYPLVRREEKSSKEVVLPTPKVDVRVPVCCAPKWMVAIPKPPVKLAKPA	160
QGP72543.1	81	KGASVAPAPILLKQRCVVVYGGPPADIELVYPLVRREEESSHEVVLPTQKVEVRVPVCCAPKWMVAISKPFPVKLAKPA	160
QYU59219.1	81	KGASVAPTPLLKQRCVVVYGGPPADIELVYPLVRREEESSKVVLPTPKVDVRVPVCCAPKWMVAIPKPPVKLAKPA	160
AGT42200.1	81	KGTSVVTPPLLKQRCVVVYGGPPADIELVYPLVRREEKSSKEMALPAKKVDVRVPVCCAPKWMVAISKPFPVKLAKPA	160
ACZ58633.1	81	KGASVAPAPILLKQRCVVVYGGPPADIELVYPLVRREEKSSDKVLPTPKAEARVPVCCAPKWMVAIPKPPVKLAKPA	160
QB278369.1	81	KGASVAPTPLLKQRCVVVYGGPPADIELVYPLVRREEKSSIKVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
ARO69851.1	81	KGASVAPAPILLKQRCVVVYGGPPANIELVYPLVRREEKSSKEVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
QYU59220.1	81	KGASVAPVPLLKQRCVVVYGGPPADIELVYPLVIREEESSNRVLPTPKVEVRVPVCCAPKWMVAIPKPPMKPAPKA	160
AFV34755.1	81	KGASVAPTPLLKQRCVVVYGGPPVDIELVYPLVRREEKSSKEKALPAAKVEIRVPVCCAPKWMVAITKPPVKLAKPA	160
QGP72544.1	81	KGAFVAPTPLLKQRCVVVYGGPPADIELVYPLVRREEESSKVVLPTPKVEVRVPVCCAPKWMVAIPKPPVKLAKPA	160
QY472352.1	81	KGASVAPAPLHKQRCVVVYGGPPADIELVYPLVRREEESSQMALPAKKVDVRVPVCCAPKWMVAIPKPPVKLAKPA	160
ARO69854.1	81	KGASVAPAPILLKQRCVVVYGGPPANIELVYSLVRREEKSSKEVVLPTPKVDVRVPVCCAPKWMVAIPKPPVKLAKPA	160</

[illegible][illegible]

[illegible]

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QY59223.1	241	GQQVVLPAKMSCSLKEAAPSTTSRVVVKRRKSPKLPLPEQDFSCLEDFDMGEKSHFVEVDIEDDWLVEKVPVLRQA	320
ARO69887.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69840.1	241	GQQVVLPAKMSCSLKEAAPSTTSVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69892.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69862.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRKRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69844.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69896.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
QGP72541.1	241	GQQVVLPAKMSCSLKEAAPSTTSVVVVKRRKSPKLKPISEQDFSCLEDFDMGEKSYFVEVDIEDDWLVEKVPVLRQA	320
ARO69901.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
AYA22299.1	241	GQQVVLPAKMGCSLKEAAPSTASVAVVKKRKPSPKLPTLPEQDFSCLEDFDMGEKSHFVEVDIEDDWLVEKVPVLRRA	320
ARO69890.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69859.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69905.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69871.1	241	GQQVVLPAKMSCSLKEAAPSTTSVVVVKRRKRLKPLNPLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69848.1	241	GQQVVLPAKMSCSLKEAAPSTITPVVVKRRKRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69874.1	241	GQQVVLPAKMSCSLKEAAPSTTPVVVVKRRRLRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
ARO69821.1	241	GQQVVLPAKMSCSLKEAAPSTTSVVVVKRRKRLPRTLPEQDFSCLEDFDMGEKSHFVEINIEDDWLVEKVPVLSRQA	320
QY59222.1	241	GHHVVLPAKMSCSLKEAAPSTTSVVVVKRRKLPKLPLPEQDFSCLEDFDMGEKSHFVEVDIEDDWVFEKVPVLTQRA	320

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AFV34731.1	241	GFQVVLPA	PAPKMGCSLKEAAPSTT	SAVVVKKRKLVLKPL	PEQDFSCLEDDF	DWGEKSHPEV	IEDDWVLVEK	PVLSRQA	320
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AC258632.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	STVVVKKRKL	SKLPLPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
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QBZ8372.1	241	GFQVVLPA	PAPKMSCGLKEAAPSTT	SMVVVKKRKL	SKLPTLPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
QYU59224.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SAASVVVKKRKL	RLPRLPIPEQDFSCLEDFD	DWGEKSHPEV	IEDDWVLVEK	PVLSRQA	320
ARO69877.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	PRTLPLNIPPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69858.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	PMKPLNIPPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69855.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	PTVVVKKRKL	PLRLPRTLPEQDFSCLEDFD	DWGEKSHPEV	INIEDDWVLVEK	PVLSRQA	320
QGP72542.1	241	GFQVVLPA	PAPKMSCSLREAAPSTT	SAVVVKKRKL	LLRPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
AYQ30505.1	241	GFQVVLPA	PAPKMSCSLREAAPSTT	SVVVVKKRKL	LLPLKPIPEQDFSCLEDFD	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
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QGP72539.1	241	GFQVVLPA	PAPKMSCSSRLAAPSTT	SAVVVKKRKL	LLRPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
QYU59226.1	241	GFQVVLPA	PAPKMSCNLKEVAPSTT	SAASVVVKKRKL	LLPLKPIPEQDFSCLEDFD	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
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ACT42200.1	241	GFQVVLPA	PAPKMSCSLREAAPSTT	SVVVVKKRKL	SKLPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
AG258633.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	STVVVKKRKL	SKLPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
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QGP72544.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	IAVVVKKRKL	LLPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
QYA72352.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SEVVVKKRKL	LLRPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69854.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	LLPLNIPPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69860.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	PRTLPLNIPPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69863.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	PRTLPLNIPPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
DAZ85707.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	SKLPLKPIPEQDFSCLEGF	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
AWO67781.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	PAVVVKKRKL	LLRPLKPIPEQDFSCLEDFD	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
QBZ78367.1	241	GFQVVLPA	PAPKMSCSLREAAPSTT	SVVVVKKRKL	VLKPLKPTLPEQDFSCLEDFD	DWGEKSHPEV	ADIEDDWVLVEK	PVLSRQA	320
ARO69873.1	241	GFQVVLPA	PAPKMSCSLKEAAPSTT	SVVVVKKRKL	PRTLPLNIPPEQDFSCLEGF	DWGEKSHPEV			

