



 Test-Durchführung / -Performance

 Datum / Date

 Unterschrift / Signature

 Bemerkungen / Comments

Probe / Sample				
1	3	5	7	9
2	4	6	8	10
Thermocycler 1	Thermocycler 2	Thermocycler 3	Thermocycler 4	Thermocycler 5

Methodenablauf und Pipettiervolumina der Einzelkomponenten für ein PCR-Reaktionsgefäß sind in allen **HLA-READY GENE** Kits gleich /
 Test procedure and pipetting volumina for one well are the same in all **HLA-READY GENE** kits

1.) Mastermix (MM) ansetzen, gut mischen / Pipette mastermix (MM), mix well

	Volume per well [µl]	Volume per typing (48+6* wells) [µl]	Multipliziert mit der Anzahl an Bestimmungen / Multiplied by the number of typings	Endvolume [µl]
Distilled Water	6	324	X	=
ReadyPCR	3	162	X	=
Taq-Polymerase (5U/µl)	0,08	4.3	X	=
Endvolume MM	9.08	490.3	X	=

* 6 wells extra volume

Bei Mitführen einer **Negativkontrolle** (NK) 10 µl MM in das NK-Reaktionsgefäß (Tube Nr. 1) übertragen /
 When testing a **Negative Control** (NC) pipette 10 µl of MM into a NC reaction tube (tube no. 1)

2.) Aliquote 472 µl MM in 1,5 ml Tubes (je nach Anzahl der Bestimmungen / dependent on number of typings)

3.) Proben DNA zugeben, gut mischen / Add sample DNA, mix well

	Volume per well [µl]	Volume per typing (47+5* wells) [µl]
Mastermix (MM)	9.08	472
DNA (25-100 ng/µl)	1	52
Endvolume MM-DNA	10.08	524

* 5 wells extra volume

4.) 10 µl MM-DNA pro Well (47x) in gelbe PCR-Tubes verteilen / Dispense 10 µl MM-DNA per well (47x) in yellow PCR tubes

5.) RG mit Deckelstreifen dicht schließen und in Thermocycler übertragen /

Close wells tightly with tube caps and place the block into thermocycler

6.) PCR im Thermocycler starten (Programm für alle HLA-READY GENE Testkits gleich, s. Gebrauchsinformation) /

Start PCR in thermocycler (same Program for all HLA-READY GENE kits, see user manual)

Name / Name	Vorname / First name	Geburtsdatum / Date of birth
Proben-Nr. / Sample I.D.	Herkunft / Origin	Diagnose / Diagnosis
Test-Durchführung / -Performance	Datum / Date	Unterschrift / Signature
Test-Überprüfung / -Review	Datum / Date	Unterschrift / Signature

