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Compilation of small RNA sequences

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This is an update containing small RNA sequences published during 1990. 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 will be available on GenBank computer in the near future. Sequences from various sources covered in earlier compilations (see Reddy, R. Nucl. Acids Res.16:r71; and Reddy,R. and Gupta,S. Nucl Acids Res. 1990 Supplement, 18:2231) 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 polysephalum); bean (Phaseolus vulgaris); Soybean (Glycine max); yeast (Saccharomyces cerivisiae); Tomato (Lycopersicon esculentum); Algae (Chlorella saccharophila).

U2 RNA: Human; Mouse; Rat; Chicken; Frog (Xenopus laevis); Fruit fly (Drosophila melanogaster); Nematode (Caenorhabditis elegans); Slime mold (Physarum polysephalum); Amoeba (Dictyostelium discodeum); trypanosome (Trypanosome brucei); yeast (Saccharomyces cerivisiae); Yeast (Schizosaccharomyces pombe); Broad bean (Vicia fabe); maize (Zea mays); Pea (Pisum sativum); Crucifer (Arabidopsis thaliana).

U3 RNA: Human; Mouse; Rat; Frog (Xenopus laevis); Fruit fly (Drosophila melanogaster); Amoeba (Dictyostelium discodeum); yeast (Saccharomyces cerivisiae); Yeast (Schizosaccharomyces pombe).

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

U5 RNA: Human; Mouse; Rat; Chicken; Frog (Xenopus laevis); Fruit fly (Drosophila melanogaster); Nematode (Caenorhabditis elegans); Dinoflagellates (Crypthecodinium cohnii); Amoeba (Tetrahymena); Pea (Pisum sativum); yeast (Saccharomyces cerivisiae); 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 cerivisiae); Yeast (Schizosaccharomyces pombe); Broad bean (Vicia fabe).

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

U8 RNA: Human, Mouse, Rat. **U11, U12, U13 RNAs:** Human. **7SK RNA**: Human, Rat.

SNR 3, SNR5, SNR 8, SNR 9, SNR 128, SNR 190, SCR1: yeast (Saccharomyces cerivisiae).

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 cerivisiae). **MRP RNA:** Human, Mouse, Rat. **Telomerase RNA:** Protozoa (Tetrahymena). **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; E. coli. **4.5SI RNA:** Rat; Broad bean (Vicia fabe). **6S RNA:** E.coli; P.aeruinosa. **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.

U1 snRNA (*Drosophila melanogaster*) Lo, PCH. and Mount,SM. (1990) Nucl. Acids Res. 18:6971

U1-21.1 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuuuugguagccg ggaauggcguucgcgccguc ccga (164)

U1-82.1 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuuuguuagccg ggaauggcguucgcgccguc ccga (164)

U1-82.2 ucugauugcguccuaaucga aaccccuaugccgagcuaag caaagcuugugagugaggcu uggucauugcaccucagcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuucugguagccg ggaauggcguucgcgccguc ccga (164)

U1-82.3 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuuuguuagccg ggaauggcguucgcgccguc ccga (164)

U1-95.1 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuuuugguagccg ggaauggcguucgcgccguc ccga (164)

U1-95.2 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cguguaauuuuugguagccg ggaauggcguucgcgccguc ccga (164)

U1-95.3 auacuuaccuggcguagagg uuaaccgugaucacgaaggc gguuccuccggagugaggcu uggccauugcaccucggcug aguugaccucugcgauuauu
ccuaaugugaauaacucgug cgcguaauuuuugguagccg ggaauggcguucgcgccguc ccga (164)

U1 snRNA Yeast (*Schizosaccharomyces pombe*) Porter, G. *et al.* (1990) Mol. Cell. Biol. 10:2874

acuuaccuggcaugaguuuc ugcagcacaagaauugugga gacucaguuauuugucuuggc auugcacugagcccugacg aauaacuguggacuggcuaa
.ggucagcuccggaugcauca uuuuugaguucgucccucau uuggggca (148)

