

Arf related subfamilies	Proteins and accession numbers
Arfs/Arl1	<p>6 members in <i>Hs</i>: Arf1, Arf3, Arf4, Arf5, Arf6, Arl1 - P32889, P16586, P18085, P26437, P26438, P40616</p> <p>4 members in <i>Dm</i>: Arf1, Arf2, Arf3 (probable Arf6 ortholog), Arl1 - P35676, P40945, P40946, P25160</p> <p>5 members in <i>Ce</i>: Arf1, Arf2*, Arf6, Arf7*, Arl1* - Q10943, O45099, Q9U2S4, Q94231, Q20758</p> <p>4 members in <i>Sc</i>: Arf1, Arf2, Arf3, Arl1 - P11076, P19146, P40994, P38116</p> <p>9 members in <i>At</i>: Arf1, Arf2, Arf3, Arf4, Arf5, Arf6, Arf7, Arf8, Arf9 - At3g62290, At2g47170, At1g23490, At1g70490, At1g10630, At5g14670, At5g17060, At3g03120, Atg15310</p>
Arl2/Arl3	<p>2 members in <i>Hs</i>: Arl2, Arl3 - P36404, P36405</p> <p>2 members in <i>Dm</i>: Arl2, Arl3* - Q06849, Q9VD64</p> <p>2 members in <i>Ce</i>: Arl2*, Arl3 - Q19705,</p> <p>1 member in <i>Sc</i>: CIN4 - P39110</p> <p>1 member in <i>At</i>: TITAN5 - At2g18390</p>
Arl4/Arl7	<p>5 members in <i>Hs</i>: Arl4, Arl7, Arl4L (previously reported as Arl6), [Arl4b*], [Arl4c*] - P40617, P56559, P49703, [XP_015936], [XP_166703]</p> <p>1 member in <i>Dm</i>: Arl4* - Q9V4B2 (probably an incomplete sequence)</p>
Arl5	<p>2 members in <i>Hs</i>: Arl5, Arl5like - Q9Y689, Q96KC2</p> <p>1 member in <i>Dm</i>: Arl5* - Q9VSG8</p> <p>1 member in <i>Ce</i>: Arl5* - P34212</p> <p>1 member in <i>At</i>: Arl5* - At3g22950</p>
Arl6	<p>1 member in <i>Hs</i>: Arl6 - Q9H0F7</p> <p>1 member in <i>Dm</i>: Arl6* - Q9V8V0</p> <p>1 member in <i>Ce</i>: Arl6* - Q18510</p>
ARP	<p>1 member in <i>Hs</i>: ARP - Q13795</p> <p>1 member in <i>Dm</i>: ARP* - Q95RP3</p> <p>1 member in <i>Ce</i>: ARP* - Q9N3C8</p> <p>1 member in <i>Sc</i>: Arl3 - Q02804</p> <p>1 member in <i>At</i>: ARP* - At5g52210</p>
Sar	<p>3 members in <i>Hs</i>: Sar1a, Sar1b, [Sar1c*] - Q9NR31, Q9Y6B6, [XP_068220]</p> <p>1 member in <i>Dm</i>: Sar1 - Q9VD29</p> <p>1 member in <i>Ce</i>: Sar1 - Q23445</p> <p>1 member in <i>Sc</i>: Sar1 - P20606</p> <p>4 members in <i>At</i>: Sar1a, Sar1b, Sar1b'*, Sar1c* - At4g02080, At1g56330, At1g09180, At3g62560</p>
Arl8	<p>2 members in <i>Hs</i>: Arl8a*, Arl8b* - Q9NVJ2, Q96BM9</p> <p>1 member in <i>Dm</i>: Arl8* - Q9VHV5</p> <p>1 member in <i>Ce</i>: Arl8* - O18237</p> <p>3 members in <i>At</i>: Arl8a*, Arl8b*, Arl8c* - At3g49870, At5g67560, At5g37680</p>

Table 3. A detailed list of members of each Arf-related subfamily. Sequences labelled with * are presently unnamed. SWISS-PROT/TrEMBL accession numbers are provided, except *Arabidopsis thaliana* for which gene accession numbers are listed. Sequences in brackets (NCBI accession number provided) may have errors.

