

SUPPLEMENTARY INFORMATION

Molecular characteristics of Human Endogenous Retrovirus type-W (HERV-W) in schizophrenia and bipolar disorder.

TABLE OF CONTENT:

| | |
|--|-------------|
| I. Complementary Statistical analyses | P. 2 |
| TABLE S1: HERV-W RNA RELATIVE EXPRESSION OF THE MSRV SUBTYPE, ALL CONTROLS | |
| TABLE S2: RELATIVE EXPRESSION OF THE MSRV SUBTYPE, CONTROLS WITH NEGATIVE CRP (C-) | |
| TABLE S3: HERV-W RNA RELATIVE EXPRESSION AND DNA COPY NUMBERS STATISTICAL ANALYSES EXCLUDING BIPOLAR DISORDER PATIENTS TREATED WITH VALPROATE. | |
| | |
| II. Sequence analyses | P. 3 |
| FIGURE S1: SEQUENCE ALIGNMENTS WITH THE PROBE | P3-14 |
| FIGURE S1A: HC RNA | P3-4 |
| FIGURE S1B: HC DNA | P5-6 |
| FIGURE S1C: BD RNA | P7-8 |
| FIGURE S1D: BD DNA | P9-10 |
| FIGURE S1E: SZ RNA | P11-12 |
| FIGURE S1F: SZ DNA | P13-14 |
| FIGURE S2: PHYLOGENETIC TREE REPRESENTATION OF ALIGNED CLONES WITH RELATED HERV-W AND DISTANT HERV-K ENV GENE SEQUENCES: | P15-17 |
| FIGURE S2A: RNA AND DNA CLONES FROM BD | P15 |
| FIGURE S2B: RNA AND DNA CLONES FROM SZ | P16 |
| FIGURE S2C: RNA AND DNA CLONES FROM HC | P17 |

I. Complementary Statistical analyses:

Table S1: HERV-W RNA relative expression of the MSRV subtype, all controls

| Variables | BP,N=91 | SZ,N=45 | Controls,N=73 | P for all | P BP vs TEM | P BP vs SZ | P SZ vs TEM |
|-----------|------------|------------|---------------|--------------------------------------|-------------|------------|-------------|
| | Mean(SD) | | | P value Kruskall Wallis/Mann Whitney | | | |
| RNA | 1.62 (4.6) | 0.84 (0.5) | 0.65 (0.6) | <0.0001 | <0.0001 | 0.01 | 0.012 |
| DNA | 0.61(0.3) | 0.55(0.3) | 0.77(0.3) | 0.0005 | 0.0016 | 0.575 | 0.0003 |

Table S2: HERV-W relative expression of the MSRV subtype,
Controls with negative CRP (C-)

| Variables | BP,N=91 | SZ,N=45 | Controls,N=46 | P for all | P BP vs TEM | P BP vs SZ | P SZ vs TEM |
|-----------|------------|------------|---------------|--------------------------------------|-------------|------------|-------------|
| | Mean(SD) | | | P value Kruskall Wallis/Mann Whitney | | | |
| RNA | 1.62 (4.6) | 0.84 (0.5) | 0.62 (0.6) | <0.0001 | <0.0001 | 0.01 | 0.007 |
| DNA | 0.60(0.3) | 0.55(0.3) | 0.77(0.3) | 0.0015 | 0.003 | 0.575 | 0.0006 |

Table S3: HERV_W RNA relative expression and DNA copy numbers of the MSRV subtype.
Statistical analyses excluding Bipolar Disorder Patients treated with Valproate.

| Variables | BP,N=68 | SZ,N=45 | Controls,N=73 | P for all | P BP vs TEM | P BP vs SZ | P SZ vs TEM |
|-----------|------------|------------|---------------|--------------------------------------|-------------|------------|-------------|
| | Mean(SD) | | | P value Kruskall Wallis/Mann Whitney | | | |
| RNA | 1.71 (5.3) | 0.84 (0.5) | 0.65 (0.6) | <0.0001 | <0.0001 | 0.087 | 0.007 |
| DNA | 0.61(0.3) | 0.55(0.3) | 0.77(0.3) | 0.0009 | 0.006 | 0.468 | 0.0003 |

