

**Supplementary Table 1.** GenBank accessions and names of the *Mononegavirales* sequences used in this study.

GenBank Accession	Name	GenBank Accession	Name
<b><i>Avulavirus</i></b>		EU167540	SRZ03
<b><i>Newcastle disease virus</i></b>		EU289028	VG/GA
AB524405	Goose/Alaska/415/91	EU289029	VG/GA
AB524406	9a5b	EU293914	Italien
AB534205	9a3b	EU546165	JL-1
AF077761	LaSota	FJ386392	NDV01
AF309418	NDV-B1	FJ386393	NDV02
AF375823	B1-Takaaki	FJ386394	NDV03
AF431744	ZJ1	FJ386395	NDV04
AY225110	HB92-V4	FJ386396	NDV05
AY562985	Cockatoo/14698/90	FJ410145	PPMV-1/NewYork/1984
AY562986	Anhinga/FI/44083/93	FJ430159	JS/7/05/Ch
AY562987	Gamefowl/211472/02	FJ430160	JS/9/05/Go
AY562988	Chicken/1083/72	FJ436302	F48E8
AY562989	Dove/Italy/2736/00	FJ436303	ZJ/1/86/Ch
AY562990	Mixedsp/US/Largo/71	FJ436304	JS/1/85/Ch
AY562991	Chicken/Ulster/67	FJ436305	JS/1/97/Ch
AY741404	Herts/33	FJ436306	JS/1/02/Du
AY865652	Sterna/Astr/2755	FJ751918	QH1
AY935489	01-1108	FJ751919	QH4
AY935490	02-1334	FJ766526	JS/07/22/Pi
AY935491	98-154	FJ766527	JS/07/16/Pi
AY935492	98-1249	FJ766528	NDV05-029
AY935493	98-1252	FJ766529	ZhJ-3/97
AY935494	99-0655	FJ766530	JS/07/04/Pi
AY935495	99-0868hi	FJ766531	JS/07/03/Pi
AY935496	99-0868lo	FJ794269	NDV08-004
AY935497	99-1997PR-32	FJ872531	Muscovy duck/FP1/02
AY935498	99-1435	FJ939313	NDV/Chicken/Egypt/1/2005
AY935499	I-2	FJ986192	2K3/Chennai/TamilNadu
AY935500	I-2Progenitor	GQ288377	Mallard/04-411
DQ060053	AQI-ND026	GQ288378	Pintail/87-486
DQ097393	DE-R49/99	GQ288379	Mallard/03-632
DQ097394	PHY-LMV42	GQ288380	Mallard/86-233
DQ485229	Chicken/Guangxi7/02	GQ288381	Cormorant/D9704285
DQ485230	Chicken/Guangxi9/02	GQ288382	Cormorant/98CNN3-V1125
DQ485231	Chicken/Guangxi11/02	GQ288383	Cormorant/95DC02150
DQ486859	GM	GQ288384	Cormorant/95DC2345
DQ659677	NA-1	GQ288385	Cormorant/18719-03
EF026579	PPMV-1/0.025	GQ288386	Cormorant/19529-04
EF026583	PPMV-1/1.3	GQ288387	Cormorant/92-40140

EF065682	rAnhinga
EF201805	Mukteswar
EU140955	KBNP-C4152R2L
GQ288392	Mallard/MN00-39
GQ338309	ND/03/018
GQ338310	ND/03/044
GQ338311	ND/05/028
GQ429293	Dove/Italy/2736/00
GQ849007	JSD0812
GQ918280	BHG/Sweden/94
GQ994433	XD/Shandong/08
GQ994434	QG/Hebei/07
GU143550	Go/CH/HLJ/LL01/08
GU187941	NDV-2/chicken/Namakka
GU564399	FMW
GU585905	Chicken/Sweden/97
GU978777	APMV-1/US(TX)/GB
HQ008337	JS10
HM063422	D3
HM063423	W4
HM063424	R8
HM063425	P4
HM117720	NDV-P05
HM125898	WDK/JX/7793/2004
HM188399	SDWF02
HM357251	NDV-4
NC_002617	B1

