

Compilation of small RNA sequences

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This is an update containing small RNA sequences published during 1991. Approximately two hundred small RNA sequences are available in this and earlier compilations. The hard copy print out of this set will be available directly from us (inquiries should be addressed to R. Reddy). These files are also available on GenBank computer. Sequences from various sources covered in earlier compilations (see Reddy, R. *Nucl. Acids Res.* 16:r71; Reddy, R. and Gupta, S. *Nucl. Acids Res.* 1990 Supplement, 18:2231 and 1991 Supplement, 19:2073) are not included in this update but are listed below. Supported by GM-38320.

U1 RNA: Human; Mouse; Rat; Chicken; Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Nematode (*Caenorhabditis elegans*); Slime mold (*Physarum polycephalum*); Bean (*Phaseolus vulgaris*); Soybean (*Glycine max*); Yeast (*Saccharomyces cerevisiae*; *Schizosaccharomyces pombe*); Tomato (*Lycopersicon esculentum*); Algae (*Chlorella saccharophila*).

U2 RNA: Human; Baboon (*Papio hamadryas*); Mouse; Rat; Chicken; Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Nematode (*Caenorhabditis elegans*); Slime mold (*Physarum polycephalum*); Amoeba (*Dictyostelium discoideum*); Trypanosome (*Trypanosome brucei*); Yeast (*Saccharomyces cerevisiae*; *Schizosaccharomyces pombe*); Broad bean (*Vicia faba*); maize (*Zea mays*); Pea (*Pisum sativum*); Crucifer (*Arabidopsis thaliana*).

U3 RNA: Human; Mouse; Rat; Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Amoeba (*Dictyostelium discoideum*); Yeast (*Saccharomyces cerevisiae*; *Schizosaccharomyces pombe*).

U4 RNA: Human; Mouse; Rat; Chicken; Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Slime mold (*Physarum polycephalum*); yeast (*Saccharomyces cerevisiae*); Nematode (*Caenorhabditis elegans*); Trypanosome (*Trypanosome brucei*); Broad bean (*Vicia faba*).

U5 RNA: Human; Mouse; Rat; Chicken; Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Nematode (*Caenorhabditis elegans*); Dinoflagellates (*Cryptocodium cohnii*); Amoeba

(*Tetrahymena*); Pea (*Pisum sativum*); yeast (*Saccharomyces cerevisiae*); Yeast (*Schizosaccharomyces pombe*); Crucifer (*Arabidopsis thaliana*).

U6 RNA: Human; Mouse; Rat; Frog (*Xenopus borealis*); Fruit fly (*Drosophila melanogaster*); Nematode (*Caenorhabditis elegans*); Slime mold (*Physarum micoplasmodia*); Trypanosome (*Trypanosome brucei*); yeast (*Saccharomyces cerevisiae*); Yeast (*Schizosaccharomyces pombe*); Broad bean (*Vicia faba*); Tomato (*Lycopersicon esculentum*); maize (*Zea mays*); Crucifer (*Arabidopsis thaliana*).

U7 RNA: Human; Mouse; Sea urchin (*Psammechinus miliaris*).

U8 RNA: Human, Mouse, Rat. **U11, U12, U13 RNAs:** Human.

U14 RNA: Human, Mouse, Rat; yeast (*Saccharomyces cerevisiae*). **7SK RNA:** Human, Rat.

SNR 3, SNR5, SNR 8, SNR 9, SNR10, SNR 128, SNR 190, SCR1: yeast (*Saccharomyces cerevisiae*).

SRP (7SL) RNA: Human, Mouse, Rat, Frog (*Xenopus laevis*); Fruit fly (*Drosophila melanogaster*); Yeast (*Schizosaccharomyces pombe* and *yarrowia*); Wheat (*Triticum* sp.); maize (*Zea mays*); Bacteria (*Halobacterium halobium*).

RNaseP RNA: human; Bacteria (*E. coli*; *B. subtilis*); Yeast (*Saccharomyces cerevisiae*).

