HISTO TYPE DQB HIGH

Score™: BAG / DQB high_V11_xxxxx_3.13.1 **Update 07/2013 (V11.3)** **11/2013**

Worksheet and Evaluation diagram / *Worksheet und Auswertediagramm*

Sample ID / *Proben-ID*:_____

Name:_____

Birthdate / *Geb.-Datum*: _____

Result / *Ergebnis*:_____

Date / *Datum:* _____

Signature / *Unterschrift*:_____

Gel picture / *Gelbild*:

specific reaction / *spezifische Reaktion*																																																	
Specificity / *Spezifität*	**Sero.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
*02:01:01-01:06,01:08-01:13,07?-09?,27?	DQ2, –					5	6																																										
*02:01:07	–					5																																										
*02:02:01,02:02,06w,10-12	DQ2, –						6	7																																								
*02:03	DQ2							7	8								16																															
*02:04	DQ2					5	6			9																																						
*02:05	DQ2					?	6	?		?																																						
*02:13,14w-16,18N-26,28-33w	–, Null					?	6	?																																								
*02:17	–					?		?																																								
*03:01:01:01-01:01:03,01:03-01:06,01:08-01:13w, 01:14-01:20,16,27-29,35,36,42,47,49-51,83,84N	DQ7, –, Null										10	11	12	13																											40								
*03:01:02,01:07	DQ7, –										10	11	12																												40								
*03:02:01,02:02,02:04,02:06-02:09	DQ8, –													13	14	15																									40							47	
*03:02:03	DQ8															15																									40							47	
*03:02:05	–													13	14															29											40							47	
*03:03:02:01-03:02:03,03:04-03:07,31	DQ9, –											11		13		15	16																								40							47	
*03:03:03	DQ9											11				15	16																								40							47	
*03:04,80	DQ7, –										10		12	13	14			17																							40								
*03:05:01,05:02	DQ8															15			18																						40							47	
*03:05:03,05:04	DQ8													13	14	15			18																						40							47	
*03:06	DQ3															15	16			19																					40							?	
*03:07	DQ8													13	14						20																				40							?	
*03:08	DQ8														14	15					20																				40							?	
*03:09	DQ7										10	11	12	13								21																			40								
*03:10	DQ3										10	11		13		15																									40								
*03:11,18	DQ8													13	14	15							22																		40							?	
*03:12	DQ9										10	11		13		15	16							23																	40							?	
*03:13	DQ7											11		13											24																40							?	
*03:14:01	DQ3										10			13	14			17																							40							?	
*03:14:02	–										10			13	14	15		17																							40							?	
Specificity / *Spezifität*	**Sero.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Product size [bp] / Produktgröße [bp]		120	120	125	200	800	150	140	150	795	200	100	105	135	95	145	135	135	135	195	75 135	650	200 160 244	80	95 115 125	500 505 620	205	205	115	95	125	130	170	135	210	220	260	225	275	95	105	105	195	175	155	145 100	110 150	650	

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HISTO TYPE DQB high, Lot: xxxxx