Figure 4 : Interspecies sequence alignment of Arf family proteins from mammals, *A. thaliana*, *C. elegans*, *D. melanogaster* and *S. cerevisiae*.

HsArf6 1 ----MGK-----VLSKIFGNK-EMRILMLGLDAAGKTTILYKCLKG--QSVT-----TIPTVGFNVT-----VTYKNVKNFVWVWVGGQDKIRPLWRHYTGT
RnArf6 1 ----MGK-----VLSKIFGNK-EMRILMLGLDAAGKTTILYKCLKG--QSVT-----TIPTVGFNVT-----VTYKNVKNFVWVWVGGQDKIRPLWRHYTGT
DmArf3 1 ----MGK-----LSSKIFGNK-EMRILMLGLDAAGKTTILYKCLKG--QSVT-----TIPTVGFNVT-----VTYKNVKNFVWVWVGGQDKIRPLWRHYTGT
CeArf6 1 ----MGK-----FLSKIFGKK-ELRILMLGLDAAGKTTILYKCLKG--QSVT-----TIPTVGFNVT-----VTYKNVKNFVWVWVGGQDKIRPLWRHYTGT
ScArf3 1 --MGNSISK-----VLGKLFSGK-EMKILMLGLDAGKTTILYKCLKN--KIKT-----STPTVGFNVT-----VTYKNVKNFVWVWVGGQDKIRPLWRHYFPAT
HsArf4 1 --MGLTISS-----LFSRLFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
RnArf4 1 --MGLTISS-----LFSRLFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
HsArf5 1 --MGLTVSA-----LFSRIFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
RnArf5 1 --MGLTVSA-----LFSRIFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
DmArf2 1 --MGLTISS-----LFSRLFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
CeArf2 1 --MGLTISS-----LFSRLFGKK-QMRILMVGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNICFTVWVWVGGQDKIRPLWRHYFQNT
DmArf1 1 --MGNVFAN-----LFGKLFGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
CeArf1 1 --MGNVFAN-----LFGKLFGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
HsArf1 1 --MGNIFAN-----LFGKLFGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
RnArf1 1 --MGNIFAN-----LFGKLFGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
HsArf3 1 --MGNIFGN-----LLKSLIGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
RnArf3 1 --MGNIFGN-----LLKSLIGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
RnArf2 1 --MGNVFEK-----LFSKLFGKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf3 1 --MGLSFAK-----LFSRLFAKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf4 1 --MGLSFAK-----LFSRLFAKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf2 1 --MGLSFGK-----LFSRLFAKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf5 1 --MGLSFAK-----LFSRLFAKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf1 1 --MGLSFGK-----LFSKLFPAK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf6 1 --MGLNFTK-----LFSRLFAKK-EMRILMLGLDAAGKTTILYKCLKG--EIVT-----TIPTIGFNVT-----VEYKNISFTVWVWVGGQDKIRPLWRHYFQNT
ScArf1 1 --MGLFASK-----LFSNLFGNK-EMRILMLGLDAGKTTVLYKCLKG--EIVT-----TIPTIGFNVT-----VQYKNISFTVWVWVGGQDKIRPLWRHYFQNT
ScArf2 1 --MGLYASK-----LFSNLFGNK-EMRILMLGLDAGKTTVLYKCLKG--EIVT-----TIPTIGFNVT-----VQYKNISFTVWVWVGGQDKIRPLWRHYFQNT
AtArf9 1 --MGARFSR-----IAKRLPKS-KVRILMLGLDGSAGKTTILYKCLKG--EIVT-----TVPTIGFNLET-----VEYKINFTVWVWVGGQDKIRPLWRHYFQNA