II. Sequence analyses

Figure S1: Sequence alignments with the HERV-W/MSRV-env specific Probe

Figure S1A: HC RNA

MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
 AAGAAGTTACCTCGGGGTCTACGTC

1. RNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||::|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. RNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. RNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. RNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. RNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. RNA-H12_6 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. RNA-H12_8 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||:|||||||:|||||||:
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. RNA-H12_9 40 50

[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

9. RNA-H16_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

10. RNA-H16_2 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. RNA-H16_3 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. RNA-H16_4 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. RNA-H16_5 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. RNA-H1_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. RNA-H1_2 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. RNA-H1_3 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. RNA-H1_4 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. RNA-H12_1 40 50
[100] TTCTTCAAATGGAGCCCCAGATGCA>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCA

19. RNA-H16_ 40 50
 [100] TTCTTCAAATGGANCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. RNA-H1_8 40 50
 [100] TTCTTCAAATGGAGCCCCAGATGCA>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCA

21. RNA-H12_ 130 120 110
 [98] <TTCTTCAAATGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. RNA-H12_ 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. RNA-H12_ 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. RNA-H16_ 130 120 110
 [98] <TTCTTCAAATGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. RNA-H16_ 130 120 110
 [98] <TTCTTCAAATGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. RNA-H16_ 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. RNA-H16_ 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. RNA-H1_1 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

29. RNA-H1_1 130 120 110
 [98] <TTCTTCAAATGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

30. RNA-H1_1 130 120 110
 [98] <TTCTTCAAATGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

31. RNA-H1_7 40 50
 [98] TTCTTCAAATGGAACCCCAGATGCAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

32. RNA-H16_ 130 120 110
 [92] <TTCTTCAAACGGAACCCCAGATGCAG
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

33. RNA-H12_ 320 330
 [88] TTCTTCAAATGGAGCCCCAGA-CAG>
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S1B: HC DNA

10 20

MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
AAGAAGTTTACCTCGGGGCTACGTC

1. DNA-H12_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. DNA-H12_5 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. DNA-H16_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. DNA-H16_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. DNA-H16_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. DNA-H16_140 50 60
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. DNA-H16_5 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. DNA-H16_8 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

9. DNA-H1_13 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

10. DNA-H1_1 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. DNA-H12_1 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. DNA-H12_1 40 50
[98] TTCCCTCAAATGGAGCCCCAGATGCAG>
|||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. DNA-H12_1 40 50
[98] TTCCCTCAAATGGAGCCCCAGATGCAG>
|||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. DNA-H16_40 50 60
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. DNA-H16_40 50 60
[98] TTCCCTCAAATGGAGCCCCAGATGCAG>
|||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. DNA-H16_1 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. DNA-H1_1 130 120 110
[98] <TTCCCTCAAATGGAGCCCCAGATGCAG>
|||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. DNA-H1_7 40 50
[98] TTCCCTCAAATGGAGCCCCAGATGCAG>
|||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

19. DNA-H1_1 40 50
 [96] TTCTTCAAATGGAGCCCCAGATG-AG>
 ||||| ||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. DNA-H1_4 40 50
 [96] TTCTTCAAATGGAGCCCCAGATG-AG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

21. DNA-H12_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. DNA-H12_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. DNA-H12_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. DNA-H12_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. DNA-H12_ 40 50
 [92] TTCTTCAAATTGAGCCTCAGATGCAG>
 ||||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. DNA-H12_ 40 50
 [92] TTCTTCAAATTGAGCCTCAGATGCAG>
 ||||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. DNA-H16_ 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. DNA-H16_40 50 60
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

29. DNA-H16_ 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

30. DNA-H16_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

31. DNA-H16_ 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

32. DNA-H1_1 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

33. DNA-H1_1 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

34. DNA-H1_3 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

35. DNA-H1_6 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

36. DNA-H1_9 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| ||| ||| ||| |||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S1C: BD RNA

MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
AAGAAGTTTACCTCGGGGCTACGTC

1. RNA70_10. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. RNA70_13. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. RNA70_15. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. RNA70_16. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. RNA71_3.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. RNA71_6.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. RNA71_9.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. RNA71_16. 40 50
[100] NTCTTCAAATGGAGCCCCAGATGCA>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCA

9. RNA71_7.n0 50 60
[100] CTCTTCAAATGGAGCCCCAGATGCA>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCA

10. RNA66_1. 40 50
[98] TTCTTCAAATGGATCCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. RNA66_10 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. RNA66_12 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. RNA66_15 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. RNA66_16 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. RNA66_2. 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. RNA66_5. 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. RNA66_6. 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. RNA66_7. 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG
|||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

19. RNA66_8. 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| ||||| ||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. RNA70_1.130 120 110
 [98] <TTCTTCAAATGGAACCCAGATGCAG
 ||||||| ||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

21. RNA70_12 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. RNA70_14 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. RNA70_4. 320 330
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. RNA70_5. 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. RNA70_6. 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. RNA70_7. 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. RNA70_9. 130 120 110
 [98] <TTCTTCAAATGGAACCCAGATGCAG
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. RNA71_12 40 50 60
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

29. RNA71_5. 40 50
 [98] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

30. RNA66_13 40 50
 [92] TTCTTCAAATGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

31. RNA66_3. 40 50
 [92] TTCTTCAAATGGAACCCAGGTGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

32. RNA66_9. 40 50
 [92] TTCTTCAAATGGAACCCAGATGCGG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

33. RNA71_11 40 50
 [92] TTCTTCAAAGTGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

34. RNA71_15 40 50
 [92] TTCTTCAAAGTGGAACCCAGATGCAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

35. RNA71_8. 130 120 110
 [92] <TTCTTCAAAGTGGAACCCAGATGCAG
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

36. RNA70_11 320 330
 [88] TTCTTCAAATGGAGCCCCAGA--CAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

37. RNA70_2. 40 50
 [88] TTCTTCAAATGGAGCCCCAGA--CAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

38. RNA70_8. 320 330
 [88] TTCTTCAAATGGAGCCCCAGA--CAG>
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

39. RNA71_4.130 120 110
 [88] <TTCTTCAAATGGAGCCCCAGA--CAG
 ||||||| |||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S1D: BD DNA

10 20
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
AAGAAAGTTTACCTCGGGGTCTACGTC

1. DNA66_14. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. DNA66_4.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. DNA66_7.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. DNA66_9.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. DNA70_9.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. DNA66_5.n 40 50
[98] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. DNA70_11. 130 120 110
[98] <TTCTTCAAATGGAACCCCAGATGCAG
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. DNA70_12. 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

9. DNA70_5.n 40 50
[98] TTCTTCAAATGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

10. DNA71_12 40 50
[98] TTCTTCAAATGGAACCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. DNA66_8. 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
||||||| ||||||| ||||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. DNA70_2. 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
||||||| ||||||| ||||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. DNA71_15 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
||||||| ||||||| ||||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. DNA71_4. 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
||||||| ||||||| ||||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. DNA71_6. 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
||||||| ||||||| ||||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. DNA66_11 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. DNA66_13 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. DNA66_15 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||||| ||||||| ||||||| |||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

19. DNA70_1. 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. DNA70_10. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

21. DNA70_13 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. DNA70_16. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. DNA70_4.130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. DNA70_8. 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. DNA71_10 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. DNA71_11. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. DNA71_13. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. DNA71_14. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

29. DNA71_2. 130 120 110
 [92] <TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

30. DNA71_3. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

31. DNA71_5. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

32. DNA71_7. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

33. DNA71_8. 40 50
 [92] TTCTTAAATTGGAGCCCCAGATGCAG>
 ||||| |||||||||||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S1E: SZ RNA

MSRVqPCR p 10 20
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
 AAAGAAGTTTACCTCGGGGTCTACGTC

1. RNA11_10. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. RNA11_11. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. RNA11_12. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. RNA11_14. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. RNA11_15. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. RNA11_2.n 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. RNA11_3.n 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. RNA11_6.n 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

