Additional file 2: Multiple sequence alignment of hexon genes of human adenovirus species A to G and primer and probe sequences. Primer and probe sequences were adopted from (A) the present study, (B) Heim et al. and (C) Alsaleh et al.

## (A) The present study

	=									
-	10	20	30	40	50 '	60 '	70 '	80	90 '	100
HAdv-12 A NC 001460	ATGGCCACTCCCTC	GATGATGCCGC								
HAdv-31 A AM749299										
HAdv-7 B AC 000018										
HAdv-11 B NC 011202										
HAdV-14 B AY803294										
HAdV-16 B AY601636										т
HAdV-21 B AY601633		cc.								
HAdv-34 B AY737797										
HAdv-35 B AY271307	CA									
HAdv-55 B KY070248										
HAdv-66 B JN860676	CA									
HAdv-68 JN860678										
HAdv-1 C AF534906	TCT									
HAdv-2 C NC 001405	TCT									
HAdv-5 C AC 000008	TCT									
HAdv-6 C HC492785	TCT									
HAdv-9 D NC 010956	c									
HAdv-17 D AC 000006										
HAdV-22 D FJ404771										
HAdV-36 D GQ384080										
HAdv-46 D AY875648										
HAdv-54 D NC 012959										
HAdv-56 D HM770721										
HAdv-58 D HQ883276										
HAdv-62 D JN162671										
HAdv-67 D AP012302										
HAdv-70 D KP641339										
HAdv-75 D KY618678										
HAdv-81 D AB765926										
HAdv-84 D MF416150										
HAdv-4 E NC 003266										
HAdv-40 F NC 001454										
HAdV-41 F DQ315364	c									
HAdv-52 G DQ923122					c		• • • • • • • • • •	cc.	GT	
HAdV-F This study	~~~~~~~~~~~~	~~~~~~~~	K.D							
HAdV-Probe This study	~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				- <u></u>				
HAdV-R This study	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~						~~~~~ <mark>s.</mark>	RY	

## (B) Heim et al.

							80							
	<u> </u>	20	30	40	50	60 70		90	100	110	120	130	140	150
HAdv-12 A NC 001460	ATGGCCACTCC	CTCGATGATGC	CGCAGTGGTCTTACA											
HAdV-31 A AM749299			.CAG.A											
HAdV-7 B AC 000018			.CAG.A											
HAdV-11 B NC 011202			.CG.A											
HAdV-14 B AY803294		A				т								
HAdV-16 B AY601636		A				т								
HAdV-21 B AY601633		A	.CAG.A											
HAdV-34 B AY737797	·····	A												A
HAdV-35 B AY271307	·····	A				T								A
HAdv-55 B KY070248			.CG.A											· · · · A · ·
HAdv-66 B JN860676			.CAG.A											.A
HAdv-68 JN860678			.CAG											.A
HAdv-1 C AF534906	TC		••••••											.G
HAdv-2 C NC 001405	TC		••••••											
HAdv-5 C AC 000008			••••••											.G
HAdv-6 C HC492785														.G
HAdv-9 D NC 010956			G.G											
HAdV-17 D AC 000006			G.G											
HAdV-22 D FJ404771			G.G											.G
HAdV-36 D GQ384080			G.G											.G
HAdV-46 D AY875648			G.G											.G
HAdv-54 D NC 012959			G.G											.G
HAdv-56 D HM770721			G.G											.G
HAdv-58 D HQ883276			G.G											.G
HAdv-62 D JN162671			G.G											
HAdV-67 D AP012302			G.G											.G
HAdV-70 D KP641339														.G
HAdV-75 D KY618678			G.G											
HAdV-81 D AB765926			G.G											
HAdV-84 D MF416150			G.G											
HAdV-4 E NC 003266			.CG.G											
HAdV-40 F NC 001454			A											
HAdV-41 F DQ315364	C	• • • • • • • • • • •	A											
HAdV-52 G DQ923122		Α			cc	•••••		GT.	c		G.T			
AQ2 Heim et al. JMV20		~~~~~ <mark></mark>	.c											
AP Heim et al. JMV200		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			~~~~~~~~	~ <mark></mark>		····	~~~~~~	~~~~~~~~~~	~~~~~~~~~	~~~~~~~		~~~~
AQ1_Heim et al. JMV20	03	~~~~~~~~~	~~~~~~	~~~~~~~~~~~	~~~~~~~			<u>~~</u> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~	~~~~~~~~~~~~	~~~~~~~~~~	~~~		

