

**Table S1. The representative retrovirus sequences used for phylogenetic reconstruction**

Name	Accession No./Source
Bovine foamy virus (BFV)	NC_001831.1
Equine foamy virus (EFV)	NC_002201.1
Feline foamy virus (FFV)	NC_001871.1
SFVspm	EU010385.1
SFVgor	HM245790.1
SFVcpz	NC_001364.1
SFVmac	NC_010819.1
SFVagm	NC_010820.1
Bovine leukemia virus (BLV)	NP_056895.1
Human T-cell leukemia virus type 1 (HTLV-1)	NP_057860.1
Human T-cell leukemia virus type 2 (HTLV-2)	NP_041003.2
Bovine immunodeficiency virus (BIV)	NP_040563.1
Human immunodeficiency virus type 2 (HIV-2)	NP_663784.1
Human immunodeficiency virus type 1 (HIV-1)	ABK51636.1
SIVcol	AAK01033.1
SIVcpz	ABU53017.1
Jembrana disease virus (JDV)	AAA64389.1
Caprine arthritis-encephalitis virus (CAEV)	NP_040939.1
Maedi-visna virus (MVV)	YP_536867.1
Equine infectious anemia virus (EIAV)	NP_056902.1
Feline immunodeficiency virus (FIV)	NP_040973.1
Lymphoproliferative disease virus (LDV)	AAA62195.1
Avian leukosis virus (ALV)	YP_004222728.1
Murine endogenous retrovirus type L (MERV-L)	CAA73251.1
Python molurus endogenous retrovirus (Python-molurus)	AAN77283.1
Mouse mammary tumor virus (MMTV)	NP_056880.1
Jaagsiekte sheep retrovirus (JSRV)	NP_041186.1
Simian retrovirus 2 (SRV-2)	AAA47562.1
Simian retrovirus 1 (SRV-1)	AAA47732.1
Snakehead retrovirus (SnRV)	NP_043924.1
Walleye epidermal hyperplasia virus type 1 (WEHV-1)	AF133051
Walleye epidermal hyperplasia virus type 2 (WEHV-2)	AF133052
Walleye dermal sarcoma virus (WDSV)	NP_045937.1
Feline leukemia virus (FLV)	NP_955577.1
Moloney murine leukemia virus (MMLV)	NP_057933.2
Baboon endogenous retrovirus (ERV-Baboon)	BAA89659.1
Baboon endogenous retrovirus (ERV-Baboon 2)	AHZZ01047987
Gibbon ape leukemia virus (GALV)	NP_056790.1
RD114 retrovirus	NC_009889
<i>Rhinolophus ferrumequinum</i> retrovirus (RfRV)	JQ303225
<i>Tursiops truncatus</i> endogenous retrovirus (TTERV)	ABRN02237111
Koala retrovirus (KoRV)	AF151794.2

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Porcine endogenous retrovirus C (PERV-A)	EU789636
Porcine endogenous retrovirus C (PERV-C)	HM159246
<i>Xenopus tropicalis</i> endogenous retrovirus 2 (XTERV2)	HM765512
Zebrafish endogenous retrovirus (ZFERV)	AF503912
Atlantic salmon swim bladder sarcoma virus (SSSV)	DQ174103
Rabbit endogenous lentivirus type K (RELK)	Ref. 1
Gray mouse lemur prosimian immunodeficiency virus (pSIVgml)	Ref. 2
Sloth endogenous foamy virus (SloEFV)	Ref. 3
Mustelidae endogenous lentivirus (MELV)	Ref. 4
HERV-S	Ref. 5
HERV-L	Ref. 5
HERV-FRD	Ref. 5
HERV-Hconsensus	Ref. 5
HERVH-RGH2	Ref. 5
HERV-Fc1	Ref. 5
HERV-W	Ref. 5
HERV-E	Ref. 5
ERV-3	Ref. 5
HERV-T	Ref. 5
Xen1	Ref. 5
HML1	Ref. 5
HML2	Ref. 5
HML3	Ref. 5
HML4	Ref. 5
HML5	Ref. 5
HML6	Ref. 5
HML7	Ref. 5
HML8	Ref. 5
HML9	Ref. 5
<i>Gallus gallus</i> endogenous retrovirus LA (GGERV-LA)	Ref. 6
<i>Gallus gallus</i> endogenous retrovirus 10 (GGERV-10)	Ref. 6
<i>Zonotrichia albicollis</i> endogenous retrovirus type A (ZAERV-A)	Ref. 6
Coelacanth endogenous foamy virus (CoEFV)	Ref. 7
Galeopterus variegatus endogenous lentivirus (GvaELV)	Ref. 8

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## References

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