MRP RNA: Human, Mouse, Rat. **Telomerase RNA:** Protozoa (*Tetrahymena*); Euplotes crassus.

CEH-RNA: chicken. **tc-RNAs:** Human, Chicken. **B2 RNAs:** Mouse, Hamster. **PolyA+ RNA:** mouse, Dinoflagellates (*C. cohnii*). **Y-RNAs:** Human.

4.5 S RNA: Mouse; Rat; Hamster; Codium fragile Chloroplast; *Mycoplasma mycoides*; *E. coli*. **4.5SI RNA:** Rat; Broad bean (*Vicia faba*). **6S RNA:** *E. coli*; *P. aeruginosa*. **MIC RNA:** *E. coli*. **msdRNA:** *Stigmatella aurantica*; *Myxococcus xanthus*; *E. coli*.

Viral small RNAs: Adenovirus: VA1, VA2, CELO; Epstein-barr Virus: EBER1, EBER2; Vesicular Stomatitis virus: VSV+, VSV–; Herpes Virus: HSUR1, HSUR2, HSUR3, HSUR4, HSUR5, HVP1, HVP2.

Phage RNAs: QB phage: RQ120; 029 bacteriophage: 029 RNA.

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U1 snRNA Sea urchin (*S. purpuratus* DNA) Acc. No: X56629
Yu JC, Wendelburg B, Sakallah S, and Marzluff WF (1991) *Nucl. Acids Res.* 19:1093-1098
atacttacctggcgcagggg tcgcattgatcaagaaggat gcacccccagggcgaggctt gccattgcactccggcttgc 80
tgaaccttgcgattccccca aacgtggggaactcgggcgt attatattatggttagcggaga tctgcggttcgcgctatctcc t 161

U1 snRNA: pea Plant (*Pisum sativum* cDNA pPU1.1) Acc No: X15926
Hanley BA, and Schuler MA (1991) *Nucl. Acids Res.* 19:1861-1869
atacttacctggatgggggtc gatgggtgatcatgaaggcc catggctaggattgtgacct ccattgcacttaggaggggt 80
gctttcctaaggtctacca agtgggtggagcctacatcat aatttggtgctgagggggc ctgcggttcgcgcgccccca cc 162

U1 snRNA pea Plant (*Pisum sativum* cDNA pPU1.2) Acc No: X15927
Hanley BA, and Schuler MA (1991) *Nucl. Acids Res.* 19:1861-1869
atacttacctggatgggggtc aatgggtgatcaagaaggcc catggctaggcaagtacct ccattgcacttaggaggggt 80
gctagcctaaggtctacca agtgggtggagcctacatcat aatttggtgctgtgagggggc tgtggttcgcgcgccccctc 160

U1 snRNA pea Plant (*Pisum sativum* cDNA pPU1.3) Acc No: X15928
Hanley BA, and Schuler MA (1991) *Nucl. Acids Res.* 19:1861-1869
atacttacctggatgggggtc aatgggtgatcatgaaggcc catggctaggcaagtacct ccattgcacttaggaggggt 80
gcttgctaaggtctacca agtgggtggaacctacatcat aatttggtgctgtgagggggc tgcggttcgcgcgccccctt 160

U1-1 snRNA Protozoa (*Tetrahymena thermophila* U1-1 DNA) Acc. No: X58845
Orum, H., Nielsen, H. and Engberg, J. (1991) *J. Mol. Biol.* 222:219-232
acttacctggctggagtttg ctatcgatcatgaagggtag cggcttaggggtggagcaggt cattgcacaaaagatgtctg 80
taataccttattgttccccg tgcggggaaccgaaacagca caatttctgctaggggagac gtgcacttagtctgtctcc 160
gct(c) 164