U2 snRNA Baboon (*Papio hamadryas*) Matera, AG. *et al.* (1990) personal communication

aucgcuucucggccuuuugg cuaagaucaaguguaguauc uguucuuaucaguuuaauau cugauacguccucuauccga ggacaauauauuaaauggau
uuuuggagcagggagaugga auaggagcuugcuccgucca cuccacgcaucgaccuggua uugcaguaccuccaggaacg gugcaccc (188)

U2 snRNA Crucifer (*Arabidopsis thaliana*) Marshallsay,C. *et al.* (1990) Nucl. Acids Res. 18:5280

U2.6 auaccuuucucggccuuuug gcuaagaucaaguguaguau cuguucuuaucaguuuaaua ucugauauguggccaucgg cccacacgauauuaacucua
uuuuuugagggagaaagccc acuaagauagcuugcuaucu gggcuuucaagagucgccua ugcguugcacuacugcacag gcuuggcucaacccgc (196)

U6 snRNA Tomato (*Lycopersicon esculentum*) Szkukalek,A. *et al.* (1990) Nucl. Acids Res. 18:1295

gucccuucggggacauccga uaaaauuggaacgauacaga gaagauuagcauggccccug cgcaaggaugacacgcacaa aucgagaaaugguccaaaau
uuu (103)

U6 snRNA Maize (*Zea mays*) Veretnik,S. and Rubenstein,I. (1990) Nucl. Acids Res. 18:3661

gucucuucggagacauccga uaaaauuggaacgauacaga gaagauuagcauggccccug cgcaaggaugacacgcacaa aucgagaaaugguccaaauu
uuuuu (105)

U6 snRNA Crucifer (*Arabidopsis thaliana*) Waibel,F. and Filipowicz,W. (1990) Nucl. Acids Res. 18:3451

gucccuucggggacauccga uaaaauuggaacgauacaga gaagauuagcauggccccug cgcaaggaugacacgcauaa aucgagaaaugguccaaauu
uu (102)

U14 snRNA Human Dworniczak,B. and Mirault,ME. (1987) Nucl. Acids Res. 15:5181

U14-5 ucgcugugaugagugauuguu aaacauucguaguuuccac caaaagcuuggcuaaugaugg caacaccuuccuuggaugu cugagcgag (89)

U14-6 ucgcuaugaugauggauucca aaaccauucguaguuucca ccagaaagucuuauguuggcc aguuccuuccuuggauguu ugagcgac (88)

U14-8 ucacaaugaugaaugguccaa aacauucgcgguuuccacc agaauucaagguguuggcaac uaccuuccuuggaugucug agugac (86)

U14 snRNA (4.5S hybRNA) Mouse Liu,J. and Maxwell,ES. (1990) Nucl. Acids Res. 18:6565

U14-5 ucgcugugaugauggauucc aaaaccauucguaguuucca ccagaagugcuguguuggcu aguuccuuccuuggaugucu gagcgaa (88)

U14-6 ucgcugugaugauggauucc aaaaccauucguaguuucca ccagaaaugcuguguuggcu aguuccuuccuuggaugucu gagcgaa (88)

U14-8 ucacaaugaugaugaauggu ccaaacauucgcgguuucca ccagaacgcaaggcaguguu ggcaguuaccuuccuuggau gucugagugac (91)

U14 snRNA Rat Sorger,P. and Pelham,H. (1987) EMBO J 6:993

U14-5 ucgcugugaugauugauucc aaaaccauucgauguuucca ccagaaaugcuguguuggcu aguuccuuccuuggaugucu gagcgaa

U14-6 ucgcugugaugacggauucc aaaaccauucguaguuucca ccagaaguacuguguuggcu aguuccuuccuuggaugucu gagcgaa

U14-8 ucacuaugaugaauggucca aacauucgcgguuuccacca gaauggacaguguguuggca guuaccuuccuuggaugucu gagugac

