

**Veterinary Research Communications**

**Canine circovirus and Canine adenovirus type 1 and 2 in dogs with parvoviral enteritis**

Andrea Balboni, Alessia Terrusi, Lorenza Urbani, Roberta Troia, Silvia A M Stefanelli, Massimo Giunti, Mara Battilani\*.

\* Corresponding author:

Mara Battilani

Department of Veterinary Medical Sciences, *Alma Mater Studiorum* – University of Bologna, Ozzano dell'Emilia (BO), Italy

*E-mail address:* [mara.battilani@unibo.it](mailto:mara.battilani@unibo.it)

**Online Resource 2** Canine adenovirus sequences obtained in this study and reference strains used for sequence analysis

<b>Virus</b>	<b>Host</b>	<b>Sample</b>	<b>Year<sup>a</sup></b>	<b>Origin</b>	<b>GenBank ID</b>	<b>E</b>	<b>H</b>	<b>F</b>	<b>D</b>	<b>P</b>
CAAdV-1 field strain B579	dog	liver	2009	IN	GQ340423					
CAAdV-1 field strain	dog	iccf	2006 <sup>b</sup>	IN	EF057101					
CAAdV-1 field strain Utrecht	dog	NA	1992 <sup>b</sup>	NL	S38238					
CAAdV-1 field strain 384-FFPEL	dog	ffpel	1966	IT	KP670422					
CAAdV-1 field strain 300-RS	dog	rs	2012	IT	KF676980					
CAAdV-1 field strain 313-Lparaf.	dog	ffpel	2010	IT	KF676977					
CAAdV-1 field strain 09-13F	red fox	faeces	2011	IT	JX416838					
CAAdV-1 field strain 300115/3	red fox	kidney	2015	UK	KU755710					
CAAdV-1 field strain 300115/2	red fox	liver	2015	UK	KU755711					
CAAdV-1 field strain 220515/1	red fox	liver	2015	UK	KU755712					
CAAdV-1 field strain 201114/2	red fox	liver	2014	UK	KU755713					
CAAdV-1 field strain 201114/1	red fox	liver	2015	UK	KU755714					
CAAdV-1 field strain 111114/1	red fox	liver	2014	UK	KU755715					
CAAdV-1 field strain 090315/2	red fox	liver	2015	UK	KU755716					
CAAdV-1 field strain 090315/1	red fox	liver	2015	UK	KU755717					
CAAdV-1 field strain 061014/2	red fox	liver	2014	UK	KU755718					
CAAdV-1 field strain 030415/1	red fox	liver	2015	UK	KU755719					
CAAdV-1 field strain 010515/5	red fox	kidney	2015	UK	KU755720					
CAAdV-1 field strain 17157	red fox	liver	2015	UK	KU755721					
CAAdV-1 field strain 17154	red fox	liver	2015	UK	KU755722					
CAAdV-1 field strain 15195	red fox	liver	2015	UK	KU755723					
CAAdV-1 field strain 17066	red fox	liver	2015	UK	KU755724					
CAAdV-1 field strain 15620	red fox	liver	2015	UK	KU755725					
CAAdV-1 field strain 16036	red fox	liver	2015	UK	KU755726					
CAAdV-1 field strain 15346	red fox	kidney	2015	UK	KU755727					
CAAdV-1 field strain 15622	red fox	kidney	2015	UK	KU755728					
CAAdV-1 field strain 16606	red fox	liver	2015	UK	KU755729					
CAAdV-1 field strain 13-0086	dog	liver	2013	AU	KT853096					
CAAdV-1 field strain 13-0067	dog	liver	2013	AU	KT853097					
CAAdV-1 field strain SD-1	dog	NA	2011	CN	KJ451612					
CAAdV-1 field strain CADRAD	dog	faeces	2015	IN	KX181846					
CAAdV-1 field strain PT/12	dog	liver	2012	PL	KC577558					
CAAdV-1 field strain ITL2015	wolf	liver	2015	IT	KX545420					
CAAdV-1 vaccine strain CLL	NA	NA	1996 <sup>b</sup>	NA	U55001					
CAAdV-1 field strain RI261	dog	lung	1996 <sup>b</sup>	UK	Y07760 (NC_001734, AC_000003)					
CAAdV-1 vaccine strain GLAXO	NA	NA	1991 <sup>b</sup>	NA	M60937					
CAAdV-1 field strain 113-5L	red fox	liver	2011	IT	JX416839					
					KP840544					