U2 RNA Nematode (*Caenorhabditis elegans* U2-3 DNA) Acc. No: X51375
Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
atcgcttcttcggcttatta gctaagatcaaagtgtagta tctggttcttatcgattaac ctacgggtatacactcgaatg 80
agtgaataaaagggttatatg atttttggaacctagggag actcggggcttgctcctcgan tccccagggtcgtcctggc 160
gttgactgctgcccggntc ggcccann 188

U2 RNA Nematode (*Caenorhabditis elegans* U2-4 DNA) Acc. No: X51376
Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
atcgcttcttcggcttatta gctaagatcaaagtgtagta tctggttcttatcgattaac ctacgggtatacactcgaatg 80
agtgaataaaagggttatatg atttttggaacctagggag actcggggcttgctcctcgact tccccagggtcgtcctggcg 160
ttgactgctgcccggntc ncccagt 187

U2 RNA Nematode (*Caenorhabditis elegans* U2-5 DNA) Acc. No: X51377
Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
atcgcttcttcggcttatta gctaagatcaaagtgtagta tctggttcttatcgattaac ctacgggtatacactcgaatg 80
agtgaataaaagggttatatg atttttggaacctagggag actcggggcttgctcctcgact tccccagggtcgtcctggcg 160
ttgactgctgcccggctcg gcccagtccccgagg 196

U2 RNA Nematode (*Caenorhabditis elegans* U2-6 DNA) Acc. No: X51378
Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
atcgcttcttcggcttatta gctaagatcaaagtgtagta tctggttcttatcgattaac ctacgggtatacactcgaatg 80
agtgaataaaagggttatatg atttttggaacctagggag actcggggcttgctcctcgact tccccagggtcgtcctggcg 160
ttgactgctgcccggctcg gcccagt 187

U2 RNA Nematode (*Caenorhabditis elegans* U2-7 DNA) Acc. No: X51379
Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
atcgcttcttcggcttatta gctaagatcaaagtgtagta tctggttcttatcgattaac ctacgggtatacactcgaatg 80
agtgaataaaagggttatatg atttttggaacctagggag actcggggcttgctcctcgact ttccgagggtcgtactggcg 160
ttgactgctgcccggctcg gcccagt 187

U2 RNA Nematode (*Caenorhabditis elegans* U2-8 DNA) Acc. No: X51380

Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) Nucl. Acids Res.18:2633-2642
 atcgcttcttcggccttatta gctaagatcaaagtgtagta tctgttcttatcgtattaac ctacggatatacactcgaatg 80
 agtghtaataaagggttatatg atttttggaaccagggaag actcggggcttgctccgact tccaagggtcgtcctggcg 160
 ttgactgctgccgggctcg gcccagt 187

U2 RNA Nematode (Caenorhabditis elegans U2-9 DNA) Acc. No: X51381
 Thomas J, lea K, Zucker-Aprison E, and Blumenthal T (1990) Nucl. Acids Res.18:2633-2642
 atcgcttcttcggccttatta gctaagatcaaagtgtagta tctgttcttatcgtattaac ctacggatatacactcgaatg 80
 agtghtaataaagggttatatg atttttggaactagggaag actcggggcttgctccgtct tccaagggtcgtcccggcg 160
 ttgactgctgccgggctcg gcccagt 187

U2 snRNA Pea Plant (Pisum sativum cDNA) Acc No: X15930
 Hanley BA, and Schuler MA (1991) Nucl. Acids Res. 19:1861-1869
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgggccattgg 80
 tccacacgatattaactta tttcttgaggggaagagtcc accacaatagcttgctattc ggtctcttggtgtcgtctt 160
 tgcgttgactatagcaatt gctggcgacccccac 195

U2 snRNA Plant Potato (Potato cultivars U2-11 DNA) Acc. No: X56320
 Waugh R, Clark G, Vaux P, and Browb JWS (1991) Nucl. Acids Res. 19:249-256
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgagtcacga 80
 ctacacgatattaactcta tttttgaggggaggggtcta tcacggtagcttgctatcgg gacctttaagcatcgccttg 160
 gtgctgactataaccttg cctggtgcaccgtacccccac 200