CeArf7 1 --MGLFFSK-----ISSFMFNI-ECRTLMLGLDAGKTTILYKCLKN--EIVT-----TIPTIGFNVT-----VTFOKITLVWVWVGGQDKIRALWKYFPNT
AtArf7 1 --MGQAFRK-----LFDTFFGNQ-EMRVVMLGLDAAGKTTILYKHLIG--EVLV-----TVPTIGFNVEK-----VQYKNVMTVWVWVGGQDKIRPLWRHYFQNT
AtArf8 1 --MGQTFRK-----LFDTFFGNQ-EMRVVMLGLDAAGKTTILYKHLIG--EVLV-----TVPTIGFNVEK-----VQYKNVMTVWVWVGGQDKIRPLWRHYFQNT
DmArf11 1 --MGGVLS-----YFRGLLSR-EMRILMLGLDAGKTTILYKLVQV--EIVT-----TIPTIGFNVEQ-----VTYKNLKFQVWVWVGGQTSIRPYWRCYYSNT
CeArf11 1 --MGGVMS-----YFRGLFGAR-EMRILMLGLDAGKTTILYKLVQV--EIVT-----TIPTIGFNVEQ-----VEYKNLKFQVWVWVGGQTSIRPYWRCYYSNT
HsArf11 1 --MGGFSS-----IFSSLGTR-EMRILMLGLDAGKTTILYKLVQV--EIVT-----TIPTIGFNVT-----VTYKNLKFQVWVWVGGQTSIRPYWRCYYSNT
RnArf11 1 --MGGFSS-----IFSSLGTR-EMRILMLGLDAGKTTILYKLVQV--EIVT-----TIPTIGFNVT-----VTYKNLKFQVWVWVGGQTSIRPYWRCYYSNT
ScArf11 1 --MGNIFSS-----MFDKLGWSNKEIRLILGLDAGKTTILYKLVQV--EIVT-----TKPTIGFNVT-----LSYKNLKLNVWVWVGGQTSIRPYWRCYYSNT
HsArf12 1 --MGLLT-----LKKMKQK-ERELRLLMLGLDAGKTTILKKFNEDIDT-----ISPTLGFNIKT-----LEHRG-FKLNLDVWVWVGGQKLSRSYWRNYFEST
RnArf12 1 --MGLLT-----LKKMKQK-ERDVRLLMLGLDAGKTTILKKFNEDIDT-----ISPTLGFNIKT-----LEHRG-FKLNLDVWVWVGGQKLSRSYWRNYFEST
DmArf12 1 --MGFLT-----VLKMKRQK-EREMRILMLGLDAGKTTILKKFNEDIDT-----ISPTLGFNIKT-----LEHRG-FKLNLDVWVWVGGQKLSRSYWRNYFEST
CeArf12 1 --MGFLK-----LIRKQAR-EREMRILMLGLDAGKTTILMKKFLDEPTDT-----IEPTLGFDIKT-----VHFKD-FQNLNVWVWVGGQKLSRSYWRNYFEST
AtTITAN5 1 --MGLLS-----LIRKIKK-EEKMRILMLGLDAGKTTIVLKLNGEDTSV-----ISPTLGFNIKT-----LIIYQK-YLNLNVWVWVGGQKLSRSYWRNYFEST
HsArf13 1 --MGLLS-----LIRKLSAPDQEVIRILLGLDAGKTTILKQLASEDISH-----ITPTQGFNIKS-----VQSQG-FKLNVDWVWVGGQKLSRSYWRNYFEST
RnArf13 1 --MGLLS-----LIRKLSAPDQEVIRILLGLDAGKTTILKQLASEDISH-----ITPTQGFNIKS-----VQSQG-FKLNVDWVWVGGQKLSRSYWRNYFEST
DmArf13 1 --MGLLS-----LIRKLRNPEKEARILLGLDAGKTTILKQLASEDIT-----VPTTAGFNIKS-----VAADG-FKLNVDWVWVGGQKLSRSYWRNYFEST
CeArf13 1 --MGLID-----VLKSKFSPGRIIRILLGLDAGKTTILKQLASEDQV-----VTPTKGFNVKT-----VAAMGDRLNVWVWVGGQKLSRSYWRNYFEST
ScCIN4 1 --MGLLS-----LIRKQAR-DEIRCLLMLGLDAGKTTILYKLVQV--EIVT-----IMPTVGFQIHS-----LMIKD-VTISLWVWVWVGGQKLSRSYWRNYFEST
HsArf14 1 --MGNGLSDQT-----SILSNLPSFQSFHIVILGLDAGKTTVLYRQLFN--EIVT-----TVPTKGFNTEK-----IKVTLGNSKTIVTFHFVWVWVGGQKLSRSYWRNYFEST
RnArf14 1 --MGNGLSDQT-----SILSNLPSFQSFHIVILGLDAGKTTVLYRQLFN--EIVT-----TVPTKGFNTEK-----IKVTLGNSKTIVTFHFVWVWVGGQKLSRSYWRNYFEST
[HsArf14b] 1 --MGNGLSDQT-----SILSNLPSFQSFHIVILGLDAGKTTVLYRQLFN--EIVT-----TVPTKGFNTEK-----IKVTLGNSKTIVTFHFVWVWVGGQKLSRSYWRNYFEST
[HsArf14c] 1 --MGNGLSDQT-----SILSNLPSFQSFHIVMLGLDAGKTTVLYRQLFN--EIVT-----TVPTKAFNTEK-----IKVTLGNSKTIVTFHFVWVWVGGQKLSRSYWRNYFEST
HsArf17 1 --MGN-----ISSNISAFQSLHIVMLGLDAGKTTVLYRQLFN--EIVT-----TVPTIGFNTEK-----IKLSNGTAGKISCHFVWVWVGGQKLSRSYWRNYFEST
HsArf4L 1 --MGNHLTEMA-----PTASSLPHFQALHVVMLGLDAGKTTSLYRKLFF--EFVQ-----SVPTKGFNTEK-----IRVPLGGSRTIFVWVWVGGQKLSRSYWRNYFEST