## (C) Alsaleh et al. (Mod1-PCR)

	÷ 10	20	30 40	50	60 70	80 90	100	110 1	20 130	140 1	150
HAdv-12 A NC 001460	- ATGGCCACTCCC	TCGATGATGCCGCAG	TGGTCTTACATGCA	CATCGCCGGTCAGGATGC	CTCGGAGTACCTGAGTCC	CGGTCTGGTGCAATT	CGCCCGCGCCACGG	ACACCTACTTCAC	CCTGGGAAACAAGT	TAGAAACCCCACCG	TGGC
HAdv-31 A AM749299										GTT.	
HAdv-7 B AC 000018			G.A	A	Τ	GG	<b>T</b>	G	TAG	A.	
HAdv-11 B NC 011202				A							
HAdv-14 B AY803294				A							
HAdv-16 B AY601636			G.A	A	т	GG	<b>T</b>	G	TAG	A.	
HAdV-21 B AY601633		cc	G.A	A	т	GG	A.	A	TG	G	
HAdv-34 B AY737797		CCZ	G.A	A	т	GG.	A.	A	тт	т.т	.A
HAdv-35 B AY271307		C	G.A		т	GG.	A.	A	тт	т.	.A
HAdv-55 B KY070248		c	G.A	A	т	GG.	A.	A	тт	т.	. A
HAdv-66 B JN860676				A							
HAdv-68 JN860678				A							
HAdv-1 C AF534906	TCT			T.GCC.							
HAdv-2 C NC 001405				T.GCC.							
HAdv-5 C AC 000008				T.GCC.							
HAdv-6 C HC492785				T.GCC.							
HAdv-9 D NC 010956	C			GC.							
HAdv-17 D AC 000006				GC.							
HAdv-22 D FJ404771				GC.							
HAdv-36 D GQ384080	C			GC.							
HAdv-46 D AY875648	C			GC.							
HAdv-54 D NC 012959				GC.							
HAdv-56 D HM770721				GC.							
HAdv-58 D H0883276				GC.							
HAdv-50 D HQ803270 HAdv-62 D JN162671				GC.							
HAdv-62 D 0N162671 HAdv-67 D AP012302	c			GC.							
HAdv-67 D AP012302 HAdv-70 D KP641339	C. C.			GC.							
HAdv-75 D KY618678				GC.							
HAdv-75 D R1616676 HAdv-81 D AB765926	C. C.			GC.							
HAdv-81 D AB/83528 HAdv-84 D MF416150				GC.							
HAdv-84 D MF416150 HAdv-4 E NC 003266				AC.							
HAdv-40 F NC 003266				GC.							
HAdv-40 F NC 001454 HAdv-41 F D0315364				GC							
HAdv-41 F DQ315364 HAdv-52 G D0923122											
Mod1-F1 Alsaleh et al. JMV201			G.A								
Modi-Fi Alsaleh et al. JMV20 Modi-F2 Alsaleh et al. JMV20											
						G					
Mod1-P1 Alsaleh et al. JMV201											
Mod1-P2 Alsaleh et al. JMV201						Q				A.	
Mod1-R1 Alsaleh et al. JMV201											••••
Mod1-R2 Alsaleh et al. JMV203										к	· · · ·
Mod1-R3 Alsaleh et al. JMV203	4 [~~~~~~~~~~				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						· A · ·

## (C) Alsaleh et al. (Mod2-PCR)

	40	50	60 '	70 '	80	90	100	110	120	130	140	150	160	170 1
HAdv-12 A NC 001460	TACATGCACATCO	CCGGTCAGGA	GCCTCGGAGT	ACCTGAGTCC	CGGTCTGGTG	CAATTCGCC	GCGCCACGG	ACACCTACTT	CACCCTGGGA	AACAAGTTTA	GAAACCCCA	CCGTGGCTCC	CACCCATGAT	IGTTACCACCGATCG
HAdv-31 A AM749299											.GT	.т		c
HAdv-7 B AC 000018		A												GC
HAdv-11 B NC 011202		A												
HAdv-14 B AY803294		A	T											G
HAdV-16 B AY601636		A	T											G
HAdV-21 B AY601633		A												GC
HAdv-34 B AY737797		A												G
HAdV-35 B AY271307		A												G
HAdv-55 B KY070248		A												
HAdv-66 B JN860676														G
HAdv-68 JN860678		A												G
HAdV-1 C AF534906	T	.GC(						.GG						
HAdV-2 C NC 001405	T													CAAC
HAdv-5 C AC 000008														CGAC
HAdv-6 C HC492785	I	.GC												CGAC
HAdv-9 D NC 010956		G(						G						
HAdv-17 D AC 000006		G(												GGC
HAdv-22 D FJ404771		G												GGC
HAdV-36 D GQ384080														GGC
HAdv-46 D AY875648		G												GGC
HAdv-54 D NC 012959		G(						G						
HAdv-56 D HM770721		G(						G						
HAdv-58 D HQ883276		G												GGC
HAdv-62 D JN162671		G												GGC
HAdv-67 D AP012302		G(						G						
HAdv-70 D KP641339		G(												GGC
HAdv-75 D KY618678		G(												GGC
HAdv-81 D AB765926		G(												GGC
HAdv-84 D MF416150		G(						G						
HAdV-4 E NC 003266		A												G
HAdv-40 F NC 001454		G(												AACA.
HAdV-41 F DQ315364		G(	· · · · · · · · · · · · · · · · · · ·											AACA.
HAdv-52 G DQ923122					cc	GT			G.T					GGC
Mod2-F1 Alsaleh et al. JMV2014	I	.GC												
Mod2-F2 Alsaleh et al. JMV2014		R												
Mod2-P1 Alsaleh et al. JMV2014	~~~~~~~~				~~~~ <u></u>	GY	.YM							
Mod2-R1 Alsaleh et al. JMV2014	~~~~~~~~				~~~~		~~~		~~~~~~	$\sim$		~~~~~~		GSC
Mod2-R2 Alsaleh et al. JMV2014	~~~~~~~			~~~~~~~	~~~~~~~~~				~~~~~	~~~~~~		~~~~~~	sc	(C