

Set #	Name	Matches Genome	Size (Towne)	Forward	Reverse	Probe	Author Date	Citation
1	TRL1, IRL11	?		GTACACGACGCTGGTTACC	GTAGAAAGCCTCGACATCGC		Markoulatos 2001	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 2001, p. 4426-4432
UL54 / Polymerase								
2	UL75	T A P R I M B	218	ACCCGTTACGTGACGGTCAA	TTGTCGGCGTTTTTCCAAA		Allen 1995	JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
3	UL75	T A P O I M B	268	TACAAACACGATTTCGGCC	CGCGGATGAGATCTTGAGG		Allen 1995	JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
4	Pol outer	A P O M	283	TGGCGGTTCGACTTTCG	GAGCGCACTGTCGCTTTCG		Wirgart 1998	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
5	Pol inner	T A P O R I M B	161	GAGCCTCTACCCCTCCATCA	GCACCGACACCGCCACCGCA		Wirgart 1998	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
6	UL54	A P	362	GCTTATCGCTGCTGCTGATCTC	CGGAGTCTGATGCTCCAGG		Weinberg 1998	JOURNAL OF CLINICAL MICROBIOLOGY, Nov. 1998, p. 3382-3384
7	CMV_Pol	A P O R I M B	61	GCTGACCGGTTTGGTCATC	ACGATTCACGGGACCCAG		Sanchez 2002	JOURNAL OF CLINICAL MICROBIOLOGY, July 2002, p. 2381-2386
8	Pol	A P O R	133	GCTGATCGTAAAGATGAAGAC	CTCGTGGTGTGCTACGAGA		van Doornum 2003	JOURNAL OF CLINICAL MICROBIOLOGY, Feb. 2003, p. 576-580
9	Pol	A P O R I M B	66	CATGCCGAGTGTCAAGAC	ACTTTGAGYGCCATCTGTTCT		Yun 2003	Journal of Virological Methods Volume 110, Issue 1, 9 June 2003, Pages 73-79
9		A P O R I M B		CATGCCGAGTGTCAAGAC	ACTTTGAGYGCCATCTGTTCT		Herrmann 2004	JOURNAL OF CLINICAL MICROBIOLOGY, May 2004, p. 1909-1914
9		A P O R I M B					Ross Haynes	Correction based on GenBank AD169 (X17403) sequence data
10	UL54	A P	213	GTAGCTGGCATTCGATTTGGT	TCCAACACCCACAGTACCCGT		Ibrahim 2005	Journal of Clinical Virology 32 (2005) 29-32
11	CP1	T A P O R I M B	72	GGCCGTACTGTCTGAGGA	GGCCCTGTAGTAAAATTAATGTT		Sassenscheidt 2006	Journal of Virological Methods Volume 138 (2006) 40-48
12	Pol UL54	T A P O R I M B	281	GGACCTATTCTGTTTTACACCTAC	GTGACAGACACGGCGTATGG		Englemann 2008	Journal of Medical Virology 80:467-477
13	UL54	A	70	CGCAGCTACCTCGATATCACAA	TGCTCCGTGAATCGTATAGA		Sanghavi 2008	Journal of Clinical Virology 42 (2008) 335-342
UL55&6 / gB								
14	gB-B	A P	320	TACCCCTATCGCGTGTGTTCC	CCTCCTATAACGGCGGTGTA		Bai 1997	Clinical Chemistry 43:10 p1843-1849
14				TACCCCTATCGCGTGTGTTCC	CCTCCTATAACGGCGGTGTA		Pang 2003	JOURNAL OF CLINICAL MICROBIOLOGY, July 2003, p. 3167-3174
15	UL54	T A P O R I M B	254	TACCCCTATCGCGTGTGTTCC	ATAGGAGGGCCACAGTATTC		Allen 1995	JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
15	gB-A			TACCCCTATCGCGTGTGTTCC	ATAGGAGGGCCACAGTATTC		Bai 1997	Clinical Chemistry 43:10 p1843-1849
15	gB-A	T A P O R I M B					Li 2003	Journal of Clinical Microbiology Vol. 41(1) p 187-191
15	gB-A	T A P O R I M B					Schaade 2000	JOURNAL OF CLINICAL MICROBIOLOGY, Nov. 2000, p. 4006-4009
15	gB-A	T A P O R I M B					Ross Haynes	Corrected based on AD169, Towne, Merin, etc
15	gB-A	T A P O R I M B		TACCCCTATCGCGTGTGTTCC	ATAGGAGGGCCACAGTATTC		Ross Haynes	Corrected based on AD169, Towne, Merin, etc
15	gB-A	T A P O R I M B					Pang 2003	JOURNAL OF CLINICAL MICROBIOLOGY, July 2003, p. 3167-3174
15	gB-A	T A P O R I M B					Ross Haynes	Corrected based on Bai 1997 sequence data