DmArf14 1 --MGLDLSAGKTTALYRKLFD--QYLN-----TVPTIGFNCEKVCVQCTLGKAGVHFLVWVWVGGQKLSRSYWRNYFEST
HsArf15 1 --MGLIFTR-----IWR-LFNHQ-EHKVIVGLDAGKTTILYQFSMN--EIVT-----TSPTIGSNVEE-----IVNNTFRFLMWDIGGQKLSRSYWRNYFEST
RnArf15 1 --MGLIFTR-----IWR-LFNHQ-EHKVIVGLDAGKTTILYQFSMN--EIVT-----TSPTIGSNVEE-----IVNNTFRFLMWDIGGQKLSRSYWRNYFEST
HsArf15like 1 --MGLIFAK-----LWS-LFCNQ-EHKVIVGLDAGKTTILYQFLMN--EIVT-----TSPTIGSNVEE-----IVNNTFRFLMWDIGGQKLSRSYWRNYFEST
DmArf15 1 --MGLLSR-----LWR-MFNE-EHKLVMVGLDAGKTTILYQFLMN--EIVT-----TSPTIGSNVEE-----IVNNTFRFLMWDIGGQKLSRSYWRNYFEST
AtArf15 1 --MGAFMSR-----FWMFPAP-EYKIVVGLDAGKTTILYRHLHG--EIVT-----THPTVGSNVEE-----LVYKNIRFVWVWVGGQKLSRSYWRNYFEST
CeArf15 1 --MGLIMAK-----LFSQWIGK-KYKIVVGLDAGKTTILYNYVTK--DQVE-----TKPTIGSNVEE-----VSYNLDVFLWVWVGGQKLSRSYWRNYFEST
DmArf16 1 --MGLMLN-----LADLIKIKKDKMTLIVLGLNNSGKSSIIINHFKSSQTSI-----VVPTVGMVEQFYIG-----M-SGVSIKADMSGATRYNRLWEHQYKNT
HsArf16 1 --MGLLDR-----LSVLLGLKKVEHVLCGLDNSGKTTIINKLKPSNAQSQN-----LPTLTIQFSIEKFS-----SSLSTVFDMSGQGRYRNLWEHQYKNT
CeArf16 1 --MGFFSS-----LSSLFLGKDDVNIIVVGLDAGKTTILNQKLPETRSQ-----IVPTVGHVVTNEST-----QNLSFHAEDMAGQMKYRSTWESYFSS
HsARP 1 --MYTLLSG-----LYKYMFKD-EYCILMLGLDAGKTTFLQSKTRFNKNGMSLSKITTTVGLNIGTVDV-----KARLMFVWVWVGGQKLSRSYWRNYFEST
RnARP 1 --MYTLLSG-----LYKYMFKD-EYCILMLGLDAGKTTFLQSKTRFNKNGMSLSKITTTVGLNIGTVDV-----KARLMFVWVWVGGQKLSRSYWRNYFEST
DmARP 1 --MYTLMHG-----FYKYMFKD-DYCVVILGLDAGKTTYLEAATFTFRNYKGLNPSKITTTVGLNIGTVDV-----GVLNLDVWVWVGGQKLSRSYWRNYFEST
ScArf13 1 --MFHLVKG-----LYNNWNKKE-QYSILMLGLDAGKTTFLRLKKEYSLAF--ALEKIQPTVQNVATI PVDS-----QILKLFVWVWVGGQKLSRSYWRNYFEST
CeARP 1 --MYTLLSAG-----IWEKFFKK-DYVVIVGLDAGKTTFLQSKTSHFVKDGVLPNSKITATVGLNTGNVELN-----NTCLHFVWVWVGGQKLSRSYWRNYFEST
AtARP 1 --MFLMSG-----LWSYMFSKT-EFNVLLILGLDAGKTTFLKLEKLTYSISEG-LPHDRIVPTVGLNIGRIEVS-----NAKIVFVWVWVGGQKLSRSYWRNYFEST
DmSar1 1 --MFLWDFY-G-----VLGLGLLWKKSGKLLFLGLDAGKTTLLHMLKDD--RLAQ-----HVPTLHPTSEE-----LTIAGMTFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
CeSar1 1 --MFLWDFN-G-----VLNMLGLANKKGLVFLGLDAGKTTLLHMLKDD--RLAQ-----HVPTLHPTSEE-----LTIAGMTFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
HsSar1a 1 --MSFIFEWIYNGFSSVQLQFLGLYKKSGLVFLGLDAGKTTLLHMLKDD--RLGQ-----HVPTLHPTSEE-----LTIAGMTFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
HsSar1b 1 --MSFIFDWIYSGFSSVQLQFLGLYKKSGLVFLGLDAGKTTLLHMLKDD--RLGQ-----HVPTLHPTSEE-----LTIAGMTFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
[HsSar1c] 1 --MSFIFEWIYNGFSSVQPQFLGLNKKSGKLLFLGLDAGKTTLLHMLKDD--RLGQ-----HIPTLHLSKE-----LTIAGMTFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
AtSar1a 1 --MFLWDFY-G-----VLASLGLWQKRAKILFLGLDAGKTTLLHMLKDD--RLVQ-----HQPQHTPSEE-----LSIGIKFKAFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
