

1 **SUPPLEMENTARY FIGURE LEGENDS**

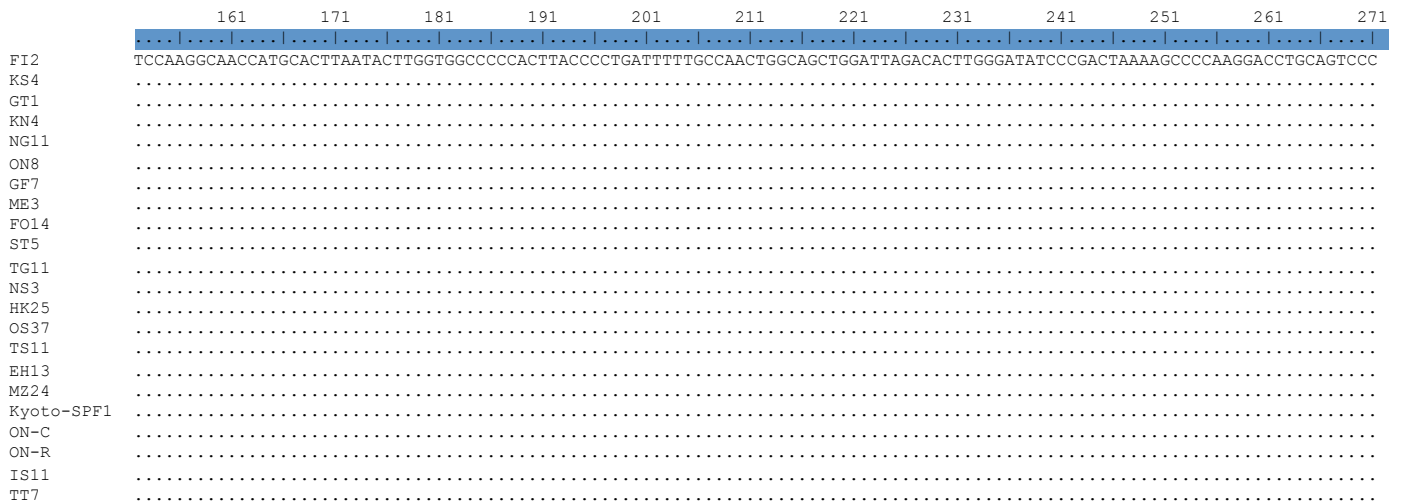
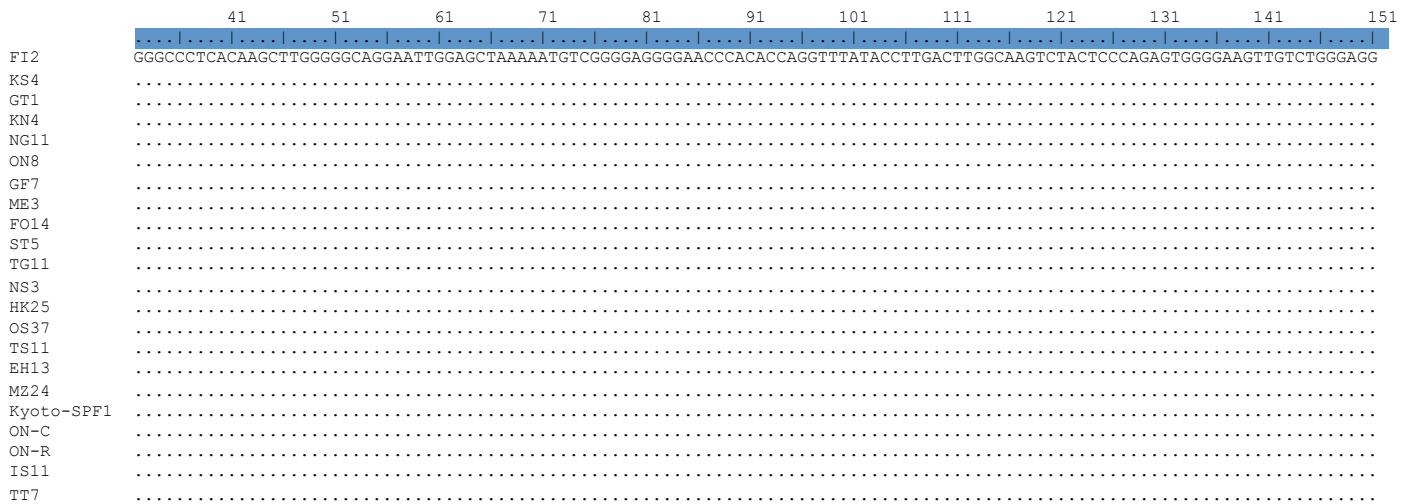
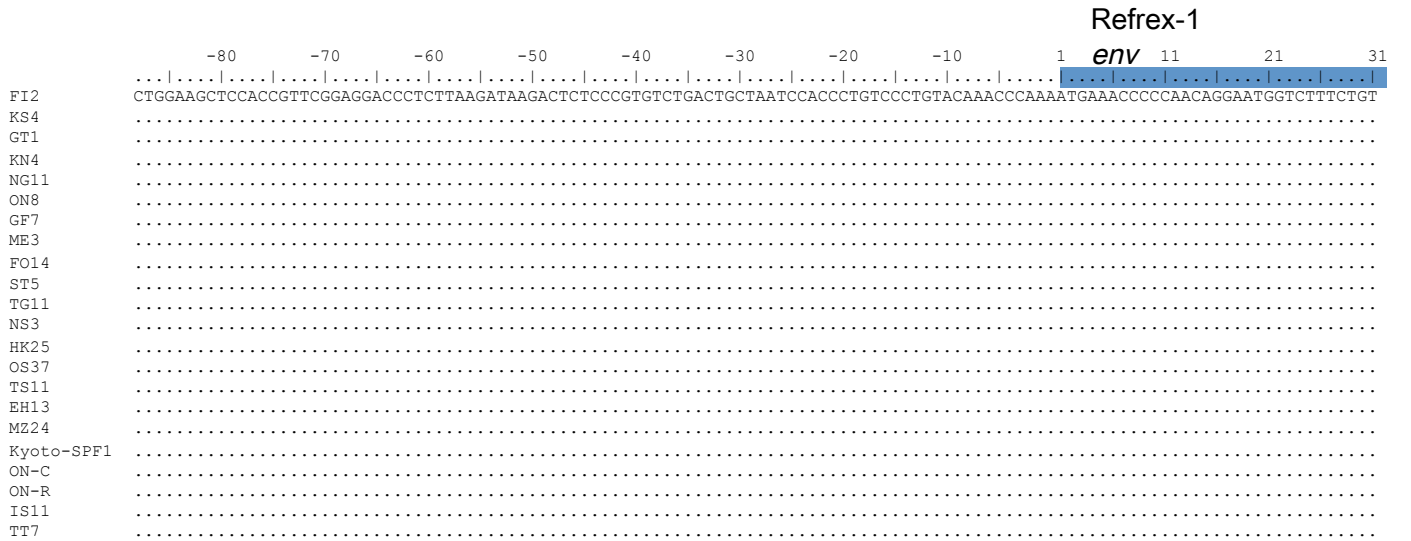
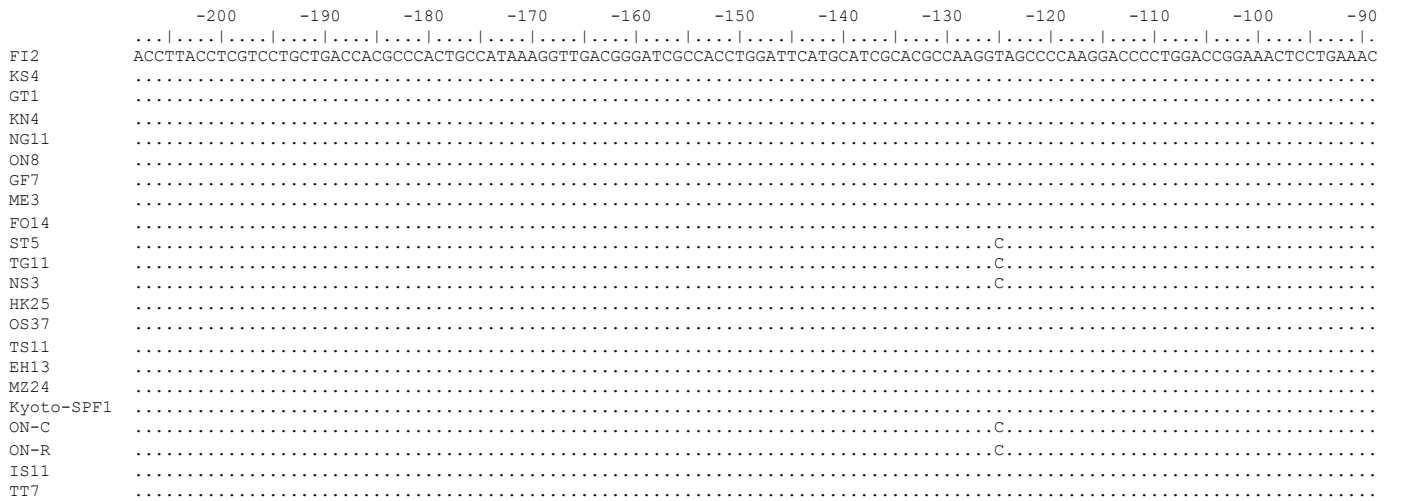
2 **Supplementary Fig S1 Original multiple alignment of ERV-DC7 isolated from 22**

3 **cats.** The regions corresponding to Refrex-1 ORF and consensus *env* gene are

4 highlighted in blue and light blue, respectively. Negative values indicate the upstream

5 region of *env*.