**Bornavirus**

***Borna disease virus***

AB032031	OL/Hu-BV
AB246670	Bo/04w
AB258389	huP2br
AJ311521	V/FR
AJ311522	He/80/FR
AJ311523	H1766
AJ311524	No/98
AY114161	CRNP3A
AY114162	CRNP3B
AY114163	CRNP5
NC_001607	bobe
U04608	V

GQ288388  
GQ288389  
GQ288390

***Ebolavirus***  
***Ebola virus***

AB050936  
AF086833  
AF272001  
AF499101  
AF522874  
AY142960  
AY354458  
AY729654  
AY769362  
EU224440  
EU338380  
FJ217161  
FJ217162  
L11365  
NC\_004161  
NC\_006432  
NC\_014373  
NC\_002549

Cormorant/92-23071  
Mallard/99-376  
Mallard/00-32

Reston  
Mayinga  
Mayinga  
Mayinga  
Pennsylvania  
Mayinga  
Zaire  
Gulu  
Pennsylvania  
Mayinga  
Yambio  
Bundibugyo  
Cote d'Ivoire  
Zaire  
Pennsylvania  
Gulu  
Bundibugyo  
Mayinga

***Henipavirus***

***Nipah virus***

AF017149  
AF212302  
AJ564621  
AJ564622  
AJ564623  
AJ627196  
AY029767  
AY029768  
AY988601  
FJ513078  
NC\_001906  
NC\_002728

Hendra virus  
Nipah virus  
NV/MY/99/VRI-2794  
NV/MY/99/VRI-1413  
NV/MY/99/UM-0128  
NV/MY/99/VRI-0626  
UMMC1  
UMMC2  
Bangladesh  
Ind-Nipah-07-FG  
Hendra virus  
Nipah virus

***Lyssavirus***

***Rabies virus***

AB044824  
AB085828  
AB128149  
AB362483  
AF499686  
AY705373

Nishigahara  
HEP-Flury  
Ni-CE  
BR-Pfx1  
SRV9  
SHBRV-18

DQ875050	MRV	AY956319	Serotype1
DQ875051	DRV	GU358653	GX4
EF206707	ERA	GU565703	Flury-LEP
EF206708	SAD Lysvulpen	GU565704	Flury-HEP
EF206709	SAD B19	GU647092	JX08-45
EF206710	SAD Bern var1	M13215	RAVMMGN
EF206711	SAD Bern var2	M31046	RAVCGA
EF206712	SAD Bern var3	NC_001542	RB
EF206713	SAD Bern var4		
EF206714	SAD Bern var5		
EF206715	SAD P5/88		
EF206716	SAD VA1		
EF206717	SAD1-3670var1	AB503857	Jpn03-1
EF206718	SAD1-3670var2	AF371337	00-1
EF206719	SAG 2	AY297748	CAN98-75
EF206720	SAD Bern	AY297749	CAN97-83
EF437215	NNV-RAB-H	AY525843	NL/1/99
EF564174	CTN181	AY579780	USA
EU182346	RB/E3-15	AY590688	Colorado
EU182347	Rb/E3-15-5	AY640317	LAH A
EU293111	8764THA	DQ009484	15a
EU293113	9001FRA	DQ843658	BJ1816
EU293115	9147FRA	DQ843659	BJ1887
EU293116	9704ARG	EF199771	PL-1
EU293121	8743THA	EF199772	PL-2
EU311738	RRV ON-99-2	EF535506	TW05-00125
EU549783	BD06	FJ168778	NL/94/01
EU643590	HN10	FJ168779	NL/00/17
EU877067	SAD B19-4 <sup>th</sup>	FJ977568	aMPV/MN/turkey/2a/97
EU877068	SAD B19	GQ153651	HMPVgz01
EU877069	SAD B19-1 <sup>st</sup>	NC_004148	CAN97-83
EU877070	SAD B19-5 <sup>th</sup>	NC_007652	15a
EU877071	SAD B19-10 <sup>th</sup>		
FJ577895	Flury-LEP-C		
FJ712193	D01		
FJ712194	D02	AB474397	007Lm
FJ712195	F02	AF014953	Onderstepoort
FJ712196	F04	AF164967	A75/17
FJ866835	FJ008	AF305419	Onderstepoort
FJ866836	FJ009	AF378705	Onderstepoort-OS
FJ913470	ERA-VC	AY386315	5804
FJ959397	CTN-1	AY386316	5804P
GQ918139	CVS-11	AY443350	00-2601
GU345746	CQ92	AY445077	98-2645
GU345747	J	AY466011	98-2654