AtSar1c 1 --MFLWDFY-G-----VLATLGLWQKRAKILFLGLDAGKTTLLHMLKDD--RLVQ-----HQPQHTPSEE-----LSIGIKFKAFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
AtSar1b 1 --MFLWDFY-G-----VLASLGLWQKRAKILFLGLDAGKTTLLHMLKDD--RLVQ-----HQPQHTPSEE-----LSIGIKFKAFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
AtSar1b' 1 --MFLWDFY-G-----VLASLGLWQKRAKILFLGLDAGKTTLLHMLKDD--RLVQ-----HQPQHTPSEE-----LSIGIKFKAFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
ScSar1 1 MAGDWIFGWR-----DVLASLGLWQKRAKILFLGLDAGKTTLLHMLKDD--RLAT-----LQPTWHPTSEE-----LSIGIKFTFDLGGHQARVWVWVGGQKLSRSYWRNYFEST
HsArf18a 1 --MIALFNKLLD-----WPKALFWKEEMELTLVGLQYSGKTTFVNVIASG--QFND-----MIPVGFNMRK-----ITKGNVTIKLWDIGGQKLSRSYWRNYFEST
HsArf18b 1 --MLALISRLD-----WFRSLFWKEEMELTLVGLQYSGKTTFVNVIASG--QFSD-----MIPVGFNMRK-----VTKGNVTIKLWDIGGQKLSRSYWRNYFEST
DmArf18 1 --MLALINRLE-----WFKSIFWKEEMELTLVGLQYSGKTTFVNVIASG--QFAED-----MIPVGFNMRK-----ITRGNVTIKLWDIGGQKLSRSYWRNYFEST
CeArf18 1 --MLAMVNVLD-----WIRSLFWKEEMELTLVGLQYSGKTTFVNVIASG--QFTE-----MIPVGFNMRK-----ITKGNVTIKLWDIGGQKLSRSYWRNYFEST
AtArf18a 1 --MGLLEAFLN-----WLRSLFFKQEMELSLIQLDAGKTTSLVNVVATG--GYSED-----MIPVGFNMRK-----VTKGNVTIKLWDIGGQKLSRSYWRNYFEST
AtArf18b 1 --MGLWDAFLN-----WLRSLFFKQEMELSLIQLDAGKTTSLVNVVATG--GYSED-----MIPVGFNMRK-----VTKGNVTIKLWDIGGQKLSRSYWRNYFEST
AtArf18c 1 --MGLWDSLNN-----WLRSLFFKQEMELSLVGLDAGKTTSLVNVVATG--GYSED-----MIPVGFNMRK-----VTKGNVTIKLWDIGGQKLSRSYWRNYFEST

HsArf6 82 QGLIFVVDCAADDRIDEARQELHRIINDREMRD---AIIILIFANKQDLPDAMKPHE----IQEKLGLTR-----IRDRNWYVQPSCATS GDGLYEGLTWLT S
RnArf6 82 QGLIFVVDCAADDRIDEARQELHRIINDREMRD---AIIILIFANKQDLPDAMKPHE----IQEKLGLTR-----IRDRNWYVQPSCATS GDGLYEGLTWLT S
DmArf3 82 QGLIFVVDCAADDRIDEARTELEHRIINDREMRD---AIIILIFANKQDLPDAMKPHE----IQEKLGLTR-----IRDRNWYVQPSCATS GDGLSEGLTWLT S
CeArf6 82 QALIFVMDAADRRVDEARMELEHRIINDREMRKE---AIIILVFNKQDLADAMKPHE----IQDKLGLTR-----IRDRNWYVQPSCATS GDGLHGLTWL S Q
ScArf3 85 TALIFVVIDSSARNRMEAEKEELYSIIGEKEMEN---VVLLVFNKQDLKDKAMKQPE----VSDFLLELEK-----N-LKNQPWCVIGSNALS GDGLYEGLSWIS N
HsArf4 86 QGLIFVVDSDNDRERIQEVADELQKMLLVDELDRD---AVLLVFNKQDLPNAMAISE---MTDKLGLQS-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnArf4 86 QGLIFVVDSDNDRERIQEVADELQKMLLVDELDRD---AVLLVFNKQDLPNAMAISE---MTDKLGLQS-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsArf5 86 QGLIFVVDSDNDRERVQESADELQKMLQDEDELDRD---AVLLVFNKQDMPNAMPVSE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS H
RnArf5 86 QGLIFVVDSDNDRERVQESADELQKMLQDEDELDRD---AVLLVFNKQDMPNAMPVSE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS H
DmArf2 86 QGLIFVVDSDNDRERITEAERELQNMQLQDEDELDRD---AVLLVFNKQDLPNAMAIAE---MTDKLGLQS-----LRNRTWYVQATCATQGTGLYEGLDWLS A
CeArf2 86 QGLIFVVDSDNDRERIEESREELHKLMLNEDELDRD---ATLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