16	gB outer	T A P	150	TGAGGAAATCGCAGGACGC	TGAGGCTGGGAGTGCACAT		Wirgart 1998	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
17	gB inner	A P O R I M B	94	AGCACCCTGTGCTCATCTTA	CGCGTGGTTCGCCAACAGGA		Wirgart 1998	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
18	gB-up, -down, -probe	A P M B	62	GCCCAAGACATACCCATG	CCATCTCTCGGCCATTTACA		Yun 2000	Transplantation:Vol 69 p1733-1736
19	Outer UL54	A P R M B	150	GAGGCAACGAAATCCTGTGGGCA	GTCACCGTGGAGATACTGCTGAGG		Jones 2000	JOURNAL OF CLINICAL MICROBIOLOGY, Jan. 2000, p. 1-6
20	Inner UL54	T A P O R I M B	100	TCAATCATCGTTTGAAGAGTA	ACCACCGCACTGAGAACTGCAG		Jones 2000	JOURNAL OF CLINICAL MICROBIOLOGY, Jan. 2000, p. 1-6
21	GlycoB (TaqMan)	A P O I M B	116	AAGTACCCCTATCGCTGTG	ATGATGCCCTCTCCAGTCTC		Jebbins 2003	Journal of Molecular Diagnostics, Vol. 5, No. 1, February 2003
22	GlycoB (Mol Beacon)	A P M B	116	AAGTACCCCTATCGCTGTG	ATGATGCCCTCTCCAGTCTC		Jebbins 2003	Journal of Molecular Diagnostics, Vol. 5, No. 1, February 2003
23*	UL55	A P M B	66	TGGCGGAGGACACAGAA	TGAGGCTGGGAGTGCACAT		Boeckh 2004	Journal of Clinical Microbiology Vol. 42(3) p 1142-1148
24	gB	A P R M B	138	AAAAGGCTCGTTCACGCAA	GAGGTCCTCCAGACCCTTGA		Ikwaki 2005	Bone Marrow Transplantation (2005) 35, 403-410
UL65								
25	UL65	?	124	GCGGTAAAGCGGCAAAATAC	GGCGTCGAGATGTTCTGATAG		[FAM] CACCATCGACACACCCCTCATGA [TAMRA]	Ikwaki 2005 Bone Marrow Transplantation (2005) 35, 403-410
UL75								
26	UL75	?	226	TGGACGAGGCTGCCATGAGG	TGGACCTGGCCAAACGAGCCC		CCAGCGCTACGAGCTGGTGTATCGGTGA	Allen 1995 JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
27	UL75	?	264	CCTGTTCTCAGTAGCGGGGGA	GACGGTGTGGAGACAGGGT			Allen 1995 JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
28	UL75	?	231	ACCATGCTGCTTATCTTCGG	GGCTAACGGTGAAGCTGTTACGTA			Allen 1995 JOURNAL OF CLINICAL MICROBIOLOGY, Mar. 1995, p. 725-728
UL83 / pp65								
29	UL83	T A R I M B	283	GTACAGCTTCTGTTTCCCA	GGGACACANCCCGTAAAGC		FAM-CCGCGAACCCGCAACCCCTCATG-TAMRA	Gault 2001 Journal of Clinical Microbiology Vol. 39(2) p 772-775
29	UL83			GTACAGCTTCTGTTTCCCA	GGGACACANCCCGTAAAGC		FAM-CCGCGAACCCGCAACCCCTCATG-TAMRA	Gaurin 2002 Journal of Clinical Microbiology Vol. 40(5) p 1767-1772
30	UL83	T A R I B	279	GACCAACACCGTAAAGC	CAGCGTTCGGTGTTC		TTCCGGGTCATCTGCTGCTC-FL	Stocher & Berg (2002) JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 2002, p. 4547-4553
31	UL83	T A P R I M B	159	GACGCCACGGGATCGTACT	GGCTTTTACTCTCACAGAGCATT		LC-Red-705-TCCAGCTCAGAGCCGAGCGTGA-p	FAM-CCGCGAACCCGCAACCCCTCATG-TAMRA
32	plasmid standard	T A P R I M B	412	CGACGACGAGCTGTGACCAAG	CTGCCATACGCCCTCCCAATTCG			Griscelli 2001 Journal of Clinical Microbiology Vol. 39(12) p 4362-4369
33	UL83	T A P O R I M B	57	TCCGCGCCGAGAGG	CGCCGGCTTGTGGATT			Piiparinen 2004 Journal of Clinical Virology 30 (2004) 258-266
33	UL83	T A P O R I M B	57	TCCGCGCCGAGAGG	CGCCGGCTTGTGGATT			Piiparinen 2004 Journal of Clinical Virology 30 (2004) 258-266
UL122 - 126 / MIE								
34	MIE outer	A	242	TGAGGATAAGCGGGAGATGT	ACTGAGGCAAGTCTGCAGT			Wirgart 1998 JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
35	MIE inner	A	146	AGCTGGATGATGTGAGCAAG	GAGGCTGAGTCTTGGTAA			Wirgart 1998 JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