U2 snRNA Plant Potato (Potato cultivars U2-11b DNA) Acc. No: X56321
 Waugh R, Clark G, Vaux P, and Browb JWS (1991) Nucl. Acids Res. 19:249-256
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgggccattgg 80
 tccacacgatattaactcaa ttttttaaggggaagagtcc attaaggtagcttgctgcct gggctcttgcgctgcgcca 160
 tgcgttgactactgcacgg gctggcgacccccac 196

U2 snRNA Plant Potato (Potato cultivars U2-4 DNA) Acc. No: X56322
 Waugh R, Clark G, Vaux P, and Browb JWS (1991) Nucl. Acids Res. 19:249-256
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgggccattgg 80
 tccacatgatattaactcaa ttttttaaggggaagagtct gtaaggttagcttgctacc tgggttcttgctgcgtcgccc 160
 atgcttgactactgcacg ggctggcgacccccac 197

U2 snRNA Plant Potato (Potato cultivars U2-22 DNA) Acc. No: X56323
 Waugh R, Clark G, Vaux P, and Browb JWS (1991) Nucl. Acids Res. 19:249-256
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgagtcacga 80
 ctacacgatattaactcta tttttgagggggaaggtcc accacggtagcttgctatcg agaccttaagctcgccta 160
 ggtgttgactactgcttg gctggcacacccccac 196

U2 snRNA Potato (Solanum tuberosum DNA) Acc. No: M72887
 Waugh, R., Clark, G. and Brown, J.W. (1992) Gene 107:197-204
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgagttattga 80
 ctacacgatattaacttaa ttttttagggggaaggtcaa ttagagtagcttgctacttg ggtcttcgtgtgcgctag 160
 gtgttgactatagccttg cctgggacacccccac 195

U2 snRNA Potato (Solanum tuberosum DNA) Acc. No: M72889
 Waugh, R., Clark, G. and Brown, J.W. (1992) Gene 107:197-204
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtgggccattgg 80
 tccacacgatattaactcaa ttttttaaggggaagagtcc attaaggtagcttgctacct gggctcttgcgctgcgcca 160
 tgcgttgactactgcatgg gctggcgacccccac 196

U2 snRNA Potato (Solanum tuberosum DNA) Acc. No: M72890
 Waugh, R., Clark, G. and Brown, J.W. (1992) Gene 107:197-204
 atacctttctcggccttttg gctaagatcaagtgtagat ctgttcttatcagtttaata tctgatatgtggaccatcgg 80
 tccacacgatattaactcaa ttttttaaggggaagagtcc attaaggtagcttgctacct gggctcttgctcgtgcgcca 160
 tgtgttgactactgcacgg gctggcgacccccac 196

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U2 snRNA Potato (*Solanum tuberosum* DNA) Acc. No: M72888
Waugh, R., Clark, G. and Brown, J.W. (1992) *Gene* 107:197-204
atacctttctcggccttttg gctaagatcaagtgtagtat ctgttcttatcagtttaata tctgatatgtgggccattgg 80
tccacacgatattaactcaa ttttgaaggggaagagtcc attaagtagcttgctacct gggctcttgggcgtcgccat 160
gcggttgactactgcatggg cctggcgacacccac 195

U2 snRNA Potato (*Solanum tuberosum* DNA) Acc. No: M72891
Waugh, R., Clark, G. and Brown, J.W. (1992) *Gene* 107:197-204
atacctttctcggccttttg gctaagatcaagtgtagtat ctgttcttatcagtttaata tctgatatgtgaaccatcgg 80
ttcacacgatattaactcaa ttttttaaggggaagacc atcaaagtagcttgctactt gggcttccacgcgtcgctg 160
ggcggttgactacagcccag gctggcacacccac 196