Supplementary Figure S1



Supplementary Figure S1

281 291 301 311 321 331 341 351 361 371 381 391

FI2 ACATGGGGGAAAGAACCCAACAGATGACTGCCCATGGATGCAGTAGTCCCCTGCCAGATGTAGATTAGCCCAGGCAGAATTCTATGTCTGCCCTCGAGACAATAGAGATAGGGCCACTG
KS4
GT1
KN4
NG11
ON8
GF7
ME3
FO14
ST5
TG11
NS3
HK25
OS37
TS11
EH13
MZ24
Kyoto-SPF1
ON-CG
ON-RG
IS11
TT7

401 411 421 431 441 451 461 471 481 491 501 511

FI2 CACACCGATGTGGGGATATGAAGAATATTTCTGCTCGGCATGGGGCTGCGAACTACTGGCGATGCCTACTGGCAACCAACCTCTTCTTGGGACTTAATTACCATTACAAGAAATTACA
KS4
GT1
KN4
NG11
ON8
GF7
ME3
FO14
ST5
TG11
NS3
HK25
OS37
TS11
EH13
MZ24
Kyoto-SPF1
ON-C ..T
ON-R ..T
IS11
TT7

521 531 541 551 561 671 581 591 601 611 621 631

FI2 CTAAACCTGACCCGTGATGGACACACTTGCTACTATAAAAAAGGGCACTGAAGGGTATCATTATTGGGAAAGTCCCCTGTCCCTACCTCTTAAGATTACCTTTACAGACTCAGGAAAACGGG
KS4
GT1
KN4
NG11
ON8
GF7
ME3
FO14
ST5
TG11
NS3
HK25
OS37
TS11
EH13
MZ24
Kyoto-SPF1
ON-C
ON-R
IS11
TT7

641 651 661 671 681 691 701 711 721 731 741 751

FI2 CTCCTCGGATGGCAGACGGGCTATACATGGGGACTCCGATGGTATCTACCGGAAAAGATAGAGGAGTTGTTCTAAAAATAAAATAAAATAGATACCATCACCCAAACCGTAGGCCCAA
KS4
GT1
KN4
NG11
ON8
GF7
ME3
FO14
ST5
TG11
NS3
HK25
OS37
TS11
EH13
MZ24
Kyoto-SPF1
ON-C
ON-R
IS11
TT7

Supplementary Figure S1

env

	761	771	781	791	801	811	821	831	841	851	861	871
FI2	CCTAGTATTGGCCGATCAAAAAGGCCCGGTCCAGCTAGCCATCCCAGTCTAGCCACCAAGGGCCCAACTCAGACACCGAGGGTCAACCCCTGCTAATTCCACTCTAAGCCCTAATCTAGG											
KS4											
GT1											
KN4											
NG11											
ON8											
GF7											
ME3											
FO14											
ST5											
TG11											
NS3											
HK25											
OS37											
TS11											
EH13											
MZ24											
Kyoto-SPF1											
ON-C	.....C.....											
ON-R	.....C.....											
IS11											
TT7											

	881	891	901	911	921	931	941	951	961	971	981	991
FI2	ACACCCAACCTCCCCCTCTCGACCGGGCAGGGAGACAGACTCCTAAACCTTGTACAAGGGGTATACTTAACCTCTCGACCTCAGGGCCCAATCAAACCTCAGAACTGTTGGCTCTGCCT											
KS4	.....										
GT1	.....										
KN4	.....A.....											
NG11	.....A.....											
ON8	.....A.....											
GF7	.....A.....											
ME3	.....A.....											
FO14	.....A.....											
ST5	.....A.....											
TG11	.....A.....											
NS3	.....A.....											
HK25	.....A.....											
OS37	.....A.....											
TS11	.....A.....											
EH13	.....A.....											
MZ24	.....A.....											
Kyoto-SPF1	.....A.....											
ON-C	.....										
ON-R	.....										
IS11	.....A.....											
TT7	.....A.....											