CAAdV-1 field strain 417-L	dog	liver	2013	IT	KP840545 KP670423 KP840546 KP840547			
CAAdV-1 field strain 574-RS	dog	rs	2013	IT	KP670424 KP840548 KP840549			
CAAdV-1 field strain 602-01-spleen	red fox	spleen	2007	NO	MF344652	■		
CAAdV-1 field strain 602-02-spleen	red fox	spleen	2008	NO	MF344653			
CAAdV-1 field strain 602-03-spleen	red fox	spleen	2008	NO	MF344654			
CAAdV-1 field strain 602-04-spleen	red fox	spleen	2008	NO	MF344655			
CAAdV-1 field strain 602-05-spleen	red fox	spleen	2008	NO	MF344656			
CAAdV-1 field strain 602-06-spleen	red fox	spleen	2008	NO	MF344657			
CAAdV-1 field strain 602-07-spleen	red fox	spleen	2008	NO	MF344658			
					MF344666		■	
					MF344672			
CAAdV-1 field strain 603-05-lymphnode	arctic fox	lymph node	2001/02	NO	MF344659	■		
CAAdV-1 field strain 603-06-liver	arctic fox	liver	1997/98	NO	MF344660			
					MF344667		■	
					MF344673			
CAAdV-1 field strain 603-07-kidney	arctic fox	kidney	1997/98	NO	MF344661	■		
					MF344668			■
					MF344674			
CAAdV-1 field strain 603-10-spleen	arctic fox	spleen	1999/00	NO	MF344662	■		
					MF344669			■
					MF344675			
CAAdV-1 field strain 603-11-kidney	arctic fox	kidney	2001/02	NO	MF344663	■		
CAAdV-1 field strain 603-12-spleen	arctic fox	spleen	2001/02	NO	MF344664			■
					MF344670			
					MF344676		■	
CAAdV-1 field strain 603-13-lymphnode	arctic fox	lymph node	1999/00	NO	MF344665	■		
					MF344671			■
					MF344677			
CAAdV-1 field strain 874-2014-Tongue	wolf	tongue	2014	IT	MH105809 MH105810			
CAAdV-2 strain Manhattan	dog	NA	1992	US	S38212	■		
CAAdV-2 field strain 60-OFS	dog	ops	2011	IT	KF676978			
CAAdV-2 field strain 113-3F-c01	red fox	faeces	2011	IT	JX416841			
CAAdV-2 field strain 113-3F-c04	red fox	faeces	2011	IT	JX416842			
CAAdV-2 field strain 249-RS	dog	rs	2012	IT	KF676981			
CAAdV-2 field strain 272-RS	dog	rs	2012	IT	KF676982			