36	MIE outer	A	256	TTGTACTTGAAGATAGCCG	GGGAGCACTGAGGCAAGT			Wirgart 1998 JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
37	MIE inner	T A P O R I M B	192	CGGAGGATGATGATGCTTGG	GCCACATGATGATGCTTGG			Wirgart 1998 JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 1998, p. 3662-3669
38	MIE	T A	427	GCACCATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 1999 Clinical Chemistry 45:11 p1932-1937
38	MIE	T A	215	GCACCATCTCTCTTCTCT	GGCCTCTGATGACACCC			(In house reverse)
38		T A		GCACCATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 1999 Clinical Chemistry 45:11 p1932-1937
38		T A		GCACCATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 1999 Clinical Chemistry 45:11 p1932-1937
38		T A		GCACCATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 1999 Clinical Chemistry 45:11 p1932-1937
38		T A		GCACCATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 1999 Clinical Chemistry 45:11 p1932-1937
39	MIEA outer	T A	432	AGCACCATCTCTCTTCTCTG	AAGCGGCTCTGATAACCAAGCC			Drago 2004 BMC Infectious Diseases 2004, 4:55
40	MIEA inner	T A P O R I M B	110	AGTGTGGATGACCTACCGGCCATGG	GGTGACACAGAGAACTCAGAGGAGC			Drago 2004 BMC Infectious Diseases 2004, 4:55
41	Outer MIE	T A	434	CAAAGCGGCTCTGATAACCAAGCC	CAGCACCATCTCTCTTCTCTG			Tokimatsu 1995 Chest 1995; 107:1024-27
41	Outer MIE	T A		CAAAGCGGCTCTGATAACCAAGCC	CAGCACCATCTCTCTTCTCTG			Ikwaki 2003 JOURNAL OF CLINICAL MICROBIOLOGY, Sept. 2003, p. 4382-4387
41								Ross Haynes Correction based on Tokimatsu 1995
42	Inner MIE		162	CCACCCGTTGGTCCAGCTCC	CCCGCTCTCTGAGCACCC			Tokimatsu 1995 Chest 1995; 107:1024-27
42	Inner MIE			CCACCCGTTGGTCCAGCTCC	CCCGCTCTCTGAGCACCC			Ikwaki 2003 JOURNAL OF CLINICAL MICROBIOLOGY, Sept. 2003, p. 4382-4387
42	Corrected For Primer	A		CCACCCGTTGGTCCAGCTCC	CCCGCTCTCTGAGCACCC			Chou 1992 JOURNAL OF CLINICAL MICROBIOLOGY, Sept. 1992, p. 2307-2310
42		T	M	CCACCCGTTGGTCCAGCTCC	CCCGCTCTCTGAGCACCC			Ross Haynes Correction based on Towne (AY315197) sequence data
43	A	T A	435	CAGAGGAAGAGGAGGATGGTCTG	CAAAGCGGCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
44	B	T A	435	CAGAGGAAGAGGAGGATGGTCTG	CAAAGCGGCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
45	C	T A P O R I B	435	CAGAGGAAGAGGAGGATGGTCTG	CAAAGCGGCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
46	D	T A	427	GACCAATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
47	E	T A	427	GACCAATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
48	F	T A P O R I B	427	GACCAATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
49	G	T A	227	GACCAATCTCTCTTCTCT	GGCCTCTGATAACCAAGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
50	H	T A	96	GGCTCAGACTGACAGACACA	GACAGTGAATCAGGAGAAAGTGA			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
51	J	T A	173	GGGTGACACCGAGATACAGG	TCGTGATGAGTCTTGGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
52	K	T A P O R I B	173	GGGTGACACCGAGATACAGG	TCGTGATGAGTCTTGGCC			Nitsche 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2734-2737
53	UL122	T A	M	201	GACTAGTGTATCTGGCCAA	GCTPACAATAGCCTCTTCTCATCTG		AGCCTGAGGTTATCAGTGTATGAAGCGCC
53	RQ	T A			GACTAGTGTATCTGGCCAA	GCTPACAATAGCCTCTTCTCATCTG		AGCCTGAGGTTATCAGTGTATGAAGCGCC
53	RQ	T A			GACTAGTGTATCTGGCCAA	GCTPACAATAGCCTCTTCTCATCTG		AGCCTGAGGTTATCAGTGTATGAAGCGCC