DmArf1 86 QGLIFVVDSDNDRERIEGEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
CeArf1 86 QGLIFVVDSDNDRERVGEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsArf1 86 QGLIFVVDSDNDRERVGEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnArf1 86 QGLIFVVDSDNDRERVNEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsArf3 86 QGLIFVVDSDNDRERVNEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnArf3 86 QGLIFVVDSDNDRERVNEAREELMRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnArf2 86 QGLIFVVDSDNDRERVNEAREELTRMLAEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf3 86 QGLIFVVDSDNDRERVVEARDELHRLMLNEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf4 86 QGLIFVVDSDNDRERVVEARDELHRLMLNEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf2 86 QGLIFVVDSDNDRRVVEARDELHRLMLNEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf5 86 QGLIFVVDSDNDRRVVEARDELHRLMLNEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf6 86 QGLIFVVDSDNDRRVVEARDELHRLMLNEDELDRD---AVLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
ScArf1 85 EGVIFVVDSDNDRSRIGEAREVMQRMLNEDELDRN---AAWLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
ScArf2 85 EGVIFVVDSDNDRSRIGEAREVMQRMLNEDELDRN---AAWLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtArf9 86 QGLIFVVDSDNDRSRIEAKQEFQDIIKDPFMLN---SIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
CeArf7 86 TTLVVDSDNDRSRIEAKQEFQDIIKDPFMLN---SIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
AtArf7 86 DGLIYVVDSDNDRSRIEAKQEFQDIIKDPFMLN---SIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
AtArf8 86 DGLIYVVDSDNDRSRIEAKQEFQDIIKDPFMLN---SIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
DmAr11 85 DAIYVVDSDADRDRIGISKDELLEMLREEELAG---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
CeAr11 85 DAIYVVDSDADRDRIGISKDELLEMLREEELAG---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
HsAr11 86 DAVIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
RnAr11 86 DAVIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
ScAr11 86 AAVIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
HsAr12 85 DGLIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
RnAr12 85 DGLIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
DmAr12 85 DGLIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
CeAr12 85 DGLIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
AtTITAN5 85 DGLIYVVDSDADRDRIGISKSELVAMLEEEELRK---AIIILVFNKQDMPNAMPVSE---VCEGLGLFD-----LKNRKHIIQGTCLARGGDGLYEGLDWLS S
HsAr13 86 DILYIYVDSADRKRFEETGQELAELEEEELKSC---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnAr13 86 DILYIYVDSADRKRFEETGQELAELEEEELKSC---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
DmAr13 86 DVLIIYVIDCDTRRLPEAGSELFEMLMNRLKQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