NF_619689.1	321	VQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFLEAIE	400
AUW08042.1	321	VQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFLEAIE	400
QY059223.1	321	AQTAGQRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFDVCLLSLVYNDAPTLSATIEELRDSKDFLEAIE	400
ARO69887.1	321	AQTAGQRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69840.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69892.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69862.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69844.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69896.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
QGP72541.1	321	VQTAQGRATEALTRFAATSGFSLSAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPLSATIEELGDNKDFQEAI	400
ARO69901.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
AYAZ2299.1	321	VQSAGQRATEALTRFAATSGFSLGAHQKVEDFASLGEAEHLMAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFLEAIE	400
ARO69890.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69895.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69905.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69871.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDNKDFLEAIE	400
ARO69848.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ARO69874.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELGDNKDFLEAIE	400
ARO69882.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELGDNKDFLEAIE	400
QYU59221.1	321	AQTVQGRATEALTRFAATSGFSLSAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELRNKDFFLEAIE	400
ARO69842.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
AFV34731.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFQEAI	400
ND76470.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
ACZ58632.1	321	AQTAQGRATELTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCCLLSLVYNDAPTLSATIEELGTKESEFLEAIE	400
QBZ78374.1	321	AQTVQGRATEALTRFAATSGFSLGAHQVEEFASLGEAEHLMAGEFADLCCLLSLVYNDAPTLSATIEELRGRRDFLEAIE	400
QGP72540.1	321	VQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDNKDFQEAI	400
QY092372.1	321	AQTVQGRATEALTRFAATSGFSLGAHQVEEFASLGEAEHLMAGEFADLCCLLSLVYNDAPTLSATIEELRGRRDFLEAIE	400
QYU59224.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDSKDFLEAIE	400
ARO69877.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDSKDFLDIAE	400
ARO69858.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDSKDFLDIAE	400
ARO69855.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELGDNKDFLEAIE	400
QGP72542.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCCLLSLVYNDAPTLSATIEELEIDKFQEAI	400
AYQ3055.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVECLMAGEFADLCCLLSLVYNDAPTLSATIEELRGKKDFLEAIE	400
AYQ3053.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVECLMAGEFADLCCLLSLVYNDAPTLSATIEELREEKDFLEAIE	400
AYQ3051.1	321	ARTAQGGATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELGDSKDFLEAIE	400
AF171813.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEGFASLGEEEHLMAGEFADLCCLLSLVYNDAPTLSATIEELGESKDFLDIAE	400
QGP72539.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCCLLSLVYNDAPTLSATIEELEIDKFQEAI	400
QYU59226.1	321	AQTVQGRATEALTRFAAASGFLGAHQKVEDFASLGEVEYMQAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFSEAI	400
ARO69852.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGDSKDFLDIAE	400
QGP72543.1	321	AQTAQGRATEALTRFAATSGFTLDHAHQKVEDFASLGEVEYLMAGEFDVCLLSLVYNDAISLTSTIEELRDSKDFLDIAE	400
QYU59219.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEGFASLGEAEHLMAGEFADLCCLLSLVYNDAPTLSATIEELRDSKDFLEAIE	400
AGT42200.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEEEYLLAGEFADLCCLLSLVYNDAPTLSATIEELGESKDFLEAIE	400
ACZ58633.1	321	AQTAQGRATELTRFAATSGFSLGAHQKVEDFASLQGVEYLMAGEFADLCCLFLVYNDAPTLSATIEELGTKESEFLEAIE	400
QBZ78369.1	321	AQTVQGRATEALTRFAATSGFSLGAHRKVEGFASLGEVEYLAGEFADLCCLLSLVYNDAPTLSATIEELGDRKDFLEAIE	400
ARO69851.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPTLSATIEELRNKDFFLEAIE	400
QYU59220.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFDVCLLSLVYNDAPVLSATIEELRESDDFLEAIE	400
AFV34755.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYVMAGEFADLCCLLSLVYNDAPTLSATIEELKEIKDFLEAIE	400
QGP72544.1	321	AQTAQGRATEALTRFAATINGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELRDSQNFILEAIE	400
QY472352.1	321	AQTAQGRATEALTRFAATSGFSLGAHQKVEDFASLGEVEYLMAGEFADLCQLSVYNDAPTLSVTIEELGDSKDFLEAVE	400
ARO69854.1	321	AQTVQGRATEALTRFAATSGFSLGAHQKVEDFASLGEAEYLMAGEFADLCCLLSLVYNDAPVLSATIEELGGSKDFLDIAE	400
ARO69860.			

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ARO69885.1	401	LKLELAEIPMDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69841.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69891.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69868.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69900.1	401	LKLELAEIPMDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
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ARO69896.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
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QYU59222.1	401	LKLELAEIPVETSTTCAPFFQWASAAKQMAKGVTGMVGDFTRAAGAAVIISFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
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ANd76473.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
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DZ85708.1	401	LKLELAEIPTDSTTCAPFKRWASAAKQMAKGVTGMDGFTRAAGAAVIISFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69881.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
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ARO69897.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
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ARO69843.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
ARO69886.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
ARO69864.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
ARO69876.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
ARO69888.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
ARO69853.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
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ARO69850.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKRI FDTVMAPYLQ	480
QYU59227.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
AFM91094.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69883.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69879.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ANd76472.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69846.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69870.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69856.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69847.1	401	LKLELAEIPMDSTTCAPFFQWASAAKRMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69875.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69895.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
ARO69880.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMVGDFARAAGAAAII SFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
BCT87061.1	401	LKLELMELPADSTTCAPFFQWASAAKQMANGVAMLDGYAARGATAAISFDMAVEFLQDKALKFCCKI FDTVMAPYMQ	480
QYU59235.1	401	LKLELAEIPTDSTTCAPFFQWASAAKQMAKGVTGMDGFTRAAGAAVIISFDMAVEFLQDKALKFCCKI FDTVMAPYLQ	480
APD26026.1	401	LKLELGELPANSTTCAPFFQWASAKQMAKGVTGMGVNFVARAAGAAVISFDIAVEFLQDKALKFCCKI FDTVMAPYLQ	480

[illegible]

X2-NTB cleavage site



[illegible]

BC787061.1	561	SLGLTALECTAAEIFRMHACKSAIYSMSVNPETMVGESVTMGATRGLDNAISALTRVQGSMMSFKLGSFSYYAKIA	640
QYU59235.1	561	SLGLTALECTAAEIFRMHTCKSAIYSMSVNPETMVGESHTMGATQGLDNAVALTRVQGSMISFKLGLSYYAKIG	640
AP26026.1	561	SLGLTALECTAAEIFRMHACKSAIYSMSVNPETMVGESVTMGATQGLDNAIAQLTRVQSMISFKLGSFSYYAKIA	640

[illegible]

ARO69886.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
ARO69864.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
ARO69876.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
ARO69888.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
ARO69853.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
ARO69903.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTIAK	720
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BCT87061.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTISK	720
QYU59225.1	641	QGFDQLARGKKAIGELTSWLDLVGSIYSTVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLDTISK	720
APD26306.1	641	QGFDQLARGKRAIGELTSWLDLVGSIYSQVSGQESTFFDELSTIVCLDVRAWLLKSKRVRLQVETMAIGDRITLNTISK	720

NP_619689.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
AW068042.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
QY59223.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69887.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69840.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69892.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69862.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69844.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69896.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
QGP72541.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69901.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
AY22299.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W	I	F	G	A	S	Q	S	G	K	T	I	A	N	S	V	I	I	P	A	L	800
ARO69890.1	721	LLEE	GH	KIL	VT	AG	VP	RK	TS	AD	FT	MC	I	KE	EV	S	K	LE	EV	H	AR	T	AC	AG	I	N	E	G	M	R	A	F	F	V	W																					

[illegible][illegible]

[illegible][illegible]