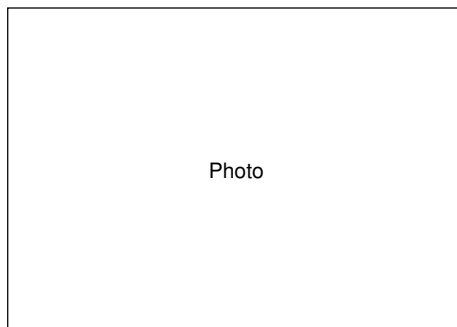
Bemerkungen / Comments

Ergebnis / Result

	H	G	F	E	D	C	B	A
B*	1	2	3	4*	5	6	7	8
1 5 9	Negative Control 430 bp NC	07.. 3707/4015.. / 4805,08 800 bp IC 115 bp	0729 / 08.. / 3912 800 bp IC 205 bp	13.. / 1536,89 / 4408 800 bp IC 140 bp	14.. 800 bp IC 260 bp	1401 / 2712,16 / 3801... / 3901,03... 800 bp IC 215 bp	1402... / 3526 / 3805 / 3904 800 bp IC 185 bp	1309 / 1501-02,04-... / 3546 / 4021 / 4601... 800 bp IC 130 bp
2 6 10	9 1503,09,10,18,23... / 4012 800 bp IC 330 bp	10 1509,10,18,21,23,37... 1070 bp IC 400 bp	11 0804,17 / 1503... / 3902,08... / 48.. 800 bp IC 105 bp	12* 1502... / 35... / 53... / 57... / 58.. 800 bp IC 100 bp	13* 1516,17,67 1512,14,19 / 3545 / 4417 / 5807 800 bp IC 395 bp 190 bp	14 1513,16,17,23... 800 bp IC 435 bp	15 350202 / 18.. 800 bp IC 130 bp	16 27.. 800 bp IC 155 bp
3 7 11	17 ... / 35... / 4406 /, 51... / 53... / 78.. 800 bp IC 390 bp	18 18... / 35... / 3919 / 5606 / 78.. 800 bp IC 130 bp	19 40... / 41... / 4418 / 45... / 49... / 50.. 1070 bp IC 315 bp	20 37... / 5303 800 bp IC 130 bp	21 1548,69 / 38... / 39... / 4429 / 67.. 800 bp IC 210 bp	22 38.. 800 bp IC 110 bp	23 14... / 38... / 3901,03... 800 bp IC 400 bp	24 07... / 08... / 14... / 39... / 40... / 41... / 42... / 45... / 48... / 50... / 67... / 73... / 800 bp IC 425 bp
1 5 9	25 4001,07... / 4431 / 801(w),03... / 8101-02 (w) 800 bp IC 165	26 4002... 800 bp IC 125 bp	27 08... / 37... / 41... / 42... / 44... / 83.. 800 bp IC 180 bp	28 07 / 27 / 42 / 46 / 54 / 55 / 56 / 67 / 73 / 81... / 1070 bp IC 320 bp	29 3545 / 44... / 5707 / 83 800 bp IC 255 bp	30 4415... / 45... / 5002 / 5123 800 bp IC 250 bp	31 46.. 800 bp IC 125 bp	32 47.. 800 bp IC 230
2 6 10	33 2724 / 4031,45 / 48... / 81... 800 bp IC 175 bp	34 4013,19 / 4418,25 / 4901 800 bp IC 140 bp	35 ... / 49... / 50... / 51... / 52... / 55... / 78 800 bp IC 205 bp	36 2702... / 51... / 52... / 53... / 57... / 58.. 800 bp IC 430 bp	37 ... / 40... / 41... / 4409 / 45... / 4702... / 50.. 1070 bp IC 130 bp	38 13... / 15... / 40... / 41... / 44... / 45... / 47... / 49... / 50... / 52.. 800 bp IC 200 bp	39 150104 / 54... 800 bp IC 215 bp	40 ... / 54... / 55... / 59... / 800 bp IC 235 bp
3 7 11	41 ... / 45... / 49... / 50... / 56... / 82.. 800 bp IC 175 bp	42 1516,17,67 / 57... 800 bp IC 95 bp	43 58.. 800 bp IC 110 bp	44* ... / 4406 / 51... / 53... / 59 800 bp IC 85 bp	45* 0710 / 1521... / 3526 5122 / 7301 / 7803 800 bp IC 145 bp	46* 4406... 4410 w / 82.. 1070 bp IC 540 bp 245 bp	47 Bw4 800 bp IC 355 bp	48 Bw6 800 bp IC 355 bp

¹ einige seltene Allele ausgenommen (vollständige Liste: Interpretation -/Specificity Table) / some rare alleles excluded (complete list: Interpretation -/Specificity Table)
Fettdruck: Allel(gruppen) mit Häufigkeiten von mind. 0,001 / **Bold letters:** parts of allele groups or alleles with min. frequency of 0,001 (Ref.: www.allelefreqencies.net)
 IC: PCR Produkte der internen Kontrollprimermixe / PCR products of the internal control primer mixes

Mix # 4: gelegentlich schwache spezifische Bande und unspezifische Bande (> spez. Bande) / occasionally weak specific band and unspecific band (> specific band)
Mix # 12: kreuzreaktiv mit / crossreactive to Cw*0314,*0510,*0710,*1504,05,09
Mix # 13 (multiplex): 395 bp: B*1516,17,67; 190 bp: B*1512,14,19,*3545,*4417,*5807
Mix # 44: gelegentlich unspezifische Bande (> spez. Bande) / occasionally unspecific band (> specific band)
Mix # 45: gelegentlich schwache spezifische Bande und Primerdimerbande (< spez. Bande) / occasionally weak specific band and primer dimer band (< specific band)
Mix # 46 (multiplex): 540 bp: B*4406,18,25,*5123,*5707,*5807; 245 bp: B*4010(w),*8001,02