CeAr13 87 DTLIYVIDSDNDRKRFDEMNIELGELLDEEELKSC---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
ScCIN4 88 QAMIVCIDVSLSMRFBETLQELKELINRDNENRIGYCAVIVLNNKIDIVEPKSELHRRCLLVESELKCLF-----K-P-DIRWELVQCSAVTGENLLPGIDWLLD
HsAr14 94 DGIVFVVDSDVDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnAr14 94 DGIVFVVDSDVDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
[HsAr14b] 94 DGIVFVVDSDVDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
[HsAr14c] 94 DGIVFVVDSDVDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsAr17 87 DGIYVVDSDVDRLEEAATELHKVTKFAENQ---TPLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnAr14 95 DGIYVVDSDVDRLEEAATELHKVTKFAENQ---TPLLVFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
DmAr14 72 DGLIFVVDSDVDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsAr15 85 EFVIVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
RnAr15 85 EFVIVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
HsAr15like 85 EFVIVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
DmAr15 85 ELVIMVIDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
AtAr15 86 HAVIVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
CeAr15 86 DVVIVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
DmAr16 90 HGIVFVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
HsAr16 86 QAIIFVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
CeAr16 89 QGVIFVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
HsARP 84 HGIVYVIDSDDEERLAEKQAFKVVVTEALCG---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
RnARP 94 HGIVYVIDSDDEERLAEKQAFKVVVTEALCG---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
DmARP 94 HGIVYVIDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
ScAr13 93 HGIVYVIDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
CeARP 94 NAMIFVVDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
AtARP 93 HALIYVIDSDDRERISVTRRELYKMLAHEDLRK---AGLLIFANKQDVPKCEMTVAE---ISQFLKLT-----I-K-DHQWHIQACCALTEGGLQGLEWMM S
DmSar1 89 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
CeSar1 90 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsSar1a 94 NGIVFLVDCAHDHRLVESKVELNLMDETISTN---MPILILGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
HsSar1b 94 NGIVFLVDCAHDHRLVESKVELNLMDETISTN---MPILILGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
[HsSar1c] 94 NGIVFLVDCAHDHRLVESKVELNLMDETISTN---MPILILGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
AtSar1a 89 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtSar1c 89 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtSar1b 89 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
AtSar1b' 89 DAVVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
ScSar1 92 NGIVFLVDADDERMEEAKTELHKITRISENQ---VPVLIYFNKQDLPNAMAIAE---LTDKLGLOH-----LRNRTWYVQATCATQGTGLYEGLDWLS N