ARO69874.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFFAPR	SHDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69882.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	PRAYDSCIEVRFMHNKCPYVD	SAGL	PQGP	AVNT	PMDEGW	ITPSEA	960
QY059221.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
ARO69842.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
AFV34731.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
AND76470.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
ACZ58632.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QB278374.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QGP72540.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
QB278372.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QY059224.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SVCT	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69877.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGL	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69858.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGL	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69855.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGGL	FLPREYDSCIEVRFMHNKCPYVD	SGKV	PQGP	AVNT	PMDEGW	ITPSEA	960
QGP72542.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
AYQ93055.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
AYQ93053.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGT	PQGP	AVNT	PMDEGW	ITPSEA	960
AF171813.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGT	PQGP	AVNT	PMDEGW	ITPSEA	960
QGP72539.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
QY059226.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
ARO69852.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGL	PQGP	AVNT	PMDEGW	ITPSEA	960
QGP72543.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGV	VFPREYDSCIEVRFMHNKCPYD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QY059219.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
AGT42200.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGT	PQGP	AVNT	PMDEGW	ITPSEA	960
ACZ58633.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNTKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QB278369.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
ARO69851.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QY059220.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	TPRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
AFV34755.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	SVNT	PMDEGW	ITPSEA	960
QGP72544.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QY472352.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	FEAPRAYDSCIEVRFMHNKCPYVD	SAGT	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69854.1	881	TAVPPTNSQVVDLPSFYNNRAAVLEVRKDKGGL	FLSPREYDSCIEVRFMHNKCPYVD	SGKV	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69860.1	881	TAVPPTNSQVVDLPSFYNNRAAVLEVRKDKGGL	FLSPREYDSCIEVRFMHNKCPYVD	SGKV	PQGP	AVNT	PMDEGW	ITPSEA	960
ARO69863.1	881	TAVPPTNSQVVDLPSFYNNRAAVLEVRKDKGGL	FLSPREYDSCIEVRFMHNKCPYVD	SGKV	PQGP	AVNT	PMDEGW	ITPSEA	960
DAZ85707.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	APRAYDSCIEVRFMHNKCPYVD	SAGL	PQGP	AVNT	PMDEGW	ITPSEA	960
AW067781.1	881	TVVPTTNSQVVDLPSFYNNRAAVLEVRKDKGSFF	PREYDSCIEVRFMHNKCPYVD	SAGV	PQGP	AVNT	PMDEGW	ITPSEA	960
QB278367.1	881								

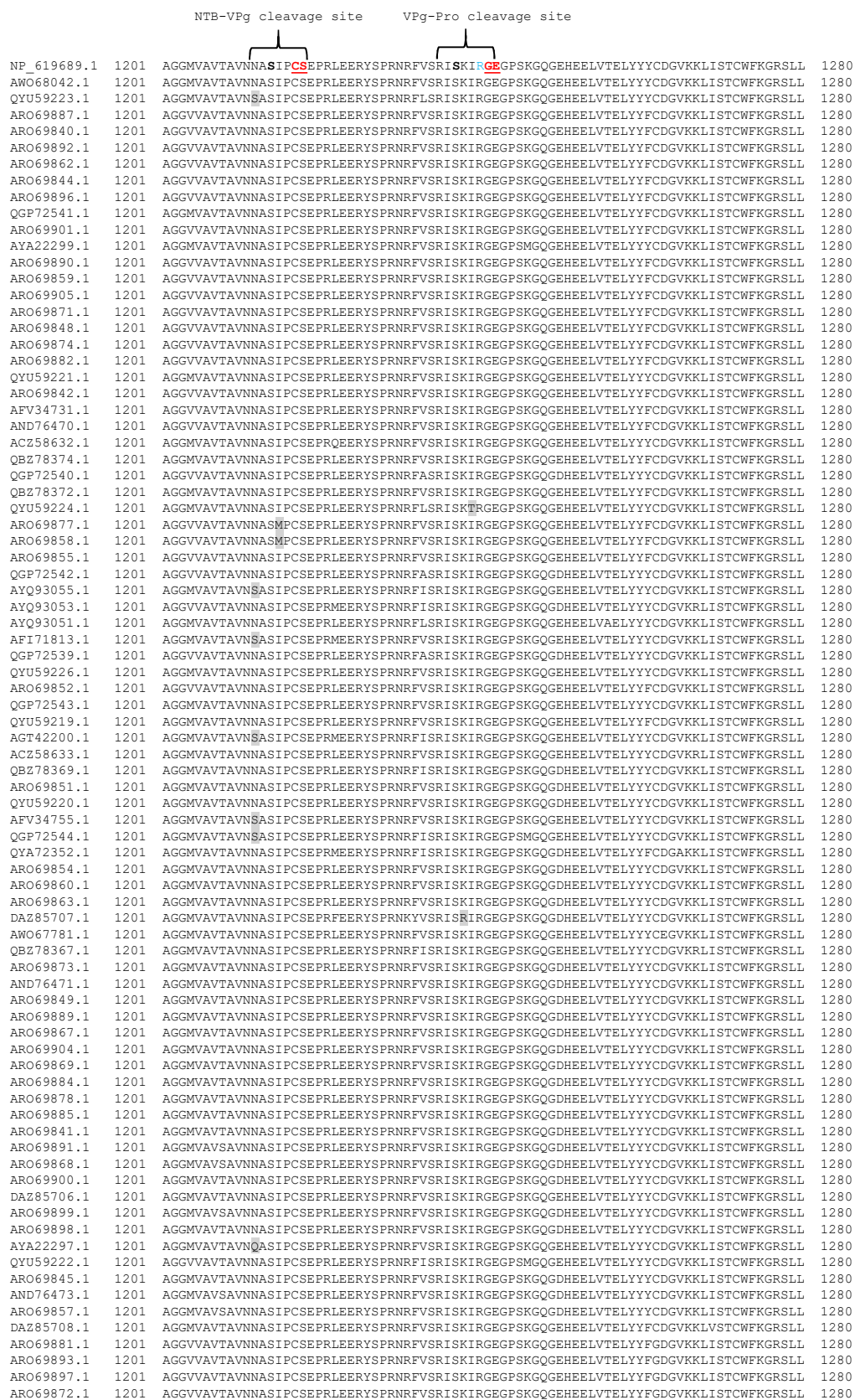
BCT87061.1	881	TVVPPTNSQVLDPSFYNNRAAVLEVRKDKGSYFTPRAYDSCTEVRFLHNKCPYVDSMGIPQGPVAVT ¹ PMDEGWISPS ² EA	960
QY59225.1	881	TVVPPTNSQVLDPSFYNNRAAVLEVRKDKGSYFAPRAYDSCIEVRFMHNKCPYVDSGLPGPVA ¹ VT ² PMDEGWS ³ PS ⁴ EA	960
APD2636.1	881	TAVPTNSQVLDPSFYNNRAAVLEVRKDKGSCTPSYSDYSCTIEVRFLH ¹ SKCPYVDSAGVQGPVAVT ² PMEEG ³ VT ⁴ PS ⁵ EA	960

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ARO69886.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69864.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69876.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69888.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69853.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69903.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69865.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69902.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69861.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69850.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
QYU59227.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
AFM91094.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69883.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69879.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
AN076472.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69846.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69870.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69856.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69847.1	961	VSVLKNLGDHILTEEEKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69875.1	961	VSVLKNLGDHILTEEEKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69895.1	961	VSVLKNLGDHILTEEEKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
ARO69880.1	961	VSVLKNLGDHILTEEEKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTAEQKSTYGIKDDGFSFLAVDGMKYMYNVL	1040
BC787061.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYGSWLTTDQKATYGIKDEGFSFLAVDGMKYMYNVL	1040
QYU59225.1	961	VAVLKNLNGEHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTTQKNTYGIKDEGFSFLAVDGMKYMYNVL	1040
QY26306.1	961	VMVLKNLGVHILAEAEKKLYEYRIRGNDPHYNAAKEFIGNMHPYQGWLTTQKNTYGIKDDGFSFLAVDGMKYMYNVL	1040