U14 (snR128) Yeast (*Saccharomyces cerevisiae*) Li, HV. *et al.* (1990) Mol. Cell. Biol. 10:1145

gaucacggugaugaaagacu gguuccuuaacauucgcagu uuccacgguaggaguacgcu uacgaacccaucguuaguac ucucggugaccgcucuucuu uagagaccuuccuaggaugu cugaguga (128)

snR10 Yeast (*Saccharomyces cerevisiae*) Tollervey,D. and Guthrie,C. (1985) EMBO J 4:3873

m3gpppaacgcaaauuuaacagccau ucguaacacguacaguauau cgucgagguugaaccccucc ggggcguucuugacccauga agaauguggauuggguguug aauauauuuauuauuggcuu ggacuggagaacaaauuuau cgaucuuggugcaacacuc uuucugucgucuguuuuuua gcagaucuaaggguuuaccu ucgugugcccggaugaggac cguugcaaggauugauaaua caacu (245)

Telomerase RNA (*Euplotes crassus*) Shippen-Lentz, D. and Blackburn, EH. (1990) Science 247:546

guucuccauugacuaauccg ucaaaucugucaaacaaaac cccaaaaccgaucaauaggu gcguuuagcuugauuacacc ucuuaaaugaaaucuugcaa uucuggagagcuugagaggu gaaacccccacaguuagguc aaacauaguuugagauuugu aucucauaugcucuagcugu ccucucaucuu (191)

4.5S RNA (*Codium fragile* Chloroplast) Francis, MA. *et al.* (1987) J. Biol. Chem. 262:1848

aaguccuaguugcuauaaau ucuuaaaucaaauuauguca gauuuuuaauaaaaagcagc auuuguauuugaaaauuguu uaggaacuaggcac (94)

4.5S RNA *Mycoplasma mycoides* Samuelsson,T. and Guindy,Y. (1990) Nucl. Acids Res. 18:4938

gccgcgauaagaauaacauc ugaacgaguuaggaccggaa gguagcagcuauaaggaaaa guguucuguauugcggu (77)

HSUR RNA Virus (*Herpesvirus saimiri*) Trimble,JJ. *et al.* (1990) Nucl. Acids Res. 18:6456

hsur1 snRNAs

1-11 m3gpppacacuacauauuuauuuauu uauuucuuaguaauguuuac uggaacuuaaaucugugaua accuaaacuaaaagucucaa acaacccguuaccugcuga caauuuuuguagguacuggg uguaaauaugaugaccggua cca (143)

1-24.76 m3gpppacacuacauauuuauuuauu uauuucuuaguaauguuuac uggaacuuaaaucugugaua accuaaacuuagucucaaac aacccguuaccugcugaca auuuuuguagguacugggug uaaauaugaaauaaccagug cca (143)

1-488.77P m3gpppacacuacauauuuauuuauu uauuucuuaguaauguuuac uggaacuuaaaucugugaua accuaaacuaacagucucaa acaacuccguuaccugcug ccaauuuuugaaggugcugg guggaaauaugaacuaacca gugcca (146)

hsur3 snRNAs

3-11 m3gpppaagacuugcuauaggagauu aacaacccaagaauaauuuu ugaaggcucugggucuuuag guccaaaccagugcca (76)

3-24.76 m3gpppaagacuugcuauaaaagauu aacaacccaagaauaauuuu ugaaggcucugggucuuuag guccaaaccagugcca (76)

3-488.77P m3gpppaagacuugcuauagaacauu aacaacccaagaauaauuuu ugaaggcucugggucuuuag guccaaaccagcgcca (76)

3-OM1 m3gpppaagacuugcuauaaaagauu aacaacccaagaauaauuuu ugaaggcucugggucuuuag guccaaaccagugcca (76)

hsur4 snRNAs

4-11 m3gpppgcccagagccagagaguuac ucuucagguucauacaguug gagcuucucaguuucagaag cacucagcaauuuuugaagg cucuggguaguccaaacc gugcca (106)

4-24.76 m3gpppgcagccagagaguuacucuu cagguuucauacaguaggag cuucucaguuucagaagcac ucagcaauuuuuguaggcuc uggguuaguccaaaccagu cca (103)

4-OM1 m3gpppgcagccagagaguuacucuu cagguuucauacaguaggag cuucucaguuucagaagcac ucagcaauuuuugaaggcuc uggguuaguccaaaccagc cca (103)