

## Supplemental Data 1

We have used the following pattern description for the hammerhead ribozyme search of EMBL database (rel.78), using a pattern description language (D'Souza et al., 1997); comment lines start with a `#'. Nucleotides in the hammerhead motif are numbered according to convention (Hertel et al., 1992)

# basepairing rules

r1={au,ua,gc,cg,gu,ug} r2={ua} r3={gc}

# 5' part of stem III consists of 4 to 5 nt and a terminal U16.1

p31=4...5 p32=U

# cleavage site (nt 17)

H

# 5' part of stem I

p1=5...7

# hairpin loop 1

3...13

# 3' part of stem I is the reverse complement of p1 using rule 1; allows for a single mismatch

r1~p1[1,0,0]

# nt 3 to 9; nt 9.1 is either a W or not present

CUGANGA (W | 0...0)

# 5' part of stem II starts with G10.1

p21=G p22=3...4

# hairpin loop 2

3...6

# 3' part of stem II is the reverse complement of p22 and p21, which is C11.1

r1~p22 r3~p21

# nt 12 to 14

GAA

# 3' part of stem I with A15.1

r2~p32 r1~p31

The result of this search were a total of 302 sequences, 180 of which corresponded to annotated HHRzs from a variety of satellite RNAs and some viroids. Further 94 sequences stemmed from synthetic or patented constructs. The novel hits were distributed among the species listed in Table 1. After filtering out redundant hits, we obtained the independent hits that are listed with their EMBL accession number in Table 1.

Supplemental Table1. Database hits of sequences that contain potential hammerhead ribozymes

Organism	hits <sup>a</sup>	independent hits <sup>b</sup>	EMBL Accession
<i>Arabidopsis thaliana</i>	11	2	ATF6I18 <sup>1</sup>
<i>Danio rerio</i>	2	2	BX649508 BX842240
<i>Homo sapiens</i>	7	2	AL391005 AC022613
<i>Mus musculus</i>	1	1	AL626769
<i>Thanatephorus cucumeris</i>	1	1	AB035862
<i>Xenopus tropicalis</i>	2	1	AC147919

<sup>a</sup>Original number of hits

<sup>b</sup>Independent hits after filtering out redundant sequences

<sup>1</sup> This entry contains both hits of *A. thaliana*.

## References

**D'Souza, M., Larsen, N., and Overbeek, R.** (1997). Searching for patterns in genomic data.

Trends Genet **13**, 497-498.

**Hertel, K.J., Pardi, A., Uhlenbeck, O.C., Koizumi, M., Ohtsuka, E., Uesugi, S.,**

**Cedergren, R., Eckstein, F., Gerlach, W.L., Hodgson, R., and Symons, R.H.**

(1992). Numbering system for the hammerhead. Nucleic Acids Res. **20**, 3252.