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**Supplementary Table S1.** Representative isolates of the seven RABV lineages in China used in this study

<b>Isolate</b>	<b>Province</b>	<b>Host</b>	<b>Genebank No.</b>	<b>Lineage</b>
<b>CSD0708D</b>	Shandong	Dog	JQ970486	
<b>CJS0636D</b>	Jiangsu	Dog	JQ970482	
<b>CNM1101C</b>	Inner Mongolia	Cattle	KC193267	
<b>FJ008</b>	Fujian	Dog	FJ866835	
<b>BJ2011E</b>	Beijing	Horse	JQ423952	
<b>CNM1104D</b>	Inner Mongolia	Dog	KC252634	
<b>GSJC-Sheep-China-2015</b>	Gansu	Sheep	MK577649	
<b>SXYL15</b>	Shanxi	Cattle	KR230090	
<b>CJS0848D</b>	Jiangsu	Dog	JQ970483	
<b>BD06</b>	Hebei	Dog	EU549783	China I
<b>JZ13-Lv</b>	Hebei	Human	KJ004416	
<b>SXBJ15</b>	Shanxi	Cattle	KR230089	
<b>FJ009</b>	Fujian	Dog	FJ866836	
<b>GSQY-Dog-China-2013</b>	Gansu	Dog	MK567666	
<b>JSTZ190314</b>	Jiangsu	Cattle	MN175989	
<b>CTMZZ11</b>	Henan	Human	KY780299	
<b>IMDRV-13</b>	Inner Mongolia	Deer	KJ564280	
<b>SH06</b>	Shanghai	Dog	GU345748	
<b>98011CHI</b>	Jiangsu	Dog	KX148265	
<b>CH/GDZQ</b>	Guangdong	Dog	KY451767	
<b>CHN0802D</b>	Hunan	Dog	JQ970480	
<b>F02</b>	Zhejiang	Ferret badger	FJ712195	China II
<b>GX4</b>	Guangxi	Dog	GU358653	
<b>JX08-45</b>	Jiangxi	Ferret badger	GU647092	
<b>CNM1103C</b>	Inner Mongolia	Cattle	KC252633	
<b>DRV</b>	Jilin	Deer	DQ875051	
<b>MRV</b>	Henan	Mouse	DQ875050	China III
<b>WQ14-RF</b>	Inner Mongolia	Fox	KM016899	
<b>ERA-M-LD51</b>	Shanghai	Mouse	MT895968	
<b>CQH1202D</b>	Qinghai	Dog	KM272192	China IV
<b>CXZ1201D</b>	Tibet	Dog	KY175229	
<b>CQ92</b>	Chongqing	Dog	GU345746	China V
<b>J</b>	Ningxia	Human	GU345747	
<b>CYN1009D</b>	Yunnan	Dog	JQ730682	China VI
<b>GXN119</b>	Guangxi	Dog	MG201920	
<b>CXZ1704H</b>	Tibet	Human	MH671332	China VII

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**Supplementary Table S2.** All RABV isolates in Jiangsu province

Isolates	Genebank No.			Host	Year	Lineage
	G	N	Genome			
9811CHI	EU086135	EU086173		Dog	1998	
CJS0523D	JN936725	HM486348		Dog	2005	
CJS0538D	JN936726	HM486353		Dog	2005	
CJS0622D		HM486350		Dog	2006	
CJS0629D		HM486351		Dog	2006	
CJS0634D	JN936728	HM486363		Dog	2006	
CJS0635D	JN936729	HM486349		Dog	2006	
CJS0636D	JN936730	HM486352	JQ970482	Dog	2006	
CJS0639D	JN936731	HM486354		Dog	2006	
CJS0840H	JN936732	JN974849		Human	2008	
CJS0841D	JN936733	JN974850		Dog	2008	
CJS0842D	JN936734			Dog	2008	
CJS0843D	JN936735	JN974851		Dog	2008	
CJS0844D	JN936736			Dog	2008	
CJS0845D	JN936737			Dog	2008	
CJS0846D	JN936738			Dog	2008	
CJS0847D	JN936739	JN974852		Dog	2008	China I
CJS0848D	JN936740		JQ970483	Dog	2008	
CJS0849D	JN936741			Dog	2008	
CJS0853D	JN936742			Dog	2008	
CJS0854D	JN936743			Dog	2008	
CZ14		KM058057		Dog	2014	
Jiangsu Wx1	EU267773	DQ666321		Dog	2005	
Jiangsu Wx32	EU267774			Dog	2005	
Jiangsu Yc37	EU267775			Dog	2005	
Jiangsu Yc58	EU267776			Dog	2005	
JSL27	DQ849067	EU159382		Dog	2005	
JSL29	DQ849068	EU159383		Dog	2005	
JSS62	DQ849065	EU159384		Dog	2005	
JSWXD18	MK124753	MK124742		Dog	2018	
98011CHI			KX148265	Dog	1998	
JSTZ190314			MN175989	Cattle	2019	
CJS0621D		HM486364	JQ970481	Dog	2006	China II
Jiangsu Wx0(H)	EU267772	DQ666320		Human	2004	China III
Jiangsu Yc63		DQ666322		Dog	2005	