HLA-READY GENE B LOW
SSP HLA-B low resolution
Spezifitätstabelle / Specificity Table

IN VITRO DIAGNOSTICUM



G951016

2007-05

Allele list based on release 2.9.0 (Apr 2005)
of the IMGT/HLA Sequence Database

Tube No.	Amplified HLA-B* alleles	Size of PCR Product [bp]	Size of IC [bp]	5' primer(s) ¹	3' primer(s) ¹
1	4H -	430	-		
2	4G 0702-18,20-24,26-32,34-39 / 3707 / 4015,16,23,32 / 4805,08	115	800	527 TGA	605 GCT
3	4F 0729 / 0801-09,11-16,18-24 / 3912	205	800	97 TCG	259 GTT
4 ²	4E 1301-08,10-13 / 1536,89 / 4408	140	800	209 GGC	309 GTG
5	4D 1401-04	260	800	361 AGT	583 GTG
6	4C 1401 / 2712,16 / 3801,02,04,08,09,10 / 3901,03,05-07,09,11,14,15,18,19,22,24-30,32,33	215	800	103 CCT	272 TGC
7	4B 1402-06 / 3526 / 3805 / 3904	185	800	103 CCG	246 TAT
8	4A 1309 / 1501-02,04-08,11,12,14,15,19-21,25-28,30-35,38-42,44,45,48,50,55,56,58,60,63,65,66,70,71,73,75-79,81-88,92,94,96,97,9501 / 3546 / 4021 / 4601-03	130	800	209 GGC	302 GGC
9	5H 1503,09,10,18,23,29,37,46,47,49,51-54,61,62,64,68,69,72,74 / 4012	330	800	45 GGA	206 CCT
10	5G 1509,10,18,21,23,37,44,51,52,66,72,80,90,93,99	400	1070	45 GGA	272 TGC
11	5F 0727 / 0804,17 / 1503,47,49,54,61,62,64,68,69,74,91 / 2718 / 3803 / 3902,08,13,23 / 4012,46 / 4440 / 4801-05,07-12 / 5518	105	800	206 AGA	272 TGG
12 ³	5E 1502,13,20,21,25,36,44,62,80,85,88,89 / 3501,03,06-08,10,11,13-17,19-21,23,30,33,35,36,38,40N-42,45-50,52-57 / 4417 / 4802 / 5301-06,08-10 / 5514 / 5609,11 / 570101,06,08 / 5801,04,05,09,10	100	800	355 TCA	419 CGG, 419 CGA
13	5D 1516,17,67,95 1512,14,19 / 3545 / 4417 / 5807	395 190	800	45 GGA 419 GTC	271 CAT 570 CCG, 572 GCG
14	5C 1513,16,17,23,24,36,43,67,87,89,95	435	800	45 GGA	317 GGA
15	5B 1801-20 / 350202	130	800	234 CAA	324 TAG
16	5A 2701-11,13-15,17,19-21,24,25,27,28	155	800	167 GCT	280 CTT
17	6H 1807 / 2723 / 3501-19,21-25,27,29-58 / 4008,13 / 4406 / 5101-06,08-21,23-37 / 5206 / 5301-08,10 / 7801,02,04	390	800	49 CAG	272 TGA
18	6G 1801-08,10-20 / 3501-18,20-24,28-45,48,50-55,57,58 / 3919 / 5606 / 7801-05	130	800	206 GAC	302 GGC
19	6F 4001,07,(09-11,14),16,(18,19,22N),23,(24-38,40-45,47-50),51,(52-57) / 4101-07 / 4418 / 4501-07 / 4901,02 / 5001-04	315	1070	44 GGC	193 CGT
20	6E 3701-04,07-09 / 5303	130	800	206 GAC	301 GTC
21	6D 1548,69 / 3801-09 / 3901-05,07,08,10-27,31,32 / 4429 / 6701,02	210	800	369 TAC	544 GGT
22	6C 3801-03,05,08-10	110	800	246 GAA	317 GGA
23	6B 1401-06 / 3801-02,04,05,08-10 / 3901,03-07,09,11,12,14,15,18,19,22,24-33	400	800	44 GGC	272 TGC
24	6A 0702-10,12,26,28-35,37,39,40 / 0801,04,05,07-16,18-24 / 1401-06 / 3901-19,22-33 / 4001,07,(09-11,14,15),16,(18,21,22),23,(24-36,38,40-46,48-50),51,(52-57) / 4101-07 / 4201-06 / 4501-07 / 4801-12 / 5001-04 / 6701,02 / 7301 / 8102	425	800	44 GGC	302 GGC