### ***Metapneumovirus***

#### ***Avian/human metapneumovirus***

### ***Morbilivirus***

#### ***Canine distemper virus***

GU345748	SH06	AY542312	98-2646
AY649446	01-2689	NC_001498	Ichinose-B95a
EU716337	164071		
GU138403	Snyder Hill		
HM046486	Phoca/Caspian		
HM063009	Shuskiy		
HM852904	MKY-KM08		
NC_001921	CDV		

***Measles virus***

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AB254456	SSPE-Kobe-1
AB481087	T11wild
AB481088	T11Ve-23
AF266286	AIK-C
AF266287	Moraten
AF266288	Edmonston
AF266289	Rubeovax
AF266290	Zagreb
AF266291	Schwarz
AY486083	EZD22
AY486084	EZD24 2/99
AY730614	Leningrad-4
DQ211902	CHN/7.05/4
DQ227318	CRO/47.02/[D6]
DQ227319	97-45881
DQ227320	CRO/08.03/SSPE
DQ227321	WA.USA/17.98
DQ345721	CAM-70
DQ345722	CAM-70
DQ345723	CAM-70
EF033071	Changchun-47
EU293548	D-V/S
EU293549	D-CEF
EU293550	Davis87
EU293551	D-VI
EU293552	D-VII
EU435017	Shanghai-191
FJ161211	IMB-1
FJ211583	0349U
FJ211589	MEV10016
FJ211590	AMJRB107B
FJ416067	Shanghai-191
FJ416068	Changchun-47
GQ376026	MV99Y
GQ376027	MV99YC7
K01711	Edmonston

***Pneumovirus***

***Respiratory syncytial virus***

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AF013254	B1
AF013255	Cp52
AF035006	rA2cp
AY353550	9320
AY911262	ATCC VR-26
FJ948820	98-25147-X
NC_001781	HRSV
U39662	S2
U50362	Cp-RSV
U50363	Cpts-248
U63644	Cpts-248/404

***Respirovirus***

***Sendai virus***

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AB005795	M1
AB039658	E0
AB195967	E-5
AB195968	Nagoya
AB275416	Cl.151
DQ219803	BB1
EF679198	Tianjin
M30202	Z
M69046	T-5
NC_001552	Ohita

***Rubulavirus***

***Mumps virus***

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AB040874	Miyahara
AB470486	Hoshino
AB576764	Y213
AF201473	Jeryl Lynn
AF280799	Glouc1/UK96
AF314561	Biken
AF314562	87 1005
AF314558	SIPAR02
AF467767	88-1961
AY309060	Dg1062/Korea/98
AY508995	L3/Russia/Vector
AY669145	Drag94
AY681495	PetroNov

AY685921	L-Zagreb
DQ649478	SP
EU370206	9218/Zg98
EU370207	Du/CRO05
EU884413	SP
FJ375177	1004-10/2
FJ375178	Gw7
FJ556896	SP-A
GU980052	Enders
FN431985	JL2
NC_002200	Miyahara

**Vesiculovirus**

*Vesicular stomatitis virus*

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AF473864	98COE
AF473865	85CLB
AF473866	94GUB
AM690337	Indiana
AM690336	Indiana
EF197793	MARMC
EU849003	Mudd-Summers
J02428	Indiana
NC_001560	Indiana

*Parainfluenza virus Type 3*

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AF178654	Kansas/15626/84
AF178655	Shipping Fever
D84095	910N
EU277658	Q5592
EU326526	ZHYMgz01
EU424062	14702
EU439428	92-7783_ISU-92
EU439429	81-19252_Texas
FJ455842	LZ22
NC_001796	HPIV3
NC_002161	HPIV3
U51116	Cp-45

**Supplementary Table 2.** Relative mRNA and protein abundance for each *Mononegavirales* species and the associated source of information.