U2-1 snRNA Protozoa (*Tetrahymena thermophila* DNA) Acc. No: X58842
Orum, H., Nielsen, H. and Engberg, J. (1991) *J. Mol. Biol.* 222:219-232
ataccttctcggccttttg ctaagatcaagtgtagtatc tgttcttatcagtgtaaaa ctgatactgtccctactagg 80
gacatgtggtttcacattaa tttttcacaggggtcggatt tactagtggcttgccctagt cccgacgcggttgcccttg 160
catgcacgctactaaggagc ggctaccctg(ac) 193

U2-2 snRNA Protozoa (*Tetrahymena thermophila* DNA) Acc. No: X58846
Orum, H., Nielsen, H. and Engberg, J. (1991) *J. Mol. Biol.* 222:219-232
ataccttctcggccttttg ctaagatcaagtgtagtatc tgttcttatcagtgtaaaa ctgatactgtccctactagg 80
gacatgtggtttcacattaa tttttcacaggggtcggatt cactagtggcttgccctagt cccgacgcggttgcccttg 160
cctgcacgctactaaggagc ggctaccctg(ac) 193

U3 snRNA Tomato (*Lycopersicon esculentum* DNA) Acc. No: X14411
Kiss, T. and Solymosy, F. (1990) *Nucleic Acids Res.* 18:1941-1949
acgaccttacttgaacagga tctgttctataggctcgtac cattgtatccttgaattcta aggagacaggaatccaagtc 80
tggttgatgaagcatggcca tgtgaccagagcgtgattaa cagctatccatggtttctcg agctgtggttacagtagatg 160
atcgttcttagaccctaat ctcaggcctaagatggtctc atggctgtctgacagactctctcatttt 228

U3 snRNA monocot Plant (*Triticum aestivum* DNA) Acc. No: X63065
Marshallsay, C., Connelly, S. and Filipowicz, W. Unpublished (1991)
acgaccttacttgaacagga tctgttctataggctcgtac cgctgcatcctttaccaata aggaggcaagcacttcagtc 80
tggttgatgcatctgacctc tgggccagagcgtgattaac ggccaggattcccttatggg ggcaatccacggctgtagag 160
gatcgttctctgccttgctca tgcttgtgcaggggtggccca gaggtt 206

U3 snRNA Plant (*A. thaliana* U3D DNA) Acc. No: X58068
Marshallsay C. Unpublished
acgaccttacttgaacagga tctgttctataggctcgtac ctctgtttccttgatttctc aagagacaggcccttaaccc 80
tggttgatgaaccatgaccg tgcggctagagcgtgattga cggctacgatcgtcctcgga cgcacccggtgctgtagagg 160
atcgttactcggctcgggtc taccttgccgggggtggtcgc acggcggctgacagag 216

U3 snRNA Yeast (*Schizosaccharomyces pombe* DNA) Acc. No: X56982
Selinger DA Unpublished
actatcgacgatactccata ggatcatttctatagtatac gtccggcttgggtttcctaa cctagccacagaactcaaca 80
cggatgatgtagaggcac cgttgccctcagagtgagga cttttaattctttgaaggca tgcttttcgattaggtttt 160
tacctaattgtttgctgtc tttctatgcgatgatctctt acatgatatgtttccttttg gtcgtattatgtagggcagc 240
tggtgttttctgacgtgt 258

U4 snRNA Nematode (*Caenorhabditis elegans* U4-1 DNA) Acc. No: X51382
Thomas J, Lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
agctttgcgctggggcgata acgtgaccaatgaggctttg cgaggtgcgtttattgctgg ttgaaaacttttccaattg 80
cccgcgatgtcccctgaaac atgggtggcatacgaattt ttgaacnctctaggaggcag a 141