[illegible]

[illegible]



ARO69843.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69886.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69884.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69887.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69886.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69853.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69903.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69865.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69902.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69861.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69850.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
QYU59227.1	1201	AGGMVAVTA	VNNNASIP	CESE	PL	MEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	Y	C	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280
AFM91094.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69883.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
ARO69879.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F	K	R	S	L	1280	
AN076472.1	1201	AGGVAVTA	VNNNASIP	CESE	PL	LEERYSP	RNRFV	SRI	SKIR	EG	GPSK	Q	Q	G	E	E	E	L	V	T	E	L	Y	F	D	G	V	K	K	L	I	S	T	C	W	F						

[illegible]

Pro-Pol cleavage site



NP_619689.1	1441	GNRGVTVSSVINYSSSFIRGEVVPVPEDGLVSRGKRVGYLHASDAPHVSKTSFMKVPDELFCFPYPDPKQPAILSAED	1520
QW068042.1	1441	GNRGVTVSSVINYSSSFIRGEVVPVPEDGLVSRGKRVGYLHASDAPHVSKTSFMKVPDELFCFPYPDPKQPAILSAED	1520
QY059223.1	1441	GNRGVTVSSVINYSSSFIRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTSFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69887.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69840.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69892.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69862.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69844.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69896.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
QG72541.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRGYLRAPDAPHVSKTSFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69901.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
AYA22299.1	1441	GNRGVTVSSVINYSSSFIIRGEVVPVPEDGLVTGKRVGYLHASDAPHVSKTSFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69890.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520
ARO69859.1	1441	GNRGVTVSSVINYSSSFVRGEVVPVPEDGLVTRGKRVGYLRAPDAPHVSKTAFMKVPDELFCFPYPDPKQPAILSAED	1520

[illegible]

ARO69875.1	1441	GNRGVTVSSVPSYSSSFVGEVPVPDEGLVTRGKRVGYLHASDAPHVSKTSFMRVPDELFCFFYPDPKQPAILSAED	1520
ARO69895.1	1441	GNRGVTVSSVPSYSSSFVGEVPVPDEGLVTRGKRVGYLHASDAPHVSKTSFMRVPDELFCFFYPDPKQPAILSAED	1520
ARO69880.1	1441	GNRGVTVSSVPSYSSSFVGEVPVPDEGLVTRGKRVGYLHASDAPHVSKTSFMRVPDELFCFFYPDPKQPAILSAED	1520
BC787061.1	1441	GRDNRVTSFVINYSSSFFIRGEVPVPDEGIVTNGKRVGYLHISDAPHVSKTAFMRVPDELFCFFYPNPKQPAILSAED	1520
QYU59225.1	1441	GNRDVTVSSVINYSSSFFVGEVPVPDEGLVTRGKRVGYLHRSDAPHVSKTAFMRVPDELFCFFYPNPKQPAILSAED	1520
APD26306.1	1441	VDNRTISSVINYSSSFRGDVPVDEGITGTRGKRVGYLHRDPAPHVPTKATFMRVPDELFCFFYPNPKQPAILSAED	1520

[illegible]

ARO69897.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69872.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69843.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69886.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69864.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69876.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69888.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69853.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69903.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69865.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69902.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69861.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69850.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
QYU59227.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
AFM91094.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69883.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69879.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
AN76472.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69846.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69870.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69856.1	1521	ERLKGTHIEGYTPIKDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDMDEEYFDPPLVMDTSEGY	1600
ARO69847.1	1521	ERLKGTHIEGYTPVRDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDAEEFFDPPLVMDTSEGY	1600
ARO69875.1	1521	ERLKGTHIEGYTPVRDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDAEEFFDPPLVMDTSEGY	1600
ARO69895.1	1521	ERLKGTHIEGYTPVRDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDAEEFFDPPLVMDTSEGY	1600
ARO69880.1	1521	ERLKGTHIEGYTPVRDGMKRFAPMPHLLLEKLLDEVAGDMVQTYWDPGEFLEDISLQDAINGDAEEFFDPPLVMDTSEGY	1600
BC787061.1	1521	ERLKGTHIEGYTPKDGGMKRFAPMGLLLEKLLDEVAGDMVHTWYDPGEFLEDISLQDAINGDEEYFDPPLVMDTSEGY	1600
QYU59225.1	1521	ERLQGTSHIEGYTPVRDGMKRFAPMPHLLLEKLLDEVAGDMVHTWYDPGEFLEDISLQDAINGDDDEEFFDPPLVMDTSEGY	1600
AP26306.1	1521	ERLKGTHIEGEPVKDGMKRFAPMGLLLEKLLDEVAGDMVHTWYDPGEFLEDISLQDAINGDDDEEFFDPPLVMDTSEGY	1600

[illegible]

[illegible][illegible]

[illegible]

ARO69875.1	1761	PVGNRQRKNLLLAINGRLSICGSQVYYTEAGIPSGCALTVVLNSIFNELLVRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840
ARO69895.1	1761	PVGNRQRKNLLLAINGRLSICGSQVYYTEAGIPSGCALTVVLNSIFNELLVRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840
ARO69880.1	1761	PVGNRQRKNLLLAINGRLSICGSQVYYTEAGIPSGCALTVVLNSIFNELLVRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840
BC787061.1	1761	PVGNRQRKNLLLAISGRLSICGNQVYYTEAGIPSGCALTVVLNSIFNELLMRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840
QYU59225.1	1761	PVGNRQRKNLLLAISGRLSICGNQVYYTEAGIPSGCALTVVLNSIFNELLMRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840
APD26306.1	1761	PIGNRQRKNLLLAISGRLSICGNQVYYTEAGIPSGCALTVVLNSIFNELLMRYCFKKIIVPPVYKECFDRCVVLVTYGD	1840

[illegible]

[illegible][illegible]

WP_619689.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSVLPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AYO68042.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSVLPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QYU59223.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69887.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69840.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69892.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69862.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSIQPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69844.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69896.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QGP72541.1	2001	AFASFVQQAGTELEKHDICPGLSVAGTKYIATENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69901.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AYA22299.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSVILNLRKPGVLM	2080
ARO69890.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69859.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69905.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69871.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69848.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69874.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69822.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QYU59221.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIAAENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69842.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AFY34731.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIAAENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AND76470.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ACZ58632.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSFPLPGRDPAFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QBZ78374.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QGP72540.1	2001	AFASFAQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QZ78372.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QYU59234.1	2001	AFASFTQQAGTELEKHAICPGLSIAGTKYIATENEIVLSLSILPGRDPAFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69877.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69858.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
ARO69855.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
QGP72542.1	2001	AFASFAQQAGTELEKHDICPGLSIAGTKYIATEDEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AYQ93055.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATESEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AYQ93053.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATESEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AYQ93051.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIATENEIVLSLSVLPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080
AF171813.1	2001	AFASFTQQAGTELEKHDICPGLSIAGTKYIASENEIVLSLSILPGRDNVFKLDLPCGDGIGRLPSKCSILNLRKPGVLM	2080

[illegible][illegible]