	1001	1011	1021	1031	1041	1051	1061	1071	1081	1091	1101	1111
FI2	AACTGCTAAACCCCTTACTATCAGGGAGTTGCTATAATTGGAAATTTTACTAACCACACTAATGCCCACTGAAATGTAGCACTACACCTCGACACGGCCCTCACTCTAACTGAAGTCAC											
KS4											
GT1											
KN4											
NG11											
ON8											
GF7											
ME3											
FO14											
ST5											
TG11											
NS3											
HK25											
OS37											
TS11											
EH13											
MZ24											
Kyoto-SPF1											
ON-C											
ON-R											
IS11											
TT7											

	1121	1131	1141	1151	1161	1171	1181	1191	1201	1211	1221	1231
FI2	CGGCCAAGGCTTATGCATTGGCAAAGTCCCCCTCACACCAGAATCTCTGCAGCCAGACCGTAACATCAGTCGGGCAGGGCCCTATTATTTGACCGCTCCCAACGGAACATACATGGGT											
KS4	.....										
GT1	.....										
KN4	.....A.....											
NG11	.....A.....											
ON8	.....A.....											
GF7	.....A.....											
ME3	.....A.....											
FO14	.....A.....											
ST5	.....A.....											
TG11	.....A.....											
NS3	.....A.....											
HK25	.....A.....											
OS37	.....A.....											
TS11	.....A.....											
EH13	.....A.....											
MZ24	.....A.....											
Kyoto-SPF1	.....A.....											
ON-C	.....A.....											
ON-R	.....A.....											
IS11	.....A.....											
TT7	.....A.....											

Supplementary Figure S1

	1721	1731	1741	1751	1761	1771	1781	1791	1801	1811	1821	1831
FI2	GAGGGAAAGACTCAAACAGAGACAAAAGCTGTTTCGAATCTCAACAAGGCTGGTTTGAGGGATGGTATAACAAATCCCCTGGTTTACCACTCTAGTCTCCTCCCTCATAGGCCCTTAAAT											
KS4	.....										
GT1	.....										
KN4	.....										
NG11	.....										
ON8	.....										
GF7	.....										
ME3	.....										
FO14	.....										
ST5	.....G.....											
TG11	.....G.....											
NS3	.....G.....											
HK25	.....										
OS37	.....										
TS11	.....										
EH13	.....										
MZ24	.....										
Kyoto-SPF1	.....										
ON-C	.....A.....											
ON-R	.....A.....											
IS11	.....										
TT7	.....										

	1841	1851	1861	1871	1881	1891	1901	1911	1921	1931	1941	1951
FI2	ACTCCTACTATTAATACGTGTTCGGACCTTGCATCCTCAACCGCTTGGTACAATTCATAAGGGAGAGACTCTCTGTCATCCAGGCCTGGTCCTAACTCAACAGTACCACCAACTAAG											
KS4											
GT1											
KN4											
NG11											
ON8											
GF7											
ME3											
FO14											
ST5											
TG11											
NS3											
HK25											
OS37											
TS11											
EH13											
MZ24											
Kyoto-SPF1											
ON-C											
ON-R											
IS11											
TT7											

	1961	1971	1981
FI2	ACAATTTGACACAGAAAGGCCAGATACAATCGAATGA		
KS4		
GT1		
KN4		
NG11		
ON8		
GF7		
ME3		
FO14		
ST5		
TG11		
NS3		
HK25		
OS37		
TS11		
EH13		
MZ24		
Kyoto-SPF1		
ON-C		
ON-R		
IS11		
TT7		

Supplementary Table S1

Sequences of primers used in this study.