54 IE plasmid	T A	M	876	TTTTTAGCAGGGCCCTTAGC	CACGATGGAGTCTCTGCGCA		Yun 2000 Transplantation:Vol 69 p1733-1736
55 IE4-up, -down, -probe	T A	M	77	TTTTTAGCAGGGCCCTTAGC	AAGGAGTGCATGATGTGAGC	TGCAGTGCACCCCAACTTGT	Yun 2000 Transplantation:Vol 69 p1733-1736
56 MIE	T A	M	168	TGGCTCAGATCATGGAGCTCT	AAGGCATCTGCACAACTGCT	AGGATGTTGCAGAAATGCCCT	Funato 2001 Journal of Viral Hepatitis, 2001, 8, 217-222 Ross Haynes Correction - reverse complement of published reverse primer
57 MIE	T A	M	213	ACGACGTTCTCTGCAGACTAT	AAGAGAAAGATGGACCTGTA		Funato 2001 Journal of Viral Hepatitis, 2001, 8, 217-222 Ross Haynes Correction - reverse complement of published forward primer
58 Long MIE	T A P O R I M B		578	ACAAGGTGCTCACGCACATTGATC	CACTGGCTCAGACTTGACAGAC	TGAAGTCTTTGCCCACTACATCT	Boom 2002 Journal of Clinical Microbiology Vol: 40(11) p 4105-4113
59 Short MIE	T A P O R I M B		138	CCAAGCGGCTCTGATAACCAA	GGTCATCCACACTAGGAGAGCAGAC	TGAAGTCTTTGCCCACTACATCT	Boom 2002 Journal of Clinical Microbiology Vol: 40(11) p 4105-4113
60 IE	T A P O R I B		127	CAAGCGGCTCTGATAACCA	ACTAGGAGAGCAGACTCTCAGAGGAT	FAM-TGCATGAAGTCTTTGCCCACTACATCT-TAMRA	Kalpo 2004 JOURNAL OF CLINICAL MICROBIOLOGY, Apr. 2004, p. 1498-1504
61 IE	T A		369	GGGTGCTGTCTGCTATGTCTTA	CATCACTGTCTCACTTTCTTCC	CGGCTCTGATAACCAAGCTG	Li 2003 Journal of Clinical Microbiology Vol: 41(1) p 187-191
62 MIE	T A P O R I B		73	AGCCCGCATTTGAGA	CAGACTCTCAGAGGATCGGCC	ATCTGCATGAAGGCTTTGCCCACTACAT	Ross Haynes correction based on GenBank Towne, AD169 and Merlin sequences
63 UL125	A P		86	CACTGCCGCACATTTTATT	ACGGAGAGAGCCCATGTC	AACATAAGTGGATCTCAAGCGAAT	Lenuez-Ville 2003 JOURNAL OF CLINICAL MICROBIOLOGY, May 2003, p. 2040-2046
64 UL126	T A P O R I M B		67	ACCTTCAGATCGCCTGGA	GATCGGTCGCTGCTCTT	ACGCCATCCAGCTGTCTTGCACCT	Boeckh 2004 Journal of Clinical Microbiology Vol: 42(3) p 1142-1148
65* UL123-exon4	T A P R I M B		84	TCCCGCTTATCCTCRGGTACA	TGAGCCTTTCGAGGASATGAA	TCTCATACATGCTGCATAGTTAGCCCAATACA	Boeckh 2004 Journal of Clinical Microbiology Vol: 42(3) p 1142-1148
66 MIE outer	T A		435	CCAAGCGGCTCTGATAACCAAGCC	CAGCACCATCCTCCTTCTCTGG	CAGCACCATCCTCCTTCTCTGG	Ikwaki 2005 Bone Marrow Transplantation (2005) 35, 403-410
	P O I M B				CAGCACCATCCTCCTTCTCTGG	CAGCACCATCCTCCTTCTCTGA	Ross Haynes correction based on Towne and AD169 sequences
67 MIE inner	T	M	162	CCACCCGTGGTGCAGCTCC	CCCGTCTCTCTGAGCACCC		Ross Haynes based on PH-BAC, Toledo, FIX-BAC, Merlin, and TB40/E sequences
	O R I						Ikwaki 2005 Bone Marrow Transplantation (2005) 35, 403-410
	A						Ross Haynes Correction based on other sequence data
68 IE	T A P O R I B		94	CAGATTAAGTTTCAGTGGACATG	AGGCGCAGTGAATTTCTCTT	[FAM] TGCAGCATAGAATCAAGGACATG [TAMRA]	Ross Haynes Correction based on AD160 (X17403) sequence data
69 IE 2 exon 5 region			53	GAGCCGCACTTTACCATCCA	CAGCCGCGGTATCGA	VIC-ACCGCAACAAGATT-MGBNFQ	Ikwaki 2005 Bone Marrow Transplantation (2005) 35, 403-410 Boppna 2010 JAMA, April 14, 2010—Vol 303, No. 14, 1375-1382