ARO69905.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69871.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69848.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69874.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69882.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
QYU59221.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSDFESSPHIKKVVHAKTNS	2160
ARO69842.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
AFY34731.1	2081	KICKRAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPCTIKVHVAKTNS	2160
AN076470.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
AC258632.1	2081	RICKRAQDEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
QBZ78374.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIQRIHAKTNS	2160
QGP72540.1	2081	QLCKRAQNEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
QBZ78372.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIQRIHAKTNS	2160
QYU59224.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFTDFESPVHIKRVHAKTNA	2160
ARO69877.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69858.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69855.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
QGP72542.1	2081	KICKRAQNEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
AY093055.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSDFESPITHIKRVHAKTNS	2160
AY093053.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSDFESPITHIKRVHAKTNS	2160
AY093051.1	2081	SICKRAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
AF171813.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSNFESPETHIKRVHATTNS	2160
QGP72539.1	2081	QLCKRAQNEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
QYU59226.1	2081	ELCKRAQVEKKTLLVIRGERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
ARO69852.1	2081	KICELAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNQRNGLASYFSDFESPITHIKRVHAKTNS	2160
QGP72543.1	2081	SICKRAQDEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKKVVHAKTNS	2160
QYU59219.1	2081	KICERAQIEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIKKVVHAKTNS	2160
AGT42200.1	2081	SLCKRAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSNFESPETHIKRVHATTNS	2160
AC258633.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSDFESPITHIKRVVAKTNS	2160
QBZ78369.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLALYANLLGPNRRNGLASYFSDFESPITHIRKVVHAKTNS	2160
ARO69851.1	2081	KICKLAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGIQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
QYU59220.1	2081	KICKRAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIAKHTAKTNS	2160
AFY34755.1	2081	RICKRAQAEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPETHIKRVHAKTNS	2160
QGP72544.1	2081	GLCKRAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPETHIKRVHAKTNS	2160
QYB72352.1	2081	KICKRAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69854.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKRVYAKTNS	2160
ARO69860.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
ARO69863.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
DAZ85707.1	2081	RICKIAQEAKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNQRNGLASYFSDFESPITHIKVHAAKNS	2160
QYB77781.1	2081	TICKLAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGSQSVLTYANLLGPNQRNGLASYFSDFESPCTIKKIKHAKTNS	2160
QBZ78367.1	2081	KICERAQVEKKTLLVIRDERPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPITHIKRVHAKTNS	2160
ARO69873.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
AN076471.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
ARO69849.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
ARO69889.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	2160
ARO69867.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKRVYAKTNS	2160
ARO69904.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKRVYAKTNS	2160
ARO69869.1	2081	KICELAQIEKKTLLVIRDRPYIGAWAVACIGESFSGFGLQSVLTYANLLGPNRRNGLASYFSDFESPCTCKVVKYAKTNS	

ARO69875.1 2081 KLCELAQIEKKTLIIRDDRPIGAWAVACICGESFGFLQSVLTLYANLLGPNRKNGLASYFSDFESPTCVKKVYAKTNS 2160
ARO69895.1 2081 KLCELAQIEKKTLIIRDDRPIGAWAVACICGESFGFLQSVLTLYANLLGPNRKNGLASYFSDFESPTCVKKVYAKTNS 2160
ARO69880.1 2081 KLCELAQIEKKTLIIRDDRPIGAWAVACICGESFGFLQSVLTLYANLLGPNRKNGLASYFSDFESPTCVKKVYAKTNS 2160
BCT87061.1 2081 NLCFQAQSEKKTLVIRDKRPIGAWAVACICGESFGFLQSVLALYANLMGPDQKNRLASYFSDFSSPIHIKKVYAAATNS 2160
QYU59225.1 2081 GLCQQALEKRTLIVIRDERPIGAWAVACICGDSFGFLQSVLALYANLLGPDKNGLAHYFTAFGSPTHIRKVFARTNC 2160
APD26306.1 2081 KLCHRAQLEKRTLIVIRDERPIGAWAVACICGESFGFLQSVLTLYANLLGPNQKNGLASYFSDFNPIHIKKIHAATNS 2160

NF_619689.1 2161 YEGGEALKEIFTFCETIFYEATEMDTRKVMQNQPDVYPSISLVGGVCFPNNEGGEFGAMYSETDVTMAREVQGVYVSEAC 2240
AWO68042.1 2161 YEGGEALKEIFTFCETIFYEATEMDTRKVMQNQPDVYPSISLVGGVCFPNNEGGEFGAMYSETDVTMARQVQGVYVSEAC 2240
QYU59223.1 2161 REGGEALKEIFTFCETTLYSATDMTRKVMIQNQPDIYPSISLVGGVCFPNNEGGEFGAMYSENDMLRAKQTPGVYVSEAC 2240
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AND76471.1 2241 LKCCRRRCVGVATKTVTKTTLFKNSSLLKAHLKTLRQIQNHSCPRK 2284
ARO69849.1 2241 LKCCRRRCVGVATKTVTKTTLFKNSSLLKAHLKTLRQIQNHSCCLRK 2284

ARO69889.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
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ARO69904.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
ARO69869.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69884.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
ARO69878.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69885.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
ARO69841.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
ARO69891.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69868.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69900.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
DAZ85706.1	2241	LKCCSRRCVGFAT	R	T	V	S	S	T	S	I	F	K	N	S	L	L	K	T	H	L	R	R	I	Q	A	H	S	C	S	R	K	2284									
ARO69899.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69898.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
AYA22297.1	2241	LKCCRCCLG	S	T	T	R	I	V	H	S	T	Q	Y	P	G	M	N	L	V	R	T	H	L	K	A	L	R	K	V	Q	T	H	S	C	S	R	K	2284			
QYU59222.1	2241	LKCCQRC	T	G	V	T	T	R	T	V	S	T	A	A	F	K	N	S	L	L	K	T	H	L	K	T	L	R	R	I	Q	A	H	S	C	P	R	K	2284		
ARO69845.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	Q	R	K	2284																	
AND76473.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
ARO69857.1	2241	LKCCRRRCVGVTA	KT	VT	TK	TT	LF	KN	S	LL	KA	HL	KT	LR	Q	I	Q	NH	S	C	P	R	K	2284																	
DAZ85708.1	2241	LKCCRCCLG	S	T	A	R	V	H	S	T	Q	Y	P	G	M	N	L	M	R	T	H	L	K	A	L	R	K	V	Q	N	H	S	C	S	R	K	2284				
ARO69881.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69893.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69897.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69872.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69843.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69886.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69864.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69876.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69888.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69853.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69903.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69865.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69902.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69861.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69850.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
QYU59227.1	2241	IKCCLRC	V	G	I	A	K	T	V	S	T	N	T	F	N	N	S	L	L	K	T	H	L	K	T	L	R	R	I	Q	T	H	S	C	S	R	K	2284			
AFM91094.1	2241	LKCCHRC	L	G	V	A	K	T	V	S	T	A	H	F	K	N	S	L	L	K	T	H	L	K	T	L	R	R	V	Q	A	H	S	C	P	R	K	2284			
ARO69883.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69879.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
AND76472.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69846.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69870.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69856.1	2241	LKCCPRCVG	F	T	A	K	T	V	S	N	T	A	T	F	G	S	N	L	L	K	T	H	L	R	T	L	R	R	V	E	N	H	S	C	S	R	K	2284			
ARO69847.1	2241	LKCCHRC	V	G	V	T	A	K	T	V	T	K	T	T	L	F	K	N	S	L	L	K	A	H	L	K	T	LR	Q	I	Q	NH	S	C	L	R	K	2284			
ARO69875.1	2241	LKCCHRC	V	G	V	T	A	K	T	V	T	K	T	T	L	F	K	N	S	L	L	K	A	H	L	K	T	LR	Q	I	Q	NH	S	C	L	R	K	2284			
ARO69895.1	2241	LKCCHRC	V	G	V	T	A	K	T	V	T	K	T	T	L	F	K	N	S	L	L	K	A	H	L	K	T	LR	Q	I	Q	NH	S	C	L	R	K	2284			
ARO69880.1	2241	LKCCHRC	V	G	V	T	A	K	T	V	T	K	T	T	L	F	K	N	S	L	L	K	A	H	L	K	T	LR	Q	I	Q	NH	S	C	L	R	K	2284			
BCT87061.1	2241	LKCCSR	C	V	G	V	S	T	K	T	V	V	N	T	Q	T	F	G	S	N	L	V	K	A	H	L	K	S	L	R	K	L	Q	N	H	T	C	L	R	K	2284
QYU59225.1	2241	LKCCPRCVG	T	T	K	V	V	C	N	T	R	L	F	G	T	N	L	L	K	T	H	L	K	A	L	R	I	Q	S	H	T	C	L	R	K	2284					
APD26306.1	2241	LKCC	L	R	C	F	G	V	T	K	T	V	S	T	H	T	F	G	S	T	F	L	K	T	H	L	K	T	L	R	R	L	Q	T	H	C	R	R	K	2284	