U4 snRNA Nematode (*Caenorhabditis elegans* U4-2 DNA) Acc. No: X51383
Thomas J, Lea K, Zucker-Aprison E, and Blumenthal T (1990) *Nucl. Acids Res.* 18:2633-2642
agctttgcgctggggcgata acgtgaccaatgaggctttg ccgaggtgcgtttattgctg gttgaaaacttttccaatt 80

gcccgcgatgtcccctgaaa catgggtggcatacgaatt tttgaacgcctctaggaggc aga 143

U4 snRNA Nematode (Caenorhabditis elegans U4-3 DNA) Acc. No: X51384
 Thomas J, Lea K, Zucker-Aprison E, and Blumenthal T (1990) Nucl. Acids Res.18:2633-2642;
 Zucker-Aprison, E et al. (1988) Nucl. Acids Res. 16:7188
 agctttgcgctggggcgata acgtgaccaatgaggctttg cggaggtgctgtttattgctg gttgaaaacttttccaatt 80
 gcccgcgatgtcccctgaaa catgggtggcatacgaatt tttgaacgcctctaggaggc agaa 144

U4 snRNA Plant (Pea: Pisum sativum cDNA) Acc. No: X15931
 Hanley BA, and Schuler MA (1991) Nucl. Acids Res. 19:1861-1869
 atctttgcgcttggggcaat gacgcagctagtgaggctact aaccgagggcgcgtctattgc tggttgaaaactatttccaa 80
 accccctcttgggcttgggc tttgcttgggcctttgagaa tttctggaagggtccctct gggtaaagccct 152

U4 snRNA Plant (Pea:Pisum sativum cDNA) Acc. No: X15932
 Hanley BA, and Schuler MA (1991) Nucl. Acids Res. 19:1861-1869
 atctttgcgcttggggcaat gacgcagctagtgaggcttct aaccgaggtgctgtctattgc tggttgaaaactatttccaa 80
 accccctcttaggcttgagg caactcaagcctttgagaat ttttgaaggactcccttag ggtaaagtctac 152

U4 snRNA Plant (Pea: Pisum sativum cDNA) Acc. No: X15933
 Hanley BA, and Schuler MA (1991) Nucl. Acids Res. 19:1861-1869
 atctttgcgcttggggcaat gacgcagctagtgaggcttct aaccgagggcgcgtctattgc tggttgaaaactatttccaa 80
 accccctcttaggcttgagg taactcaagcctttgagaat tctggaagggtcccttag ggtaaagtct 150

U4-1 snRNA Protozoa (Tetrahymena thermophila cDNA) Acc. No: X58844
 Orum, H., Nielsen, H. and Engberg, J. (1991) J. Mol. Biol. 222:219-232
 nacctcgcgacaggggcaat atagcagcaatgacggta actgatgcgctattattgct agttgaaaactacttcaata 80
 agtgaaacgacgcttgcgt cgggtcccaatttctggaag gtcgtatgacctact (ct) 115

U5D snRNA Human (Homo sapiens U5D cDNA) Acc. No: M77838
 Sontheimer, E.J. and Steitz, J.A. (1992) Mol. Cell. Biol. 12:734-746
 nngctctggtttctcttcaa atcgataaatctttgcct tttactaaagatttccgtgg agagaaaccgttttgagttt 80
 ctgactaatttttgagcc ct 102

U5E snRNA Human (Homo sapiens cDNA) Acc. No: M77839
 Sontheimer, E.J. and Steitz, J.A. (1992) Mol. Cell. Biol. 12:734-746
 nnactctggtttctcttcaa atcgataaatctttgcct tttactaaagatttccgtgg agagaaacgagtgtagtct 80
 gaaaccaattttttgaggcc ttgcgttttttagcagggt t 121

U5F snRNA Human (Homo sapiens cDNA) Acc. No: M77840
 Sontheimer, E.J. and Steitz, J.A. (1992) Mol. Cell. Biol. 12:734-746
 natctctggtttctcttcat aacgaataaatctttgcct tttactaaagatttccgtgg agagaaacaactatgagttt 80
 atggttaaattttttgaggt ctgcttaggcaaggctcg 119