CAAdV-2 field strain S1-OFS	dog	ops	2011	IT	KF676979	
CAAdV-2 field strain SV431/15	dog	NA	2015	BR	KU725671	
CAAdV-2 field strain SV435/15	dog	NA	2015	BR	KU725672	
CAAdV-2 field strain SV521/13	dog	NA	2013	BR	KU725673	
CAAdV-2 field strain SV675/13	dog	NA	2013	BR	KU725674	
CAAdV-2 field strain HB1	dog	rs	2009	CN	GQ915311	
CAAdV-2 field strain 1.6	dog	ns	2014	BR	KU315333	
CAAdV-2 field strain 1.11	dog	ns	2014	BR	KU315334	
CAAdV-2 field strain 1.18	dog	ns	2014	BR	KU315335	
CAAdV-2 field strain 3.55	dog	ns	2014	BR	KU315336	
CAAdV-2 field strain 3.70	dog	ns	2014	BR	KU315337	
CAAdV-2 strain Toronto A26/61	dog	NA	1961	CA	CAU77082 (BK000403, AC_000020)	
CAAdV-2 field strain cc0710QZ	dog	NA	2007	CN	EU794687	
CAAdV-2 field strain CC0710QB	dog	NA	2007	CN	EU717145	
CAAdV-2 field strain	dog	NA	2006	IN	DQ839392	
CAAdV-2 field strain YCA-18	dog	NA	2007	CN	EF508034	
CAAdV-2 field strain CC0710	dog	uterus	2009	CN	GQ241864	
CAAdV-2 field strain SH01	dog	NA	2011	CN	KF727562	
BtAdV-2 field strain PPV1	bat	liver/kidney	2007	DE	JN252129	
<b>CAAdV-1 field strain 334/2012</b>	<b>dog</b>	<b>faeces</b>	<b>2012</b>	<b>IT</b>	<b>MT193158</b>	
<b>CAAdV-2 field strain 53/2011</b>	<b>dog</b>	<b>intestine</b>	<b>2011</b>	<b>IT</b>	<b>MT193150</b>	
					<b>MT193142</b>	
					<b>MT193135</b>	
<b>CAAdV-2 field strain 55/2011</b>	<b>dog</b>	<b>faeces</b>	<b>2011</b>	<b>IT</b>	<b>MT193151</b>	
					<b>MT193143</b>	
<b>CAAdV-2 field strain 88/2011</b>	<b>dog</b>	<b>faeces</b>	<b>2011</b>	<b>IT</b>	<b>MT193152</b>	
					<b>MT193144</b>	
					<b>MT193136</b>	
<b>CAAdV-2 field strain 258/2006</b>	<b>dog</b>	<b>faeces</b>	<b>2006</b>	<b>IT</b>	<b>MT193153</b>	
					<b>MT193145</b>	
					<b>MT193137</b>	
<b>CAAdV-2 field strain 618/1995</b>	<b>dog</b>	<b>faeces</b>	<b>1995</b>	<b>IT</b>	<b>MT193154</b>	
					<b>MT193146</b>	
					<b>MT193138</b>	
<b>CAAdV-2 field strain 687/1999</b>	<b>dog</b>	<b>faeces</b>	<b>1999</b>	<b>IT</b>	<b>MT193155</b>	
					<b>MT193147</b>	
					<b>MT193139</b>	
<b>CAAdV-2 field strain 800/2009</b>	<b>dog</b>	<b>faeces</b>	<b>2009</b>	<b>IT</b>	<b>MT193156</b>	
					<b>MT193148</b>	
					<b>MT193140</b>	
<b>CAAdV-2 field strain 1149/2015</b>	<b>dog</b>	<b>intestine</b>	<b>2015</b>	<b>IT</b>	<b>MT193157</b>	

<sup>a</sup> Year of virus identification or sequence submission to the GenBank database

<sup>b</sup> Year of submission to the GenBank database

CAdV-1, canine adenovirus type 1; CAdV-2, canine adenovirus type 2; BtAdV-2, bat adenovirus type 2; E, sequences used for partial E3 gene and flanking regions alignment and phylogenetic analysis; H, sequences used for hexon gene alignment; F, sequences used for fiber gene alignment; D, sequences used for entropy (H(x)) plot and DnaSP analysis; P, sequences used for phylogenetic analysis of concatenated hexon and fiber genes; iccf, infected cell culture fluid; ffpel, formalin-fixed paraffin-embedded liver; rs, rectal swab; ops, oro-pharyngeal swab; ns, nasal swab. In bold: CAdV nucleotide sequences obtained in this study.