[illegible]

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ARo69923.1 1 MGKfYSSRRlACWAAgKNpHLGGSVEQWlAAIETDPSFRQTVKEDVQANRRERPDaIRMFsWKVGFGPID---NPDNC-- 75
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QYU59232.1 1 MGKfYSSRRlACWAAgKNpHLGGSVEQWlAAIDTDSFRQTVKEDVQVNRTRPEVVRIFsWKLGFGPID---NPERC-- 75
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ACZ58625.1 1 MGKfYSSRRlAAyCLGKdGR--GTyQQWLQcME--DPSFRKEVKEDVQHNRAEPSVIRVFERPLQGQGPVE---GSAGI-- 72
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QBZ78368.1 1 MGRfYSSRRlAAyCLGKdGR--GTyQQWLQcME--DPSFRKEVKEDVQNRNRAEPSVIRVFERPLQGQGPVE---GSAGI-- 72
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QYU59231.1 1 MGKfYSSRRlAAyCLGKdGR--GTyQQWLQcME--DLSFRKEVKEDVQLNRAEPSVIRIFeYpVGRGPVE---GPAGI-- 72
QYU59233.1 1 MGKfYSSRRlAVFAAQsRHLGGSVEQWlACVSGDSAFRAEVKARVQKDRSLERVVRMFsYpVGCGPTEcpITPGGI-- 78
APD26307.1 1 MGKfYSSRRlAVFAAQsRHLGGSVEQWlACVSGDSAFRAEVKARVQKDRSLERVVRMFsYpVGQGPTEcpITPGGI-- 78
QBZ78371.1 1 -----MFSYKIGSGPID---NPDML-- 17

NP_619706.1 76 -DWHFVLTGERPA----PSRPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSEFVRAIVERLTRLREESR 148
AWo68043.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSEFVRAIVERLTRLREESR 149
ADJ10937.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSGFVRAIVERLTRLREESR 149
ADJ10931.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSGFVRAIVERLTRLREESR 149
ADJ10938.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSGFVRAIVERLTRLREESR 149
QYU59229.1 76 -NWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPSPPPPPPYFRAGAFAPTRSGFIRATVERLTLREESR 149
ACZ58630.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVQPqKKV-VIPSPPPPPPYFRAGAFAPTRSGFIRATVERLTLREESR 149
QGP72535.1 76 -NWHFVLTGEEKPL-Q---PSQPVKADEVVVVQPqKKV-VIPTPPPPAPYFRAGAFAPTRSGFIRATVERLTLREESR 149
Q91HK5.1 76 -DWHFVLTGERPA-Q---PTRPVKADEVVVVQlKKV-VIPSPPPPPPYFRAGAFAPTRSGFIRATVERLSRREESR 149
ARo69912.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQsSKA-VIPSPPPPPPYFRAGAFAPTRSGFVRATVERLTLREESR 149
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ADJ10932.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPSPPPPPPYFRAGAFAPTRSGFIRATVERLTLREESR 149
ARo69925.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQsKKV-VIPSPPPPPPYFRAGAFAPTRSGFVRATVERLTLREESR 149
ARo69911.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQsSKA-VIPSPPPPPPYFRAGAFAPTRSGFVRATVERLTLREESR 149
ACZ58628.1 76 -NWHFVLTGERPA-Q---PSRPVKADEVVVVQPqKKV-VIPSPPPPPPYFRAGAFAPTRSGFIRATVERLTLREESR 149
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ARo69945.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQsSKA-VIPSPPPPPPYFRAGAFAPTRSGFVRATVERLTLREESR 149
ARo69930.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQsKKV-VIPSPPPPPPYFRAGAFAPTRSGFVRATVERLTLREESR 149