25	7H 400101-0103,0105,07,10,12,21-23,25,31(w),33,36,38,42,43,46-49,51,52,54,55 / 4431 / 4801(w),03,04(w),06(w),07(w),09(w) / 8101-02(w)	165	800	369 TAC	499 GGA
26	7G 4002-06,08,09,11,13,18-20,24,26-29,35,37,39,40,44,50,56,57	125	800	106 CCG	193 CGT
27	7F 0704,19,25 / 0801-05,07-12,14-19N,21-24 / 1551,83 / 3701,03N-06,08,09 / 4101-03,05-07 / 4201-06 / 4402,05,06,08,09,11,12,14,16,17,19N-25,27,33,34,41 / 5108,20,36 / 5709 / 8301	180	800	391 ACG	538 GTC
28	7E 0702,04-07,09-15,17-26,28-31,33-36,39,40 / 1576,9501 / 2701-11,13-15,17,19-21,24-28 / 4201-06 / 4506 / 4601-04 / 5401-06 / 5501-17,19 / 5601-15 / 6701,02 / 7301 / 8101,02 / 8201,02 / 8301	320	1070	11 CAG	282 GCC
29	7D 3545 / 4402-14,17,19N,21-30,32-36,38-40 / 5707 / 8301	255	800	355 TCA	572 GCG
30	7C 4415,18,20 / 4501-03,05-07 / 5002 / 5123	250	800	357 TGG	572 GCG
31	7B 4601-03	125	800	209 GGC	299 TCA
32	7A 4701-03	230	800	368 GTT	559 CTC
33	8H 2724 / 4031,45 / 4801,04,06,07,09,11,12 / 8101,02	175	800	363 AGC	499 GGA
34	8G 4013,19 / 4418,25 / 4901	140	800	206 GAA	309 ATC
35	8F 1504w,16,42,67,95 / 4901-03 / 5001-04 / 5101-03,07,11N-14,16-18,21-30,32-37 / 5201,02,04-06 / 5501,03,05,09,11,15,17 / 5605,06 / 5808 / 7801-03,05	205	800	357 TGG	527 CCT
36	8E 2702 / 4013,(19) / 4406,25 / 5101-37 / 5201-06 / 5301,02,04-08,10 / 5701-07,(08),09 / 5801-10	430	800	49 CAG	309 ATC
37	8D 1546,53 / 3519,47 / 4001-11,14-18,20,22N-36,38-45,48-57 / 4101-07 / 4409 / 4501-07 / 4702,03 / 5001-04	130	1070	206 GAA	302 GGC
38	8C 1301-06,08-13 / 1501,03-07,12,14,19,20,24-28,30,32-36,38-43,45-50,53,54,56-63,65,66,69,70,73-75,77-79N,81-87,91,92,94,96-98,9501 / 3510,13,16,28 / 4001,07,10,12,14-16,21-23,30-34,36,38,42,43,45-49 / 4101-07 / 4402-05,07-11,13-41 / 4501-07 / 4701-05 / 4901-03 / 5001-04 / 5201-06 / 5518 / 7805	200	800	103 CCG, 103 CCG	259 CTC
39	8B 150104 / 5401-06	215	800	11 CAG	175 CCG
40	8A 0809 / 1542,83 / 3906 / 4204 / 5121,36 / 5401,02,04,05 / 5501-03,05,07,10,12,13,15-19 / 5901	235	800	362 GAC	560 ACG
41	9H 1303 / 1573 / 4410,15,18 / 4501,04-07 / 4901-03 / 5001-04 / 5115 / 5403 / 5601,02,04,07,08,13,14 / 8201,02	175	800	420 TTA	559 CAG
42	9G 1516,17,67,95 / 5701-09	95	800	209 GGC	259 CTC
43	9F 5801-10N	110	800	209 GGA	280 GGA
44 ⁴	9E 0738 / 0802,03 / 2723 / 3806,07 / 4013 / 4406 / 5101-06,08-11,13-21,23-37 / 5206 / 5301-08,10 / 5901	85	800	272 CTT	317 GGA
45 ⁵	9D 0710 / 1521,44,66 / 3526 / 5122 / 7301 / 7803	145	800	165 ACC	272 TGC
46	9C 4406,18,25 / 5123 / 5707 / 5807 4410 (w) / 8201,02	540 245	1070	311 GAT 368 GTT	572 GCG
47	9B Bw4	355	800	11 CAG	317 GGA
48	9A Bw6	355	800	11 CAG	311 GGT