9. RNA11_8.n 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

10. RNA11_9. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. RNA16_10 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. RNA16_2. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. RNA16_3. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. RNA16_9. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. RNA23_12 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. RNA23_16 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. RNA23_2. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. RNA23_4. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

19. RNA23_6. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. RNA23_9. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

21. RNA32_10 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. RNA32_11 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. RNA32_12 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. RNA32_13 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. RNA32_14 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. RNA32_16 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. RNA32_3. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. RNA32_4. 130 120 110
 [104] <TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

29. RNA32_5. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

30. RNA32_7. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

31. RNA32_8. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

32. RNA32_9. 40 50
 [104] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

33. RNA23_10 40 50
 [100] TTCTTCAAATGGAGCCCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

34. RNA11_16 40 50
 [98] TTCTTCAAATGGAGCCCCAGAGGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

35. RNA11_4. 40 50
 [98] TTCTTCAAATGGAGCCCCAGAGGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

36. RNA23_3. 40 50
 [98] TTCTTCAAATGGAGCTCCAGATGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

37. RNA23_5. 40 50
 [98] TTCTTCAAATGGAGCCCCAGAGGCAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

38. RNA16_11 40 50
 [88] TTCTTCAAATGGAGCCCCAGA-CAG>
 |||||||
 MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S1F: SZ DNA

MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG
AAGAAGTTTACCTCGGGTCTACGTC

1. DNA16_1.n 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

2. DNA23_11. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

3. DNA23_15. 40 50
[104] TTCTTCAAATGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

4. DNA16_11. 130 120 110
[98] <TTCTTCAAATGGAGCCCCAGATGCAG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

5. DNA23_9.n 40 50
[98] TTCTTCAAATGGAACCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

6. DNA32_1.n 40 50
[98] TTCTTCAAATGGAGCCCCAGAGGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

7. DNA11_2.n 40 50
[96] TTCTTCAAATGGAGCCCCAGATG-AG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

8. DNA11_3.n 40 50
[96] TTCTTCAAATGGAGCCCCAGATGCAG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

9. DNA11_6.n 130 120 110
[96] <TTCTTCAAATGGAGCCCCAGATG-AG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

10. DNA-VIP3 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

11. DNA11_1. 40 50
[92] TTCTTCAAATTGAGCCTCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

12. DNA11_12 40 50
[92] TTCTTCAAATTGAGCCTCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

13. DNA11_14 130 120 110
[92] <TTCTTAAATTGGAGCCCCAGATGCAG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

14. DNA11_15 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

15. DNA11_16 130 120 110
[92] <TTCTTCAAATTGGAGCCCCAGATGCAG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

16. DNA11_7. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

17. DNA11_8. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

18. DNA16_8. 130 120 110
[92] <TTCTTAAATTGGAGCCCCAGATGCAG
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

19. DNA23_14 40 50
[92] TTCTTCAAATTGAGCCTCAGATGCAG>
||||||| ||||| ||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

20. DNA23_2. 130 120 110
[92] <TTCTTAAATTGGAGCCCCAGATGCAG
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

21. DNA23_4. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

22. DNA23_8. 130 120 110
[92] <TTCTTAAATTGGAGCCCCAGATGCAG
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

23. DNA32_12 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

24. DNA32_15 130 120 110
[92] <TTCTTAAATTGGAGCCCCAGATGCAG
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

25. DNA32_2. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

26. DNA32_3. 40 50
[92] TTCTTCAAATTGAGCCTCAGATGCAG>
||||||| ||||| |||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

27. DNA32_7. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

28. DNA32_8. 40 50
[92] TTCTTAAATTGGAGCCCCAGATGCAG>
||||| ||| |||||||||||
MSRVqPCR p TTCTTCAAATGGAGCCCCAGATGCAG

Figure S2: Phylogenetic tree representation of aligned clones with related HERV-W and distant HERV-K env gene sequences:

Figure S2A: RNA and DNA clones from BD

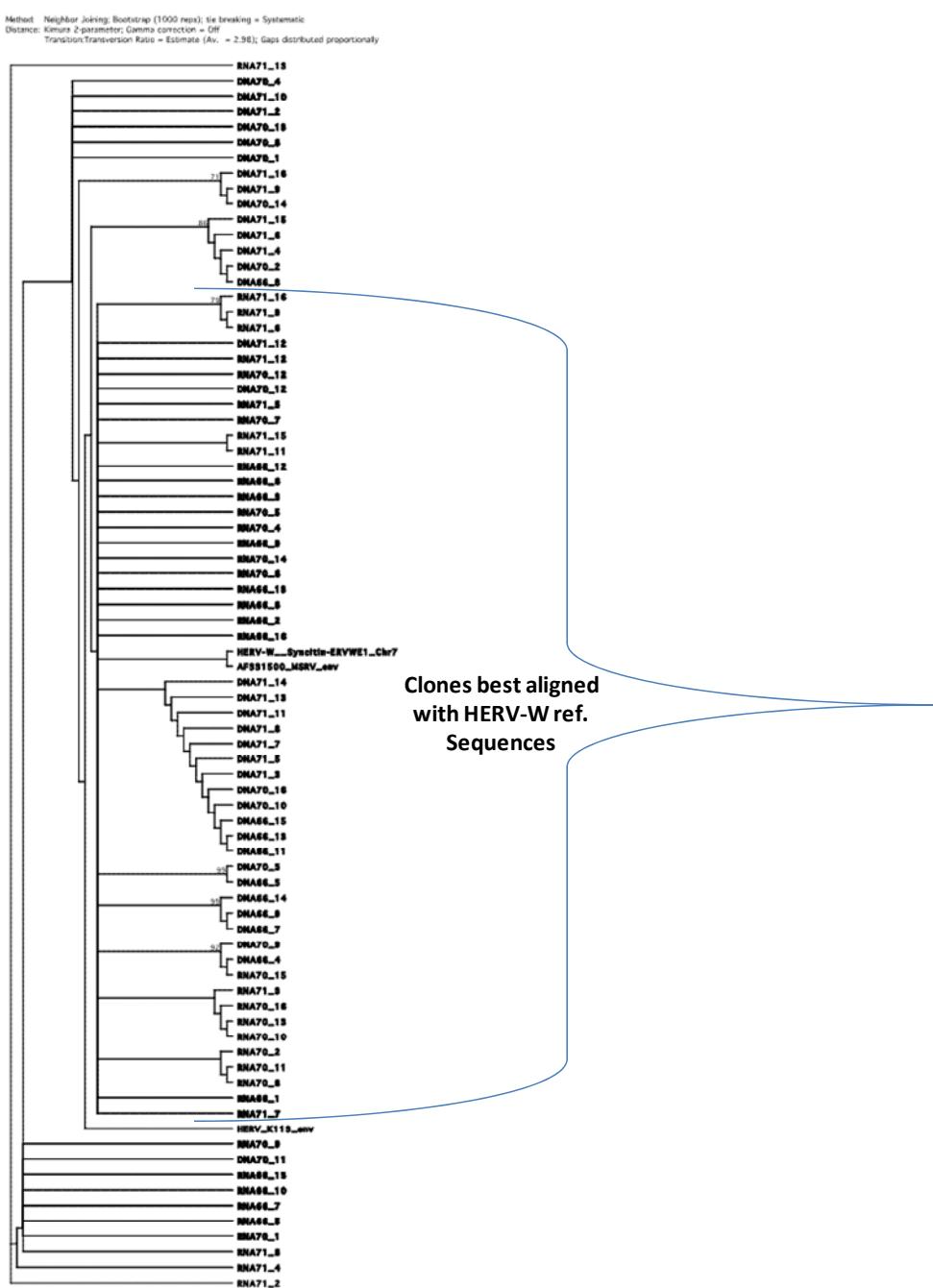


Figure S2B: RNA and DNA clones from SZ

Method: Neighbor Joining; Bootstrap (1000 reps); tie breaking = Systematic
 Distance: Kimura 2-parameter; Gamma correction = Off
 Transition:Transversion Ratio = Estimate (Av. = 2.75); Gaps distributed proportionally