ABI63925.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
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ACZ58627.1 76 -NWHFVLTGERPA-Q---PSRPVKADEVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGYIRATVERLTREREESR 149
ARO69920.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ACZ58629.1 76 -DWHFVLTGERPA-Q---PSRPVKADEVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGYIRATVERLTREREESR 149
AGT42201.1 76 -DWHFVLTGERPA-Q---PRRPVKADEVVVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
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ARO69948.1 76 -DWHFVLTGERPA-Q---PTRPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
QYA72353.1 76 -DWHFVLTGERPT-Q---PTRPVKADEVVVVPQPEKV-VIPSPPPPPAVYFRAVGAFAPTRSGFIRATVKRLSQEREESR 149
ABI63917.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69941.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ABI63926.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-MIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
CDN67471.1 76 -DWHFVLTGERPV-Q---PTQPVKADEVVVVPQPKKV-MIPSPPPPTSYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ABI63920.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ABI63927.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-MIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69908.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69916.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69910.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
DAZ85720.1 76 -DWHFVLTGERLA-Q---PSRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRFGFIRATVERLTREREESR 149
AAAX18708.1 76 -DWHFVLTGKPKV-Q---PSRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
AYA22298.1 76 -DWHFVLTGKPKV-Q---PSRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ABI63939.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-MIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69926.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
QGP72537.1 76 -DWHFVLTGERPS-Q---PTRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTQEREESR 149
ARO69947.1 76 -DWHFVLTGERPA-Q---PTRPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ARO69921.1 76 -DWHFVLTGERPA-Q---PTRPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ARO69946.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
QGP72536.1 76 -NWHFVLTGERPL-Q---PSQPVKADEVVVVPQPKKV-VIPTPPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
QGP72538.1 76 -DWHFVLTGERPS-Q---PTRPVKADEVVVVPQPKKV-VIPSPPSLPAPYFRAVGAFAPTRSGFIRATVERLTQEREESR 149
ARO69913.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
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ABI63924.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69931.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
AWO67711.1 76 -NWDVLTGKRPQ-Q---PSEPVKAQEV-VVQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 148
ARO69943.1 76 -DWHFVLTGERPA-Q---PTRPVKADEVAVVPQSKKA-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ADJ10928.1 76 -NWHFVLTGERPA-Q---PSRPVKADEVVVVPQPKKV-VIPAPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ARO69939.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
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ABI63940.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-MIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
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ABI63919.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ADJ10934.1 76 -DWHFVLTGERPS-Q---PTEPVKAQEVVPPV--KV-VIPSPPPVLRPYFRPIGAFAPTRSGFIRATVERLTREREESR 147
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ARO69927.1 76 -DWHFVLTGERPA-Q---PARPVKADEVAVVPQSKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
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ABI63922.1 76 -DWHFVLTGERPT-Q---PSRPVKADEVVVVPQSKKV-TIPSPPPPTPYFRAVGAFAPTRSGFVRATVERLTREREESR 149
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QYU59230.1 76 -NWHFVLTGERPA-Q---PTQPVKADEVVVVPQPKKM-VIPSPPPPPASVYFRAVGAFAPTRSGFVRATVERLTREREESR 149
ARO69922.1 76 -NWHFVLTGERPA-Q---PTRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
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QYU59228.1 76 -DWHFVLTGERPS-Q---PAGPVKAQEVGGEVPPVKV-VIPSPPPFLRPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
AGN29358.1 76 -DWHFVLTGERPV-Q---PTRPVKADEVVVVPQPKKV-VIPTPPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
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CDN67470.1 76 -NWHFVLTGERGA-Q---PTEPVKAQEVVPPVKV---VIPSPPPPMPRSYFRPVGAFAPTRSGFIRATVERLTREREESR 146
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AAAX18710.1 76 -NWHFVLTGERPA-Q---PTRPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTQEREESR 149
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ABI63942.1 76 -DWHFVLTGERPQ-Q---PTEPVKAHEV-VVPQPKKV-VIPSPPPPTPYFRAVGAFAPTRSGFIRATVERLTREREESR 148
ADJ10939.1 76 -DWRVLTGKGPL-Q---PTQPVKADEVVVVPQPKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREREESR 149
ABI63928.1 76 -DWHFVLTGERPQ-Q---PTEPVKAHEV-VVPQPKKV-VIPSPPPPTPYFRAVGAFAPTRSGFIRATVERLTREREESR 148
CDN67476.1 76 -NWHFVLTGERPA-Q---PTEPVKAQEVVPPVKV---VIPSPPPPMPRSYFRPIGAFAPTRSGYIRATVERLTREREELR 146
ABI63933.1 76 -DWHFVLTGERPQ-Q---PTEPVKAHEV-VVPQPKKV-VIPSPPPPTPYFRAVGAFAPTRSGFIRATVERLTREREESR 148

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BCT87062.1 76 -DWRVVLVTGVTPT-R---PSQPVKADEVVVVPQKKV-VIPSPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREEREESR 148
AGN29364.1 76 -DWQFVLVTGKVS-R-Q---PTEPAKAQEVVVVPVVK---VIPSPPPMPRSYFRPIGAFAPTRSGFIRATVERLTREEREESR 146
QYU59234.1 76 -NWHFVLVTGERPV-Q---PTGLVVKREVEVPV--KV--IPSPPPVPRPYFRPIGAFAPTRSGFIRATVERLTREEREELR 146
CDN67475.1 76 -NWHFVLVTGERPT-Q---PTEPVKAQEVVVLPVR---VIPPPPPMPRPYFRPIGAFAPTRSGFIRATVERLTREEREELR 146
AGN29356.1 76 -NWHFVLVTGERPA-Q---PIEPVKAQEVVVVPVVK---VIPSPVPGPYFRPIGAFAPTRSGFIRATVERLTREEREESR 146
AGN29363.1 76 -DWQFVLVTGKVS-R-Q---PTEPAKAQEVVVVPVVK---VIPSPPPMPRSYFRPIGAFAPTRSGFIRATVERLTREEREESR 146
AFV73369.1 76 -DWQFVLVTGKVS-R-Q---PTGPAKAQEVVVVPQKV-EIPSPPPPPAPYFRPIGAFAPTRSGFIRATVERLTREEREESR 149
AFV34732.1 76 -DWQFVLVTGKVS-R-Q---PTGPAKAQEVVVVPV--KV--IPSPVPGPYFRPIGAFAPTRSGFIRATVERLTREEREESR 146
AFI43912.1 76 -DWRVVLVTGIPA--G---PSQPVKADEVVVVPQKKK-VIPPPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREEREESR 148
CDN67472.1 76 -NWHFVLVTGERPA-Q---PTGPAKAQEVVVVPV--KV--IPSPVPRPYFRPIGAFAPTRSGFIRATVERLTREEREESR 146
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AFI43911.1 76 -DWRVVLVTGIPA--G---PSQPVKADEVVVVPQKKK-VIPPPPPPPAPYFRAVGAFAPTRSGFIRATVERLTREEREESR 148
ADJ10940.1 76 -NWHFVLVTGERPE-Q---PIRPVKADEVVVVPQKKV-VIPSPPPPPAPYFRAAGAFAPTRSGFIRATVERLTREEREESR 149
DAZ85718.1 76 -DWHFVLVTGERPT-Q---PSRPAKVDEVVVVPQKKV-VIPSPSPPTPYFRAVGAFAPTRSGFIRATVERLTREEREESR 149
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ADJ10941.1 76 -DWHFVLVTGERPE-Q---PTRPVKADEVVVVPQKKV-VIPSPPPPPAPYFRAAGAFAPTRSGFIRATVERLTREEREESR 149
DAZ85719.1 76 -NWHFVLVTGERPT-Q---PSRPAKVDEVVVVPQKKV-VIPSPSPPTPYFRAVGAFAPTRSGFIRATVERLTREEREESR 149
ADJ10936.1 76 -NWHFVLVTGERPE-Q---PTRPVKADEVVVVPQKKV-VIPSPPPPPAPYFRTAGAFAPTRSGFIRATVERLTREEREESR 149
ABR09917.1 76 -DWHFVLVTGERPM-Q---PTEPVKAHEVVVPQKKV-VIPSPPPPTPYFRAVGAFAPTRSGFIRATVERLTREEREESR 149
CDN67473.1 79 -NWEFITGTGTTPT-SrvvPTEPVKAHEVVVAL-QPKKK-VVPPPPPPPLPYFRAVGAFAPTRSGFIRATVERLTREEREESR 154
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ACZ58625.1 73 -AWHFIVHGPSLG-L-vpSRPTKADEVVVVPQKKV-VIPSPPPVPYFRVIGAFAPTRSGFIRATVERLTREEREESR 148
ACZ58626.1 73 -AWHFIVHGPSLG-L-vpSRPTKADEVVVVPQKKV-VIPSPPPVPYFRVIGAFAPTRSGFIRATVERLTREEREESR 148
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AFI43914.1 78 iNWEFITGTGTTPT-SrvvPTEPVKAHEVVVPQPKKA-AIPSPPPPKPYFRAVGAFAPTRSGFIRATVERLTREEREESR 155
AFI43913.1 78 iNWEFITGTGTTPT-SrvvLTPVKAHEVVVPQPKKA-AIPSPPPPKPYFRAVGAFAPTRSGFIRATVERLTREEREESR 155
AFV34756.1 18 -DWQFVLVTGKVS-R---PPQPVKADEVVVVPH---VIPSPVPGPYFRPIGAFAPTRSGFIRATVERLTREEREESR 88
QYU59231.1 73 -AWHFIVHG--PALglvpPRPVKADEVVVVPQKKV-VIPPPPPPTPYFRAVGAFAPTRSGFIRATVERLTREEREESR 148
QYU59233.1 79 -NWEFITGTGTTPT-ShvAPTGPVKAHEVVVPQKKV-VIPSPSPPKPYRAIGAFAPTRSGFIRATVERLTREEREESR 155
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QYU59233.1	156	AAALFAELPLEYFQGAPLKLSLAMKFAMLKHTTWRKKYDTSDERLYGAHGGGCLPPP-PK-IQ-KP-PSFAERLHAAIG	231
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ADJ10937.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGKTTGGQTIQAQADPLQHRISTSVAPGRAQWISERRQALRRREQA	305
ADJ10931.1	226	MKSCAKAFALETSGLGNKAWVGLVDISSTSVCCADGKTTGGQTIQAQADPLQHRISTSVAPGRAQWISERRQALRRREQA	305
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ADJ10932.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGKTTGGQTIQAQADPLQHRISTSVAPGRAQWISERRQALRRREQA	305
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ARO69911.1	226	VKSCARAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTLAQEADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
ACZ58628.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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ABI63925.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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ACZ58627.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
ARO69920.1	226	VKSCARAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTLAQEADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
ACZ58629.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
AGT42201.1	226	MKSCAKAFSALETSGLGNRAVGSIDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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QYA72353.1	226	MKSCARAFALETSGLGNRAVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
ABI63917.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
ARO69941.1	226	IKSCARAFALETSGLGNRAVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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CDN67471.1	226	MKSCARAFALETSGLNGAWI GLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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ARO69913.1	226	IKSCSRAFALETSGLGNRAVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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ABI63924.1	226	MKSCAKAFALETSGLGNKAWVGLVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERRQALRRREQA	305
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ARO69711.1	225	MKSCARAFALETSGLGNMAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	304
ARO69943.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ADJ10928.1	226	MKSCARAFALETSGLGNKAWMVGVDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ABI63929.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVTSVAPGRAQWISERQALRRREQA	305
ABI63919.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVTSVAPGRAQWISERQALRRREQA	305
ADJ10934.1	224	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVTSVAPGRAQWISERQALRRREQA	303
ARO69937.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ABI63922.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ABI63936.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVTSVAPGRAQWISERQALRRREQA	305
ABI63918.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ABI63941.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVTSVAPGRAQWISERQALRRREQA	305
ARO69949.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ARO69917.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ABI63921.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ABI63923.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ARO69909.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
AAX18711.1	226	ARSCARAFAWETSGLGNRAWVGSIDIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ARO69936.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
AGN29357.1	226	MRSCARAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ARO69919.1	226	IKSCARAFALETSGLGNRAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
ADJ10929.1	226	VKSCARAFALETSGLGNKAWVGLVNIIPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	305
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ABI63942.1	225	MKSCARAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADPLQHRVSTSVAPGRAQWISERQALRRREQA	304
ADJ10939.1	226	MKSCAKAFALETSGLGNKAWVGLVDPSTSVCCADGRTTGGQTIQAQADSLQHRISTSVAPGRAQ	