U5 snRNA Pea plant (Pisum sativum cDNA) Acc. No: X15934
 Hanley BA, Schuler MA (1991) Nucl Acids Res. 19:1861-1869
 ggagccgtgtgatgatgaca tagcgaactattctttcgcc tttactaaagaataaccgtg tcagcgtcacaattagcggc 80
 atacgctagtttttgaaga gttctcaattttgagggtc tg 122

U5 snRNA Pea plant (Pisum sativum cDNA) Acc No: X15935
 Hanley BA, Schuler MA (1991) Nucl. Acids Res. 19:1861-1869
 ggagccatgtgataagtaca aagcgaactattctttcgcc tttactaaagaataaccgtg tacttttactaacagtggc 80
 atacgataaattttgagatga gctctcatggtttgagagctc tg 122

U5-1 snRNA Protozoa (Tetrahymena thermophila DNA) Acc. No: X58841
 Orum, H., Nielsen, H. and Engberg, J. (1991) J. Mol. Biol. 222:219-232
 atcacagaactcagctcatt acgtttaatttttgcctt ttactaaagattaccgtggg ctgggtttaccaatgtgaat 80
 tattaaaatttttgcaggat tcttttgaatcctctcac 118

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- U5-2 snRNA Protozoa (Tetrahymena thermophila DNA)
Orum, H., Nielsen, H. and Engberg, J. (1991) *J. Mol. Biol.* 222:219-232
atcacagaactcagctcatt acgatttaatttttcgcctt ttactaaagattaccgtgag ctgggtttttcaatgtgaat 80
tattaaaatttttgcaggat tcttttgaatcctctcac 118
- U6 snRNA monocot Plant (Triticum aestivum DNA) Acc. No: X63066
Marshall, S., Connelly, S. and Filipowicz, W. Unpublished (1991)
gccccttcggggacatccga taaaattggaacgatacaga gaagattagcatggcccctg cgcaaggatgacacgcacaa 80
atcgagaaatggtccaaatt tttttgagatt 111
- U6-1 snRNA Protozoa (Tetrahymena thermophila cDNA) Acc. No: X58843
Orum, H., Nielsen, H. and Engberg, J. (1991) *J. Mol. Biol.* 222:219-232
ngaaccgaaagggtcatcc gttaaattggaacgataca gagaagattagcatggcccc tgcgcgaaggatgacacgct 80
caaagcgagaaggattcccc attttt 106
- U6 snRNA (Tachypleus thermophila DNA) Acc. No: X53789
Tani T., Ohshima Y.; *Nucl. Acids Res.* (1991) 19:2495-2495
gtacttgcttcggcagtaga cataactcaaattgaaacgat acagagaagattagcatggc cctgcacaaggatgaca 78
- U6 snRNA (Tachypleus tridentatus DNA) Acc. No: X53790
Tani T., Ohshima Y.; *Nucl. Acids Res.* (1991) 19:2495-2495
gattggacaccggaagctat ccgttaaattggaacgata cagagaagattagcatggc cctgcacaaggatgacac 78
- 7SK snRNA Rat (Rattus norvegicus DNA) Acc. No: X63671
Moon IS, and Krause MO (1991) *DNA Cell Biol.* 10:23-32
ggatgtgagggcgatctggc tgcgacatctgtcacccat tgatcgccagggttgattcg gctgatctggctggctaggc 80
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ggtccattgtaggaaactg agggtagtcaagcttccaag actccagacacatccaaatg aggcgctgcatgtggcagtc 320
tgctttctttt 331
- scB1RNA Mouse (M. musculus cDNA) Acc. No: X62249
Marais, R.J. (1991) *Nucl. Acids Res.* 19:5695-5702
gagccgggtgtggtggcgca cacctttaatcccagcactc gggaggcagaggcaggcgga tttctgagttcagaggccagc 80
ctggtctacaaagttagctc caggacagccagggtacac agagaaacctgtctc 136
- Y4 RNA (Ro RNA cDNA) Human erythrocytes Acc. No: X57566
O'Brien CA, and Harley JB (1991) *EMBO J.* 9:3683-3689
ggctggtccgatggttagtg gttatcagaacttattaaca ttagtgctactaaagttggt atacaacccccactgctaa 80
attgactggct 92
- RNase P RNA (Mitochondrion Saccharomycopsis fibuligera DNA) Acc. No: M69219
Wise, C.A. and Martin, N.C. (1991) *J. Biol. Chem.* 266:19154-19157
attatattttgttttatag gaaagtcataaaaatatatt tttttatataataataatag cctaataatataatataat 80
atatttaattttccaaacatt cggacaataaaataactaaa ttatgcttattataataat aaat 144
- RNaseP RNA Bacteria (A. eutrophus DNA) Acc. No: M59353
Brown JW, Haas ES, James BD, Hunt DA, and Pace NR. (1991) *J. Bacteriology* 173:3855-3863
aaagcaggccaggcaaccgc tgctgcaccgcaaggtgca gggggaggaaagtccggact ccacagggcagggtgttggc 80
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gcttatcggcctgctttgct t 341
- RNaseP RNA Bacteria (D. desulfuricans DNA) Acc. No: M59357
Brown JW, Haas ES, James BD, Hunt DA, and Pace NR. (1991) *J. Bacteriology* 173:3855-3863
ggagtcggacggatcgtcgc cgcgggggcaactccgggga ggaaagtccgggtccaaag ggcagaacgctggataacat 80
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 accgtgtggacagaaccggg cttacagtccgactcccga 360