Fettdruck: Allel(gruppen) mit Häufigkeiten von mind. 0,001 / **Bold letters:** parts of allele groups or alleles with min. frequency of 0,001 (Ref.: www.allelefrequencies.net)

IC: PCR Produkte der internen Kontrollprimermixe / PCR products of the internal control primer mixes

¹ Nukleotidposition und Codon der 3' Primerenden / Nucleotide position and codon of primers 3' ends

Klammern: entsprechende Allelsequenz nicht veröffentlicht / **Brackets:** corresponding allele sequence not published

w: schwache Bande / weak band

² **Mix # 4:** gelegentlich schwache spezifische Bande und unspezifische Bande (> spez. Bande) / occasionally weak specific band and unspecific band (> specific band)

³ **Mix # 12:** kreuzreaktiv mit / crossreactive to Cw*0314,*0510,*0710,*1504,05,09

⁴ **Mix # 44:** gelegentlich unspezifische Bande (> spez. Bande) / occasionally unspecific band (> specific band)

⁵ **Mix # 45:** gelegentlich schwache spezifische Bande und Primerdimerbande (< spez. Bande) / occasionally weak specific band and primer dimer band (< specific band)

SSP HLA-B low resolution Interpretation Table 1-1



2007-05

Main interpretation table with columns for HLA-B alleles (B*0702, B*0704, etc.), Ser. Type, and band positions (25-48). Includes a legend for 'gelegentlich schwache Bande / occasionally weak band'.

Multiplex Mix ! 13 s L 2 spezifische Banden / 2 specific bands: s(mall) 190 bp, L(arge) 395 bp

SSP HLA-B low resolution

Frequency Table



Frequent alleles:

Allele Specificity	Freq ¹	Ser. Type
B*070201	c*	B7
B*0705	c*	B7
B*0707	ie	B7
B*0720	c*	-
B*0801	c*	B8
B*0804	c*	-
B*0805	c*	-
B*1301	ie,o	B13
B*1302	c*	B13
B*1401	c*	B64(14)
B*1402	c*	B65(14)
B*1405	ie	-
B*15010101	c*	B62(15)
B*1502	ie,o,x	B75(15)
B*1503	c*	B72(70)
B*1504	ai	B62(15)
B*1506	o	B62(15)
B*1507	c*	B62(15)
B*1508	c*	B75(15)
B*1509	c*	B70
B*1510	c*	B71(70)
B*151101	o	B75(15)
B*1512	o	B76(15)
B*1513	a,o	B77(15)
B*1515	c*	B62(15)
B*1516	a,b	B63(15)
B*15170101	c*	B63(15)
B*1518	c*	B71(70)
B*1520	ai	B62(15)
B*1521	o	B75(15)
B*1524	c*	B62(15)
B*1525	o	B62(15)
B*1527	o	B62(15)
B*1532	o	B62(15)
B*1535	o	B62(15)
B*1536	ie	-
B*1539	h,m	B62(15)
B*1558	o	B15
B*1563	ai	-
B*180101	c*	B18
B*1802	o	B18
B*1803	c*	B18
B*1807	ie	-
B*2702	c*	B27
B*2703	x	B27
B*2704	c*	B27
B*270502	c*	B27
B*2706	o	B27
B*2707	c*	B27
B*2708	ie	B2708
B*2709	c*	B27