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AFI43912.1	547	EARVEIIGGSSSRMVGPLQWENVEEPGHTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	626
CDN67472.1	548	EANVHIGGSSSRMVGPLQWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQEKRY	626
AGN29355.1	543	EARVEIIGGSSIRMGVPLQWESVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	622
AFI43911.1	547	EARVEIIGGSSSRMVGPLQWENVEEPGHTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	626
ADJ10940.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
DA285719.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ADJ10930.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ADJ10933.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ADJ10935.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ADJ10941.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
DA285719.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ADJ10936.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
ABR09917.1	546	EANVHIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	625
CDN67473.1	551	KARVEIIGGSSIRMGVPLQWESVEEPGHTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	630
YU59232.1	543	EANVTIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	622
AGN29362.1	543	EARVEIIGGSSIRMGVPLQWESVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	622
ACZ58625.1	545	DARVEIIGGSSSRMVGPLQWESVEEPGQIFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	624
ACZ58626.1	545	DARVEMGGSSSRMVGPLQWESVEEPGQIFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVHVPKDCQANRY	624
ACZ58624.1	545	DARVEIRGGSSSRMVGPLQWESVEEPGQIFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	624
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AFI43913.1	554	EACVEIIGGSSIRMGVPLQWESVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	633
AFV34756.1	485	EARVEIIGGSSIRMGVPLQWESVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	624
YU59231.1	545	EANVTIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	622
QYU59233.1	552	EANVTIGGSSSRMVGPLAWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	631
APD26307.1	554	EAHVEIIGGSSIRMGVPLQWESVEEPGGTFSIRSRSSVRIDRNVDSQDTPQLRSLSTVRLAGRGVVISIPKDCQANRY	633
QB278371.1	374	EAQVEIIGGSSIRMGVPLQWENVEEPGGTFSIRSRSSVRIDRNVDPQLEAEPRLSSTVRLAGRGVVYIPKDCQANRY	455

ABI63938.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63940.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63929.1	626	LGTLNMRDMISDFKGVQYKEKWITAGLVMP	705
ABI63919.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ADJ10934.1	624	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	703
ARO69937.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69928.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69927.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63934.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
ARO69935.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69940.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69933.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63922.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63936.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63931.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
QYU59230.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69922.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63941.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69949.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69917.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69915.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
QYU59228.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AGN29358.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AGN29344.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AGN29367.1	623	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	702
ABI63921.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63923.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
CDN67470.1	623	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	702
CDN67474.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AAI18710.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
QBZ78370.1	624	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	703
ARO69923.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69907.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69942.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69909.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AAI18711.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AGN29366.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
AGN29357.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ARO69919.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ADJ10929.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
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ABI63942.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
ADJ10939.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ABI63928.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
CDN67476.1	623	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	702
ABI63933.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
AAI18707.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
ACZ58631.1	624	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	703
AGN29359.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
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ABI63935.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704
AGN29360.1	627	LGTLNMRDMISDFKGVQYKEKWITAGLVMP	706
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CDN67472.1	623	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	702
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ADJ10935.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
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DAZ85719.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
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ABR09917.1	626	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	705
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ACZ58626.1	625	LGTLNIRDMISDFKGVQYKEKWITAGLVMP	704

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CDN67476.1 703 KLGTFSCEIDYGELCGHAMWFKSTTFESPRLHFTCLTGNKELAADWQAVVELYAELEEATSFLGKPTLVDPGVFNGKF 782
ABI63933.1 705 KLGTFSCIDYGELCGHAMWFKSTTFESPRLHFTCLTGNKELAADWQAVVELYAELEEATSFLGKPTLVDPGVFDGKF 784
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ABI63935.1 705 KLGTFSCEIDYGELCGHAMWFKSTTFESPRLHFTCLTGNKELAADWQAVVELYAELEEATSFLGKPTLVDPGVFDGKF 784
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QYU59232.1 703 KLGTFTEIDYGELCGHAMWFKSTTFESPRLHFTCLTGNKELAADWQAVVELYAELEEATSFLGKPTLVDPGVFNGKF 782
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APD26307.1	1114	TSFPV	1118
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