Name:_____

Specificity / *Spezifität*	Sero.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
*03:15	DQ9											11		13		15	16								24																40							?	
*03:17:01	DQ9											11		13		15																									40							?	
*03:17:02	–											11				15																									40							?	
*03:19,58w	DQ7										10	11	12	13																											40							47	
*03:20	DQ9											11				15	16						22																		40							?	
*03:21,22,24	–										10	11	12	13												25															40								
*03:23	–																													29	30										40							?	
*03:25	–															15	16			19					24																40							?	
*03:26	–											11		13		15	16						22																		40							?	
*03:30	–											11		13		15	16																					37							44			?	
*03:32,37,45,62-64w,66N-68,81,85	–, Null													13	14	15																									40							?	
*03:33,34,39-41,43,86-89	–											11		13		15	16																								40							?	
*03:38	–											11		13		15	16																															?	
*03:44,48,53-57,59,60,71,76,77,82	–										10	11	12	13																											40							?	
*03:46	–										10	11	12	13		15																									40								
*03:52	–										10	11	12	13																																	?	
*03:61	–																		18																						40							?	
*03:65	–											11				15	16																								40							?	
*03:69	–											11	12	13																											40							?	
*03:70	–										10			13	14	15								23																40							?	
*03:72	–											11				15																						37							44			?	
*03:74	–										10	11	12	13			16							23																40							?	
*03:75	–										10	11	12																											40							?	
*03:78	–										10	11	12	13										23																40							?	
*03:79	–											11		13		15	16									25														40							?	
*04:01:01	DQ4															15											26																		44			47	
*04:01:02,01:04,06-08,14-17	DQ4, –															15											26																		44			?	
*04:01:03	–															15									24		26																		44			?	
*04:02:01	DQ4															15												27																	44			47	
*04:02:02	–								8							15												27																	44			?	
*04:02:03,02:04,10,12,13	–															15												27																	44			?	
*04:03:01	–															15	16			19								27																	44			?	
*04:03:02	–															15	16			19																									44			?	
*04:04	–															15												27													40							?	
*04:05	–															15											26														40							?	
*04:09	–																											27																				?	
*04:11	–																											27																	44			?	
*05:01:01:01-01:09,07,11,12,18,20-22,25,27,29-32	DQ5, –	1																					22																									
*05:02:01-02:07,05:02,14,17,19,26,33-37	DQ5, –		2																				22																									
*05:03:01:01-03:10,06,08-10,13,15,16,23,24,28,39-43	DQ5, –, Null			3																			22																									
*05:04	DQ5				4																																				40								
*05:05:01	DQ5		2																				22																	39									
*05:38	–			3																			22																			41			44				
*06:01:01-01:07,01:09,01:10,53,54N,56,57,98,100-105	DQ6, –, Null																												28																				
*06:01:08	–																												28		30	31																	
*06:02:01-02:04,02:06,02:07,02:09,02:10,47,49, 50,68,70-78,80-84,95,97	DQ6, –, Null																				20									29	30	31							37										
*06:02:05,19	–, DQ6																				20										30	31							37							44				
*06:02:08,37,48,79	–																													29	30	31							37										
*06:03:01-03:09,41,44,59-62,64,65,67,87,90,91	DQ6, –																				20											31								38										
*06:04:01-04:05,04:07,34,36,38,39,52,86,89,93	DQ6, –																																32	33	34	35	36											
*06:04:06	–																																32	33															
*06:05:01	DQ6																						22										32	33		35					40									
*06:05:02	DQ6																						22										32			35					40									
*06:06	DQ5																						22											33		?			?		?								
*06:07:01,07:02	DQ6, –																																32		34	35	36												
*06:08:01,08:02	DQ6																				20													33					38										
Specificity / *Spezifität*	**Sero.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Product size [bp] / Produktgröße [bp]		120	120	125	200	800	150	140	150	795	200	100	105	135	95	145	135	135	135	195	75 135	650	200 160 244	80	95 115 125	500 505 620	205	205	115	95	125	130	170	135	210	220	260	225	275	95	105	105	195	175	155	145 100	110 150	650	

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HISTO TYPE DQB high, Lot: xxxxx

Name:_____

Specificity / *Spezifität*	Sero.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
*06:09:01,09:03,88	DQ6, –																																32	33		35	36				40								
*06:09:02	–																													29			32	33		35	36				40								
*06:10	DQ1																				20									29								37		39									
*06:11:01	DQ1																				20									29	30	31							38		40								
*06:11:02	DQ1																				20									29		31							38		40								
*06:12	DQ1																				20													33		35	36				40								
*06:13:01	DQ6																				20									29				33				37											
*06:13:02	–																				20													33				37											
*06:14:01,14:02	DQ6																				20											31						37				41							
*06:15:01,15:02	DQ6, –																													29	30					35	36	37											
*06:16	DQ6																				20									29		31						37					42							
*06:17	DQ6																																	33	34	35	36							43					
*06:18	DQ6																																32	33					38		40								
*06:20	DQ6																				20		22							29	30	31						37									45			
*06:21	DQ6																				20													33	34	35	36												
*06:22:01	DQ6																																	33		35	36	37											
*06:22:02	–																																32	33		35	36	37											
*06:23	DQ6																				20											31						37										46		
*06:24	DQ6																													29	30	31												43					
*06:25	DQ6																																32		34	35	36			39									
*06:26N	Null																				20											31							38								45			
*06:27	DQ6																																32	33					38										
*06:28	DQ6																															31							38										
*06:29	DQ6																				20									29								37											
*06:30	DQ6																															31							38					43					
*06:31	DQ6																				20		22									31							38								45			
*06:32	DQ6																															31	32						38										
*06:33	DQ6																				20									29	30	31						37										46		
*06:40	–																				20											31							38									46		
*06:42	–																																	33		35	36				40			43					
*06:45	–																												28										38		40								
*06:46	–																				20									29	30					35	36	37											
*06:51	–																16													29								w											
*06:55	–																												28					33															
*06:58	–										10																						32	33	34	35													
*06:63	–																				20																		38										
*06:66	–											11					16																32			35	36				40								
*06:69	–																																32	33	34	35	36	37				41							
*06:85	–																																32	33	34	35													
*06:92	–																				20														34	35	36												
*06:94	–																													w			32	w		35	36				40								
*06:96	–											11					16				20									29							37											
*06:99	–																													29																			
Contamination control / *Kontaminationskontrolle*																																																	48
Specificity / *Spezifität*	**Sero.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Product size [bp] / Produktgröße [bp]		120	120	125	200	800	150	140	150	795	200	100	105	135	95	145	135	135	135	195	75 135	650	200 160 244	80	95 115 125	500 505 620	205	205	115	95	125	130	170	135	210	220	260	225	275	95	105	105	195	175	155	145 100	110 150	650	