Virus	Gene												Reference
	NS1	NS2	N	P(V/C)	M	SH	F	G/H/HN	M2	VP30	VP24	L	
	<b>mRNA abundance</b>												
<i>Newcastle disease virus</i>	*	*	100	86.9	84.8	*	82.3	64.8	*	*	*	4.7	4 (Fig 2. Lines a & d)
<i>Borna disease virus</i>	*	*	-	-	-	*	*	-	*	*	*	-	
<i>Ebola virus</i>	*	*	100	325.8	391	*	*	68.7	*	218.6	97	-	14 (Fig 1. Line 4)
<i>Nipah virus</i>	*	*	-	-	-	*	-	-	*	*	*	-	
<i>Rabies virus</i>	*	*	100	70.2	42.6	*	*	21.2	*	*	*	1	9 (Fig 5)
<i>Avian/Human metapneumovirus</i>	*	*	-	-	-	-	-	-	-	*	*	-	
<i>Canine distemper virus</i>	*	*	100	93.6	81.3	*	76.9	64.8	*	*	*	59.6	18 (Fig 4. 56 days pi <sup>†</sup> )
<i>Measles virus</i>	*	*	100	34	25	*	20	15	*	*	*	1.5	3 (Fig 4. Panel E)
<i>Respiratory syncytial virus</i>	111.1	105.6	100	75.6	57.8	35.6	20	23.3	16.7	*	*	3.3	1 (Fig 6)
<i>Sendai virus</i>	*	*	100	68	100	*	38	33	*	*	*	3	10 (Table 1)
<i>Mumps virus</i>	*	*	100	39.2	62.6	-	31.5	6.6	*	*	*	0.6	15 (Fig 2)
<i>Parainfluenza virus type 3</i>	*	*	100	31.6	-	*	20.9	19.3	*	*	*	14.2	5 (Fig 4)
<i>Vesicular stomatitis virus</i>	*	*	100	75	50	*	*	36	*	*	*	5.6	16 (Table 1)
	<b>Protein abundance</b>												
<i>Newcastle disease virus</i>	*	*	100	46.7	99.5	*	51	83.7	*	*	*	38.3	8 (Fig 1. Panels A & B)
<i>Borna disease virus</i>	*	*	-	-	-	*	*	-	*	*	*	-	
<i>Ebola virus</i>	*	*	100	49.1	121.5	*	*	179.5	*	154.2	40.6	23.7	14 (Fig 2. Line 2)
<i>Nipah virus</i>	*	*	-	-	-	*	-	-	*	*	*	-	
<i>Rabies virus</i>	*	*	100	86	52	*	*	64	*	*	*	1.9	13 (Table 1)
<i>Avian/Human metapneumovirus</i>	*	*	-	-	-	-	-	-	-	*	*	-	
<i>Canine distemper virus</i>	*	*	100	58	62.3	*	43	62.3	*	*	*	-	6 (Fig. 7)
<i>Measles virus</i>	*	*	100	51.8	86.6	*	-	44.7	*	*	*	8	2 (Fig. 6. Panel b)
<i>Respiratory syncytial virus</i>	39.6	-	100	107.7	138.8	-	8.6	338.5	-	*	*	46.4	12 (Fig 1. 16 hours pi <sup>†</sup> , line l)
<i>Sendai virus</i>	*	*	100	88.7	47	*	61.3	68.6	*	*	*	9.1	11 (Fig 1)
<i>Mumps virus</i>	*	*	100	137.1	99.7	-	56.2	87.1	*	*	*	54	7 (Fig 2. Line g)
<i>Parainfluenza virus type 3</i>	*	*	100	49.3	127.4	*	116	144.9	*	*	*	55.2	17 (Fig 1. 21 hours pi <sup>†</sup> )
<i>Vesicular stomatitis virus</i>	*	*	100	77	53	*	*	34	*	*	*	6.9	16 (Table 2)

\* Gene not present in this species.

- No information available.

† post infection

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**Supplementary Table 3.** Calculation of relative mRNA abundance for the *Mononegavirales* genes.