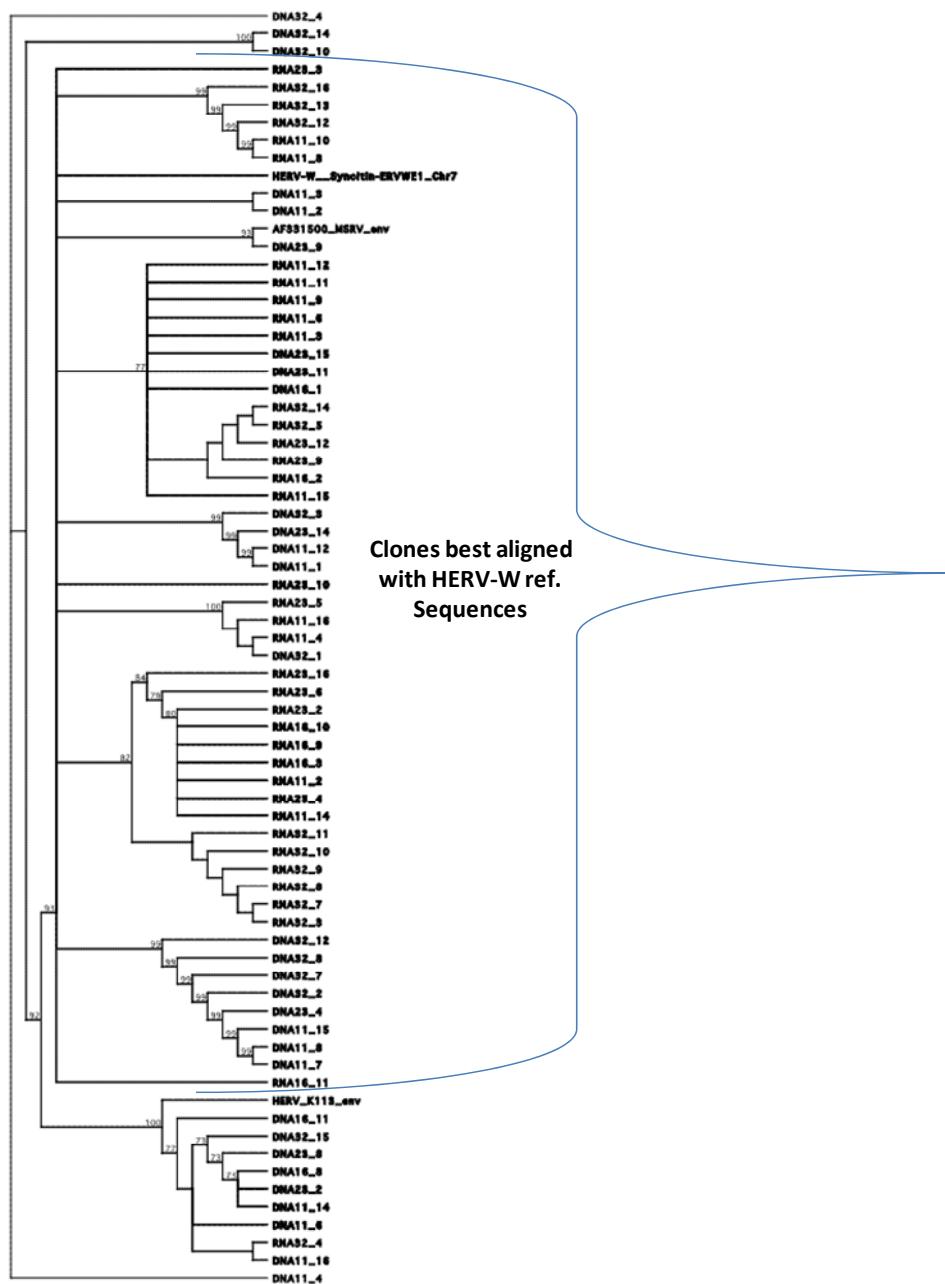


Figure S2C: RNA and DNA clones from HC

Method: Neighbor Joining; Bootstrap (1000 reps); tie breaking = Systematic
 Distance: Kimura 2-parameter; Gamma correction = Off
 Transition:Transversion Ratio = Estimate (Av. = 3.02); Gaps distributed proportionally