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Specificity Table / *Spezifitätstabelle*

Mix	5´-Primer①	3´- Primer①	bp	Specificity / *Spezifität*
1	88 GAC	169 AAC	120	DQB1*05:01:01:01-01:09,07,11,12,18,20-22,25,27,29-32
2	88 GAC	169 GCT	120	DQB1*05:02:01-02:07, 05:01,05:02,14,17,19,26,33-37
3	88 GAC	170 CGT 170 CAT	125	DQB1*05:03:01:01-03:10,06,08-10,13,15,16,23,24,28,38-41N,42,43
4	40 GCC	198 ATG	200	DQB1*05:04
5	404 TGA	573 GAT	800 ② KB (410bp)	DQB1*02:01:01-01:13,04,05?,07?-09?,13?-18N?,19?,20N?-33?
6	63 ACA	170 CGG	150	DQB1*02:01:01-01:06,01:08-01:13,02:01,02:02,04-14w,15,16,18N-20N,21-33w
7	404 TGG	503 CTC	140	DQB1*02:02:01,02:02,03,05?,06w,10-12,13?-18N?,19?,20N?-26?,28?-33?
8	63 ACA	170 CGT	150	DQB1*02:03 / *04:02:02
9	406 ACG	573 GAT	795 ② KB (410bp)	***DQB1*02:04, 05?***
10	38 GGC	198 ACT	200	DQB1*03:01:01:01-01:06,04,09,10,12,14:01,14:02,16,19,21,22,24,27-29,35,36,42,44,46-60,70,71,74-78,80,82-84N / *06:58
11	171 GAC	230 CCG	100	DQB1*03:01:01:01-01:13w,01:14-01:20,03:02:01-03:07,09,10,12,13,15-17:02, 19-22,24,26-31,33-36,38-44,46-60,65,69,71,72,74-79,82-84N,86-89 / *06:66,96
12	134 GGA	198 ACT	105	DQB1*03:01:01:01-01:20,04,09,16,19,21,22,24,27-29,35,36,42,44,46-60,69,71,74-78,80,82-84N
13	114 GCA	208 CCT	135	DQB1*03:01:01:01-01:01:03,01:03-01:06,01:08-01:20,02:01,02:02, 02:04-02:09, 03:02:01-03:07,04,05:03,05:04,07,09-19,21,22, 24, 26-58w,59,60,62-64,66N-71,74,76-84N,85-89
14	114 GCA	170 CGG	95	DQB1*03:02:01,02:02,02:04-02:09,04,05:03,05:04,07,08,11,14:01,14:02,18, 32,37,45,62-64,66N-68,70,80,81,85
15	146 GGC	250 CTG	145	DQB1*03:02:01-02:09, 03:02:01-03:07, 05:01-05:04, 06,08,10-12, 14:02,15,17:01-18,20,25,26,30-34,37-41,43,45,46,62-64w,65,66N-68, 70,72,79,81,85-89 / *04:01:01-08,10,12-17
16	77 TCT	170 CGT	135	DQB1*03:03:02:01-03:07,06,12,15,20,25,26,30,31,33,34,38-41,43,65, 74,79,86-89 / *02:03 / *04:03:01,03:02 / *06:51,66,96
17	77 TTA	170 CGG	135	DQB1*03:04,14:01,14:02,80
18	75 CGG	170 CGG	135	DQB1*03:05:01-05:04,61
19	77 TCT	231 ACG	195	***DQB1*03:06, 25 / *04:03:01, 03:02***
20	113 CGC	146 CCA 208 CCC	75 135	***DQB1*03:07*** DQB1*03:08 / *06:02:01-02:07,02:09,02:10,03:01-03:09,08:01,08:02, 10-14:02,16, 19-21,23,26N,29,31,33,40,41,44,46,47,49,50,59-62w,63-65,67,68,70-75N,76,77N,78,80-84,87,90-92,95-97
21	134 GGA	503 CGG	650	***DQB1*03:09***
22	40 GCC 79 TTC 112 ACA	198 ACT	200 160 125	DQB1*03:11,26 / *05:01:01:01-01:09,02:01-02:07,03:01:01-03:10, 05:01-27,29-41N,42,43 / *06:05:01,05:02,06,20,31 DQB1*03:18 DQB1*03:20 / *05:28
23	38 GGC	77 CAA	80	***DQB1*03:12,70,74,78***
24	114 GCA	167 CAA 189 TGC 200 GGT	95 115 125	***DQB1*03:25 / *04:01:03*** ***DQB1*03:15*** ***DQB1*03:13*** (sometimes weak unspecific band at about 70 bp)
25	171 GAC	389 ACT 397 CCA 508 GAT	500 505 620	DQB1*03:22 DQB1*03:21 DQB1*03.24,79
26	68 GCT	231 ACG	205	DQB1*04:01:01-01:04,05-08,14-17
27	68 GCG	231 ACG	205	DQB1*04:02:01-02:04,03:01,04,09-13
28	141 TAT	216 GCT	115	DQB1*06:01:01-01:10, 45,53,54N-57,98,100-102N,103-105