HsAr18a 90 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
HsAr18b 90 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
DmAr18 90 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
CeAr18 90 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
AtAr18a 89 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
AtAr18b 89 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----
AtAr18c 89 SAIVYVMDAADQEKIEASKNELHNLDPKQLQ---IPVILVGNKIDRPTDIAEAK---LGEIFGLYQGTGKGNVTLKQLNVRPAEFTCSVLQRQTYREGF----

HsArf6	172	NYKS-----
RnArf6	172	NYKS-----
DmArf3	172	NHKL-----
CeArf6	172	NCKP-----
ScArf3	176	NTNVPKK-----
HsArf4	176	ELSKR-----
RnArf4	176	ELSKR-----
HsArf5	176	ELSKR-----
RnArf5	176	ELSKR-----
DmArf2	176	ELAKK-----
CeArf2	176	QLSKT-----
DmArf1	176	QLKNANR-----
CeArf1	176	QLKNRS-----
HsArf1	176	QLRNQK-----
RnArf1	176	QLRNQK-----
HsArf3	176	QLKNKK-----
RnArf3	176	QLKNKK-----
RnArf2	176	QLKNQK-----
AtArf3	176	NIAGVNVYHKQQF-----
AtArf4	176	NIAGKA-----
AtArf2	176	NIASKA-----
AtArf5	176	NIASKVRLLS-----
AtArf1	176	NIANKA-----
AtArf6	176	NIATKVNNLNIPF-----
ScArf1	175	SLKNST-----
ScArf2	175	NLKNQS-----
AtArf9	176	TI PNKPERSTSVSSFRSDSYERKLVGPRY-----
CeArf7	176	QMKT-----
AtArf7	176	TLKDVKAAGFTSVGHSF-----
AtArf8	176	TLKEVKAAGYSSVGPSPF-----
DmAr11	175	TLQSRK-----
CeAr11	175	QLQQKK-----
HsAr11	176	TLKSRQ-----
RnAr11	176	TLKSRQ-----
ScAr11	177	VIKEEQL-----
HsAr12	175	DISSRIFTAD-----
RnAr12	175	DISSRVFTAD-----
DmAr12	175	DIKRIFITLD-----
CeAr12	175	DVGSRLFILD-----
AtTITAN5	176	DIASRIYMLD-----
HsAr13	176	NVNAKKK-----
RnAr13	176	NVNAKKK-----
DmAr13	176	NMKK-----
CeAr13	177	NLKPASKK-----
ScCIN4	186	SCHFTQ-----
HsAr14	185	MI IKRRK-----MLRQQKKKR-----
RnAr14	185	MI IKRRK-----MLRQQKKKR-----
[HsAr14b]	185	MI IKRRK-----MLRQQKKKDEYQYLLYLCGVGFLWSDFDK-----
[HsAr14c]	185	MI KEKMNINTYYICVEEVFSGLILTNKGKSTAWFACLPWMLLKLCIVQ-----
HsAr17	178	MILKRRK-----SLKQKKKR-----
HsAr4L	186	MILKRRK-----AARGGKKRR-----
DmAr14	-----	-----
HsAr15	175	RLKIR-----
RnAr15	175	RLKIR-----
HsAr15like	175	RIGVR-----
DmAr15	175	RIKKN-----
AtAr15	176	KVTGKATS-----
CeAr15	177	NL-----
DmAr16	182	OMRFAMLNKNNAKSRSKHSK-----
HsAr16	180	QIQTVKT-----
CeAr16	181	ETKYMESRRT-----
HsARP	186	CVVRN-VHRPPRQDIT-----
RnARP	186	CVVRN-VHRPPRQDIT-----
DmARP	186	AIKRHAVVRPPREND-----
ScAr13	185	RLERNKKSRRPIYK-----
CeARP	183	SLASQPLYL-----
AtARP	183	VMEKSKRTESLRARAGYTPVPNS-----
DmSar1	191	YID-----
CeSar1	192	YL-----
HsSar1a	196	YID-----
HsSar1b	196	YID-----
[HsSar1c]	-----	-----
AtSar1a	191	YIK-----
AtSar1c	191	YID-----
AtSar1b	191	YIN-----
AtSar1b'	191	YIK-----
ScSar1	189	YI-----
HsAr18a	180	HSKSRRS-----
HsAr18b	180	HSKSRRS-----
DmAr18	180	HSKSQSR-----
CeAr18	180	HSKAQR-----
AtAr18a	179	HSKSKN-----
AtAr18b	179	HSKSSN-----
AtAr18c	179	HSRTAT-----