Primer	Sequence (5'-3')
Fe-207S	GGATCCGGATCCATGAAACCCCAACAGGAAT
Fe-209S	GGATCCGGATCCATGAAACTCCCAACAGGAAT
Fe-246S	CATCACCCAAACCGTAGGTCCCAACCTAGTATTGGC
Fe-247S	CAGCTAGCCATCCCAGTCCAGCCACCAAGGGCC
Fe-248S	CTCAACTTCCCCCTCTCGACCGGGCACGGGAGAC
Fe-249S	CTCAACCTCACGGCCCCAAATCAAACCTCAGAGC
Fe-327S	AATTTCGAGCTCGGTACGGATCCATGAAACCCCAACAG
Fe-328S	GACCGGGCACAGGAGATAGGCTCC
Fe-329S	GCCCCTATTATTTGACCGCTCCCA
Fe-330S	TAGCACTGCTCCTAGGGGGATTAAC
Fe-344S	ATTTGACCGCTCCCAACAGAACGTAAGGTTCTGT
Fe-345S	GCTCCAGGTAATCAATATTACTGCCGACTATTGCA
Fe-346S	GGTACTCAATAATACTACAGACTATTGCATCCTAAT
Fe-347S	GCCACTACGAACCCGGCAGCAGATTCCGGAGAGAA
Fe-358S	TCAATAATACTGCCGACGATTGCATCCTAATTGA
Fe-362S	ATTTGACCGCTCCCAACGGAACATACTGGGTCTGT
Fe-363S	TCAATACTACTACAGATTATTGCATCCTAATTGA
Fe-376S	CATTACGAACCCGGCGGCAGATTCCGGAGAG
Fe-377S	TCAATGATACTGCCGACGATTGCATCCTAATTGA
Fe-378S	TCCAGGTAATCAATACTACTGCCGACTATTG
Fe-379S	CTAGCCGCCCAATCGCACCTATTGGGCCT
Fe-380S	AATTGGACCTCTGATGATTGTGTCTTAATCGA
Fe-382S	CTCCAGGTAATCAATATTACTACAGACTATTGCATCCTAATTG
FrMLV env 1S	GGGAATTCATGGCGTGTCAACGCTCCC
FrMLV mu1 S	TCTAGTTGCCCAACAAGAACTACGTGGGCATG
FrMLV mu5 S	TAATCGCACCACTGACGATTGCGTTCTCGTAG
KoRV env eco 1S	GAATTCATGCTTCTCATCTCAAACCCGCGC
KoRV mu1 S	CCTCCTCCCCTCCAACCGCAGCTGGTGGGCTTG
KoRV mu5 S	CCACCAGTCTAACGATGACTGTATCCAGATCCAGC
KoRV 3S	CCGAATTCATGCTTCTCATCTCAAACCCGCGC
Fe-218R	GCCAATACTAGGTTGGGACCTACGGTTGGGTGATG
Fe-219R	GGCCCTTGGTGGCTGGACTGGGATGGCTAGCTG
Fe-220R	GTCTCCCGTGCCCGGTCGAGAGGGGGAAGTTGAG
Fe-221R	GCTCTGAGTTTGATTTGGGGCCGTGAGGTTGAG
Fe-222R	CCGGATCCTCATTTCGATTGTATCTGGCC
Fe-266R	GCCAAGCTTGCATGCCGATCCTCATTTCGATTGTATCTG
Fe-267R	TCTCCTGTGCCCGGTCGAGAGGG
Fe-268R	GTCAAATAATAGGGGCCCTGCC
Fe-269R	CCTAGGAGCAGTGCTACGGTGAG
Fe-281R	ACAGACCCAGTACGTTCTGTTGGGAGCGGTCAAAT
Fe-282R	TGCAATAGTCGGCAGTAATATTGAGTACCTGGAGC
Fe-283R	ATTAGGATGCAATAGTCTGTAGTATTATTGAGTACC
Fe-284R	TTCTCTCCGGAATCTGCTGCCGGTTTCGTAGTGGC
Fe-395R	TCAATTAGGATGCAATCGTCGGCAGTATTATTGA
Fe-401R	ACAGACCCAGTATGTTCCGTTGGGAGCGGTCAAAT
Fe-402R	TCAATTAGGATGCAATAATCTGTAGTAGTATTGA
Fe-409R	CACACCGGAATCTGCCCGGGTTCGTAATG
Fe-410R	TCAATTAGGATGCAATCGTCGGCAGTATCATTGA
Fe-411R	CAATAGTCGGCAGTAGTATTGAGTACCTGGA
Fe-412R	AGGCCCAATAGGTGCGATTGGGGGCGGCTAG
FrMLV env 1R	CCGAATTCATGGCTCGTATTCTAGTG
FrMLV mu1 R	CATGCCACGTAGTTCTTGTGGGGGCAACTAGA
FrMLV mu5 R	CTACGAGAACGCAATCGTCAGTGGTGCATTGA
KoRV env eco 1R	GAATTCGGTAGCTCTAATCATAGAGCAGAA
KoRV mu1 R	CAAGCCCACCAGCTGCCGTTGGAGGGGAGGAGG
KoRV mu5 R	GCTGGATCTGGATACAGTCATCGTTAGACTGGTTG
KoRV 4R	CCGAATTCCTACAGGCTTCTTTCAGAGATCAGTTTCTGTTTCGAGGTTATCCTCGTTGTCTAG
ERV-DC GI, II Env Myc R	CCGGATCCCTACAGGCTTCTTTCAGAGATCAGTTTCTGTTTCGATTGTATCTGGCCT