Species	Gene	Measurement method <sup>a</sup>	Densitometry (Bg corrected) <sup>b</sup>	Gene length	mRNA abundance <sup>c</sup>	Relative mRNA abundance (%) <sup>d</sup>
Rabies virus	N	( <sup>3</sup> H)Uridine	208.74	1353	0.1543	100
	P		96.82	894	0.1083	70.2
	M		41.98	639	0.0657	42.6
	G		51.50	1575	0.0327	21.2
	L		9.58	6387	0.0015	1
Vesicular stomatitis virus	N	Author's	-	NA	-	100
	P(NS)		-	NA	-	75
	M		-	NA	-	50
	G		-	NA	-	36
	L		-	NA	-	5.6
Ebola virus	N	( <sup>3</sup> H)Uridine	8900	2220	2.99663	100
	VP35		13425	1023	9.76364	325.8
	VP40		17621	981	11.71609	391
	G		4949	2166	2.05779	68.7
	VP30		7119	867	6.54921	218.6
	VP24		4684	756	2.90751	97
Respiratory syncytial virus	NS1	Author's	-	NA	-	111.1
	NS2		-	NA	-	105.6
	N		-	NA	-	100
	P		-	NA	-	75.6
	M		-	NA	-	57.8
	SH		-	NA	-	35.6
	G		-	NA	-	20
	F		-	NA	-	23.3
	M2		-	NA	-	16.7
L		-	NA	-	3.3	
Canine distemper virus	N	Probe	1.192	NA	-	100
	P/V/C		1.116	NA	-	93.6
	M		0.969	NA	-	81.3
	F		0.917	NA	-	76.9
	H		0.772	NA	-	64.8
	L		0.711	NA	-	59.6
Newcastle disease virus	N	( <sup>3</sup> H)Uridine	137.67	1470	0.09365	100
	P/V		97.67	1200	0.08139	86.9
	M		87	1095	0.07945	84.8
	F		130.67	1695	0.07709	82.3
	HN		106.67	1758	0.06067	64.8
	L		29	6615	0.00438	4.7
Sendai virus	N	Author's	-	NA	-	100
	P/C/V		-	NA	-	68
	M		-	NA	-	100
	F		-	NA	-	38
	HN		-	NA	-	33
	L		-	NA	-	3
Mumps virus	N	( <sup>32</sup> P)Phosphate	174.67	1650	0.10586	100
	P/V		48.67	1173	0.04149	39.2
	M		74.67	1127	0.06600	62.6
	F		39.67	1188	0.03339	31.5

	SH		-	1617	-	-
	HN		12.33	1749	0.0070	6.6
	L		4.67	6834	0.0007	0.6
Parainfluenza virus 3	N	Probe	49.3	NA	-	100
	P/C		15.6	NA	-	31.6
	M		10.3	NA	-	20.9
	F		9.5	NA	-	19.3
	HN		7.0	NA	-	14.2
	L					
Measles virus	N	Author's	-	NA	-	100
	P/V/C		-	NA	-	34
	M		-	NA	-	25
	F		-	NA	-	20
	H		-	NA	-	15
	L		-	NA	-	1.5

<sup>a</sup> Method used to detect the corresponding mRNA. (<sup>3</sup>H)Uridine/(<sup>32</sup>P)Phosphate: Addition of radiolabeling during infection/transcription. Probe: Hybridization with RNA probes specific for each mRNA. Author's: Values given in the manuscript.

<sup>b</sup> Densitometry values obtained with ImageJ v1.45, automatically corrected for background intensity.

<sup>c</sup> Corrected for gene length = Densitometry/gene length, arbitrary units.

<sup>d</sup> % of mRNA abundance relative to that of the N gene: Corrected densitometry(N)/Corrected densitometry(gene)\*100.

NA. Not applicable to the measurement method of mRNA abundance of the gene.