RNaseP RNA Bacteria (*A.tumefaciens* DNA) Acc. No: M59354
 Brown JW, Haas ES, James BD, Hunt DA, and Pace NR. (1991) *J. Bacteriology* 173:3855-3863
 ccagttggccggcagccgc gccttaccatgtcgaaaga cggtaaggtgaggaaagtcc gggctccacggaaatacgg 80
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 aatgccgtcccagatgaatg gctgccacgttccgggtcaa accggggccatacagaacc ggcttacaggccaactggcg aa 402

RNaseP RNA Bacteria (*C.vinosum* DNA) Acc. No: M59356
 Brown JW, Haas ES, James BD, Hunt DA, and Pace NR. (1991) *J. Bacteriology* 173:3855-3863
 ggagtcggccagacagtcgc ttccgtcctggtgacggggg aggaaagtcggggtccata gggcaggtgccaggtaacg 80
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 gatgaatgactgtccacgac agaaccggcttatcggcgc actcccttc 369

RNaseP RNA Bacteria (*R.rubrum* DNA) Acc. No: M59355
 Brown JW, Haas ES, James BD, Hunt DA, and Pace NR. (1991) *J. Bacteriology* 173:3855-3863
 ccagtcggccggatggccgc tctccgtcatcgtccccggg ccaccccgatggaccgtcg gggggaggaaagtccgggct 80
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 agaaccggcttacaggccg tctggcgg 429

RNaseP RNA Bacteria (*D.radiodurans* DNA) Acc. No: M64708
 Haas ES, Morse DP, Brown JW, Schmidt FJ, and Pace NR. (1991) Unpublished
 gccgggaaactcctggtcgc gcctgagccgcttttttggg ggacaggtgaggaaagtccg ggcaccgcagggcaaggatg 80
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 gccacagaaaccagaccgcc accccacacagccccggcg cgggtgcccgtggtcagggg gaaacggtgcccgaagagcg 240
 caccaggttcccgggagacc gggagcgtctggtcaacccc atccggtgcaagaccgcacc gtgcccgcagggcggcccgc 320
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 gaccccggagcagacagaac ccggcttaccgctttcccgt gcc 444

XL RNA copurified with RNaseP Frog (*Xenopus laevis* DNA) Acc. No: X56558
 Doria M, Carrar AG, and Tocchini-valentini G. (1991) *Nucl. Acids Res.* 19:2315-2320
 agatgtggagggaagctcag tgctgaggctacagacagag tgctggggctcactcagtga gtgtgactcagggaaggctc 80
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