US7 - 9

70 US7, 8	?	?	?	?	?	?	?	GGATCCGGATGGCATTCACGTATGT	GAATTCAGTGGATAAATCGGGCGA		Drouet et al. (1995)	JOURNAL OF CLINICAL MICROBIOLOGY, Feb. 1995, p. 389-394
								GGATCCGGATGGCATTAACCGTATGT			Corrected in Habbal et al., 2005	
71 US9	?	?	?	?	?	?	?	GGAGCTATCCACTCAGGTACACA	TACGTTACGAACTCAGGCTCCAC	CGTGTTCACAACTGACCAGTACCAC-F1uor	Razonable et al. (2001)	JOURNAL OF CLINICAL MICROBIOLOGY, Dec. 2001, p. 4472-4476
										Red640-TAGAGGAATGTGAGTGCCTCTCCG-Phos		

US17

72 US17	A P R I M B		151	CGGTGCTTTTAGCCTCTGCA	AAAAGTTGTGCCCAACGGTA	[FAM] TGATCGGCTTATCGGCTCTTGTATC [TAMRA]	Machida 2000 JOURNAL OF CLINICAL MICROBIOLOGY, July 2000, p. 2536-2542
72 US17				CGGTGCTTTTAGCCTCTGCA	AAAAGTTGTGCCCAACGGTA	[FAM] TGATCGGCTTATCGGCTCTTGTATC [TAMRA]	Ikwaki 2003 JOURNAL OF CLINICAL MICROBIOLOGY, Sept. 2003, p. 4382-4387
72 US17				CGGTGCTTTTAGCCTCTGCA	AAAAGTTGTGCCCAACGGTA	[FAM] TGATCGGCTTATCGGCTCTTGTATC [TAMRA]	Ikwaki 2005 Bone Marrow Transplantation (2005) 35, 403-410
73 US17	T A P O I M B		60	CGATCAAGAACGGATAACG	ACCGTCATGGCAGTCTAT	FAM-CGATCAACAACGGC-MGB	Sanghavi 2008 Journal of Clinical Virology 42 (2008) 335-342

* Primers originally a duplex

T = Towne (AY315197.2)
A = AD169 (X17403.1)
P = PH-BAC (AC146904.1)
O = Toledo (AC146905.1)
R = TR-BAC (AC146906.1)
I = FIX-BAC (AC146907.1)
M = Merlin (NC_006273.2)
B = TB40/E (EF999921.1)

Other resources

Errors in Published Sequences of Human Cytomegalovirus Primers and Probes: Do We Need More Quality Control?	Habbal 2005 JOURNAL OF CLINICAL MICROBIOLOGY, Oct. 2005, p. 5408-5409
Optimization of Human Cytomegalovirus LightCycler Real-Time PCR	Habbal 2008 J Infect Developing Countries 2(5):406-410
Comparative evaluation of published cytomegalovirus primers for rapid real-time PCR: which are the most sensitive?	Habbal 2009 Journal of Medical Microbiology (2009), 58, 878-883