**Supplementary Table 4.** Calculation of relative protein abundance for the *Mononegavirales* genes.

Species	Gene	Measurement method <sup>a</sup>	Densitometry (Bg corrected) <sup>b</sup>	Number of labeled AA	Protein abundance <sup>c</sup>	Relative protein abundance (%) <sup>d</sup>
Rabies virus	N	Author's	-	NA	-	100
	P		-	NA	-	86
	M		-	NA	-	52
	G		-	NA	-	64
	L		-	NA	-	1.9
Vesicular stomatitis virus	N	Author's	-	NA	-	100
	P(NS)		-	NA	-	77
	M		-	NA	-	53
	G		-	NA	-	34
	L		-	NA	-	6.9
Ebola virus	N	( <sup>35</sup> S) methionine	1152.18	20	57.609	100.0
	VP35		226.08	8	28.260	49.1
	VP40		560.15	8	70.019	121.5
	G		413.71	4	103.428	179.5
	VP30		266.46	3	88.820	154.2
	VP24		210.42	9	23.380	40.6
	L		517.84	38	13.627	23.7
Respiratory syncytial virus	NS1	( <sup>35</sup> S) methionine	251.16	7	35.880	39.6
	NS2		-	5	-	-
	N		1267.73	14	90.552	100
	P		682.44	7	97.491	107.7
	M		1005.65	8	125.706	138.8
	SH		-	3	-	-
	G		612.95	2	306.475	338.5
	F		77.81	10	7.781	8.6
	M2		-	4	-	-
L		1976.67	47	42.057	46.4	
Canine distemper virus	N	( <sup>35</sup> S) methionine	4756	17	279.78	100
	P/V/C		1623	10	162.36	58
	M		1917	11	174.29	62.3
	F		1445	12	120.42	43
	H		2092	12	174.38	62.3
	L		-	49	-	-
Newcastle disease virus	N	( <sup>35</sup> S) methionine	3476.55	17	204.503	100.0
	P/V		1242.00	13	95.538	46.7
	M		1220.93	6	203.488	99.5
	F		1356.00	13	104.308	51.0
	HN		1711.12	10	171.112	83.7
	L		4696.65	60	78.278	38.3
Sendai virus	N	( <sup>35</sup> S) methionine	17325.0	15	1155.000	100.0
	P/C/V		10242.0	10	1024.200	88.7
	M		4886.0	9	542.889	47.0
	F		7075.0	10	707.500	61.3
	HN		6336.0	8	792.000	68.6
	L		5142.8	49	104.955	9.1
Mumps virus	N	( <sup>3</sup> H) leucine	172.15	52	3.311	100.0
	P/V		104.397	23	4.539	137.1

	M		105.656	32	3.302	99.7
	F		106.128	57	1.862	56.2
	SH		-	11	-	-
	HN		161.491	56	2.884	87.1
	L		517.106	289	1.789	54.0
Parainfluenza virus 3	N	( <sup>35</sup> S) methionine	228.990	16	14.312	100.0
	P/C		91.728	13	7.056	49.3
	M		164.052	9	18.228	127.4
	F		149.460	9	16.607	116.0
	HN		228.098	11	20.736	144.9
	L		426.384	54	7.896	55.2
Measles virus	N	( <sup>35</sup> S) methionine	1034	15	68.93	100
	P/V/C		357	10	35.7	51.8
	M		597	10	59.7	86.6
	F		-	12	-	-
	H		493	16	30.8	44.7
	L		286	52	5.5	8

<sup>a</sup> Method used to detect the corresponding mRNA. (<sup>35</sup>S) methionine/(<sup>3</sup>H) leucine: Addition of radiolabeled amino-acid during infection. Author's: Values given in the manuscript.

<sup>b</sup> Densitometry values obtained with ImageJ v1.45, automatically corrected for background intensity.

<sup>c</sup> Corrected for gene length = Densitometry/gene length, arbitrary units.

<sup>d</sup> % of protein abundance relative to that of the N gene: Corrected densitometry(N)/Corrected densitometry(protein)\*100.

NA. Not applicable to the measurement method of protein abundance of the gene.

**Supplementary Table 5.** Analysis of the association between relative position in the genome and  $d_N/d_S$ ,  $d_N$  and  $d_S$  in coding regions of the *Mononegavirales*.