Allele Specificity	Freq ¹	Ser. Type
B*350101	c*	B35
B*3502	c*	B35
B*3503	c*	B35
B*3504	c*	B35
B*3505	c*	B35
B*3506	ie	B35
B*3508	c*	B35
B*350901	ai	B35
B*3510	ie,x	B35
B*3511	h	B35
B*3512	h,ie,m,x	B35
B*351401	h	B35
B*3515	ie	B35
B*3516	ie,m	B35
B*3517	h,ie,m	B35
B*3518	ai	B35
B*3519	ai	B35
B*3520	ai,ie	B35
B*3525	ie	-
B*3701	c*	B37
B*3801	c*	B38(16)
B*380201	o,ie	B38(16)
B*390101	c*	B3901
B*390201	c*	B3902
B*3903	c*	B39(16)
B*3904	ai	B39(16)
B*3905	c*	B16
B*390601	c*	B39(16)
B*3908	m	B39(16)
B*3909	ai,o	B39(16)
B*3910	a,b	B39(16)
B*3915	o	-
B*3924	a	B39(16)
B*400101	c*	B60(40)
B*4002	c*	B61(40)
B*4003	c*	B61(40)
B*4004	ai	B61(40)
B*4005	c*	B4005
B*40060101	a,ie,o	B61(40)
B*4008	h	-
B*4010	o	B60(40)
B*4011	ie	B40
B*4012	ie	-
B*4027	h	B61(40)
B*4101	c*	B41
B*4102	c*	B41
B*4201	c*	B42

Allele Specificity	Freq ¹	Ser. Type
B*44020101	c*	B44(12)
B*440301	c*	B44(12)
B*4404	c*	B44(12)
B*4405	c*	B44(12)
B*4406	c*	B44(12)
B*4407	c*	B44(12)
B*4408	ie	B44(12)
B*4409	ie	B12
B*4415	a	B12
B*4501	c*	B45(12)
B*4601	c*	B46
B*47010101	c*	B47
B*4801	c*	B48
B*4802	ai,ie	B48
B*4803	ai,o	B48
B*4901	c*	B49(21)
B*5001	c*	B50(21)
B*5002	c*	B45(12)
B*510101	c*	B51(5)
B*510102	ie	B51(5)
B*510201	o	B5102
B*5103	b,ie	B5103
B*5106	ie	B51(5)
B*5107	ie,m,o	B51(5)
B*5108	c*	B51(5)
B*5109	c*	B51(5)
B*5110	ie	-
B*5115	ie	-
B*520101	c*	B52(5)
B*5301	c*	B53
B*5302	c*	-
B*5303	ie	-
B*5401	ie,o	B54(22)
B*5501	c*	B55(22)
B*5502	o	B55(22)
B*5504	ie,o	B55(22)
B*5507	o	B54(22)
B*5601	c*	B56(22)
B*5602	o	B56(22)
B*5603	o	B22
B*5604	ie,o	B56(22)
B*560501	ie	B56(22)
B*570101	c*	B57(17)
B*5702	c*	B57(17)
B*570301	c*	B57(17)
B*5801	c*	B58(17)
B*5802	c*	B58(17)
B*5901	c*	B59
B*670101	c*	B67
B*7301	c*	B73
B*7801	m	B78
B*7803	ie	-
B*8101	c*	B81
B*8201	b	-

¹ allele frequency min. 0,001 (Ref.: www.allelefreqencies.net): a arab, ai amerindian, b black, c* caucasoid (and other)
h hispanic, ie indo-european, m mixed (Cuban Mulatto, Mexico Mestizos), o oriental, x Yupik Natives