Virus species	N <sup>a</sup>	$d_N/d_S$			$d_N$			$d_S$			Modification <sup>e</sup>
		$r^b$	$r_{mod}^c$	$r_{nov}^d$	$r$	$r_{mod}$	$r_{nov}^d$	$r$	$r_{mod}$	$r_{nov}^d$	
<b><i>Bornaviridae</i></b>											
Borna disease virus	12	0.56	0.94*	0.85*	-0.28	0.99*	0.85*	0.73	0.36	-0.16	L
<b><i>Rhabdoviridae</i></b>											
Vesicular stomatitis virus	7	-0.04	0.92*	0.86*	-0.09	0.91*	0.77*	0.07	0.45	0.30	(P), L
Rabies virus	60	-0.33	0.99*	-	-0.33	0.89*	-	-0.77	-0.75	-	P, L
<b><i>Filoviridae</i></b>											
Ebola virus	18	-0.43	-	-	-0.44	-	-	0.17	-	-	-
<b><i>Pneumoviridae</i></b>											
A/H metapneumovirus	19	0.50	0.80*	-	0.33	0.77*	-	0.18	-0.43	-	L
Respiratory syncytial virus	11	0.17	0.20	-	0.15	0.09	-	0.10	-0.16	-	G, L
<b><i>Paramyxoviridae</i></b>											
Newcastle disease virus	110	-0.35	0.96*	0.98*	-0.28	0.99*	0.99*	0.12	-0.85	-0.82	(P), L
Sendai virus	6	-0.39	0.89*	0.71*	0.75*	0.85*	0.76*	0.47	0.58	0.37	(P), L
Mumps virus	23	0.12	0.41	0.57	-0.30	0.03	0.52	0.20	0.61	0.69	L
Parainfluenza virus 3	12	-0.37	0.78*	0.76*	-0.10	0.81*	0.88*	0.71	0.99*	-0.83*	(P), L
Canine distemper virus	18	-0.07	0.37	0.76*	0.01	0.47	0.82*	0.55	0.69	0.61	L
Measles virus	37	-0.38	0.95*	0.74*	0.07	0.89*	0.88*	-0.05	0.94*	-0.06	(P), L
Nipah virus	12	-0.32	0.91*	0.81*	0.26	0.76*	0.74*	0.57	0.47	-0.17	(P), L

<sup>a</sup>Number of sequences

<sup>b</sup>Pearson's Correlation coefficient

<sup>c</sup>Pearson's Correlation coefficient excluding P, G, and/or L

<sup>d</sup>Pearson's Correlation coefficient using non-overlapping regions of the P gene, and excluding L.

<sup>e</sup>Excluded gene(s)

\* $P < 0.05$

Cases in which values obtained using the full length P gene were substituted for those obtained considering only non-overlapping regions of this gene are shown in parentheses.

**Supplementary Table 6.** Analysis of the association between genetic diversity and length, and between relative position and length of non-coding regions in the *Mononegavirales*.

Virus species	<i>d</i> to Length		Length to Relative Position		Modification <sup>d</sup>
	<i>r</i> <sup>b</sup>	<i>r</i> <sub>modified</sub> <sup>c</sup>	<i>r</i> <sup>b</sup>	<i>r</i> <sub>modified</sub> <sup>c</sup>	
<b><i>Bornaviridae</i></b>					
Borna disease virus	0.18 (0.730)	0.16 (0.794)	0.14 (0.785)	0.11 (0.857)	P
<b><i>Rhabdoviridae</i></b>					
Vesicular stomatitis virus	0.76 (0.079)	0.78 (0.112)	0.56 (0.249)	0.84 (0.076)	5'UTR
Rabies virus	0.15 (0.778)	0.24 (0.698)	0.53 (0.274)	0.53 (0.358)	G
<b><i>Filoviridae</i></b>					
Ebola virus	0.22 (0.605)	0.44 (0.318)	0.54 (0.169)	0.36 (0.431)	5'UTR
<b><i>Pneumoviridae</i></b>					
A/H metapneumovirus <sup>e</sup>	<b>0.88 (0.002)</b>	<b>0.96 (0.001)</b>	<b>0.85 (0.004)</b>	<b>0.90 (0.006)</b>	F, 5'UTR
Respiratory syncytial virus	<b>0.68 (0.021)</b>	-	<b>0.64 (0.034)</b>	-	-
<b><i>Paramyxoviridae</i></b>					
Newcastle disease virus	0.56 (0.189)	0.80 (0.053)	0.03 (0.948)	0.54 (0.270)	P
Sendai virus	0.21 (0.654)	0.36 (0.547)	0.01 (0.991)	0.21 (0.732)	L, 5'UTR
Mumps virus	-0.05 (0.897)	-	-0.23 (0.585)	-	-
Parainflueza virus 3	0.45 (0.368)	0.37 (0.546)	-0.03 (0.951)	0.12 (0.851)	F, 5'UTR
Canine distemper virus	0.56 (0.187)	0.58 (0.309)	0.03 (0.948)	0.44 (0.455)	L, 5'UTR
Measles virus	-0.29 (0.522)	-0.25 (0.680)	-0.32 (0.480)	-0.36 (0.550)	F, 5'UTR
Nipah virus	0.68 (0.109)	0.82 (0.100)	-0.02 (0.966)	0.83 (0.083)	P, 5'UTR
ALL	0.43 (0.169)	0.54 (0.099)	0.24 (0.229)	0.24 (0.183)	Outliers

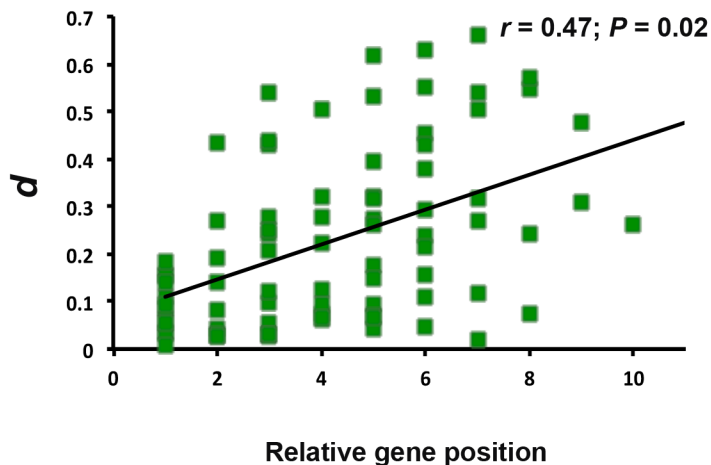
<sup>a</sup> Number of sequences

<sup>b</sup> Pearson correlation coefficient (*p*-value). Genetic distance calculated using all genes.

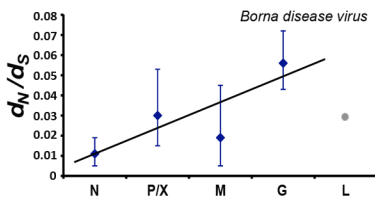
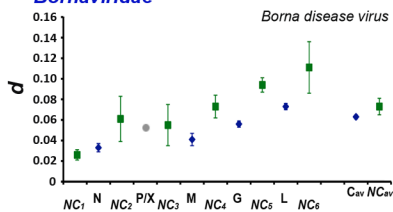
<sup>c</sup> Pearson correlation coefficient (*p*-value). Genetic distance calculated excluding outliers.

<sup>d</sup> Excluded non-coding region(s). Internal non-coding regions are named by the gene located downstream.

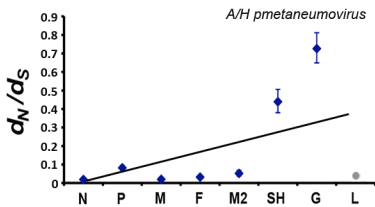
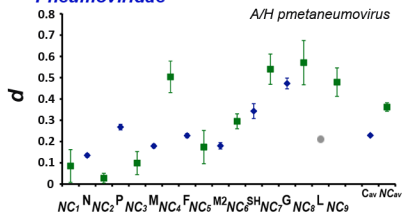
<sup>e</sup> Avian/Human metapneumovirus.



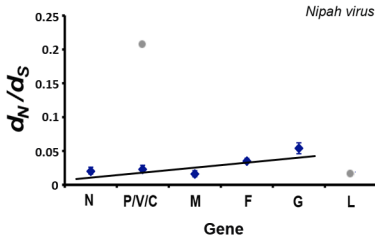
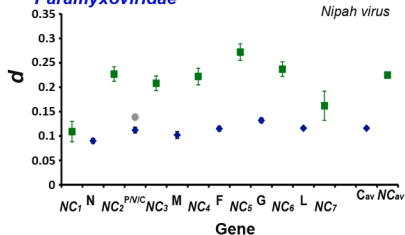
### Bornaviridae



### Pneumoviridae



### Paramyxoviridae



**Figure S1.** Correlation between relative gene position and genetic distance ( $d$ , left) or selection pressures ( $d_N/d_S$  ratio, right) for those species with no available information on mRNA abundance. Upper panel represents the correlation between relative gene position and  $d$  considering all the *Mononegavirales* species together. Coding regions are represented by blue diamonds, and non-coding regions by green squares. Grey dots indicate outlier values. Values are the mean  $\pm$  Standard Deviation for each data set. Note the different scale in each panel.