Mix	5´-Primer[1]	3´- Primer[1]	bp	Specificity / *Spezifität*
29	88 GAT	144 GCG	95	DQB1*06:02:01-02:04,02:06-02:10,09:02,10,11:01,11:02,13:01,15:01,15:02,16, 20,24,29,33,37,46-51,68,70-75N,76,77N-84,94,95w-97,99 / *03:02:05,23
30	88 GAT	170 CAT	125	DQB1*06:01:08,02:01-02:10,11:01,15:01,15:02,19,20,24,33,37,46-50,68,70-75N,76,77N-84,95,97 / *03:23
31	171 GAT	259 GAA	130	DQB1*06:01:08,02:01-03:09,11:01,11:02,14:01,14:02,16,19,20,23,24, 26N,28, 30-33,37,40,41,44,47-50,59-62,64,65,67,68,70-72w,73w-75N, 76w,77N-84,87w,90,91,95,97
32	81 GTA	208 CCT	170	DQB1*06:04:01-04:07,05:01,05:02,07:01,07:02,09:01-09:03,18,22:02, 25,27,32,34, 36,38,39,52,58,66,69,85,86,88,89,93,94
33	75 CGT	170 CAA	135	DQB1*06:04:01-04:07,05:01,06,08:01-09:03,12-13:02,17,18,21-22:02, 27,34,36, 38,39,42,52,55,58,69,85,86,88,89,93,94w
34	88 GAC	257 ACC	210	DQB1*06:04:01-04:05,04:07,07:01,07:02,17,21,25,34,36,38,39,52,58, 69,85,86,89,92,93
35	77 TCT	257 ACC	220	DQB1*06:04:01-04:05,04:07-05:02,06?,07:01,07:02,09:01-09:03,12, 15:01,15:02,17,21-22:02,25,34,36, 38,39,42,46,52,58,66,69,85,86,88, 89,92-94
36	40 GCA	257 ACC	260	DQB1*06:04:01-04:05,04:07,07:01,07:02,09:01-09:03,12,15:01,15:02, 17,21-22:02,25,34,36,38,39,42,46,52,66,69,86,88,89,92-94
37	26 GTT	211 GGT	225	DQB1*06:02:01-02:10,10,13:01-16,19,20, 22:01-23,29,33,37,46-51w,68-75N,76,77N-84,95-97 / *03:30,72
38	26 GTA	259 GAA	275	DQB1*06:03:01-03:09,06?,08:01,08:02,11:01,11:02,18,26N,27,28,30-32,40,41,44,45,59-65,67,87,90,91
39	114 GCG	169 GCT	95	***DQB1*05:05 / *06:10,25***
40	26 GTA	88 GTA	105	DQB1*06:05:01, 05:02, 06?, 09:01-09:03,11:01,11:02,12,18,42,45,66, 88,94 / *03:01:01:01-29,31-37,39-46w,47-51,53-66N,67-71,74-84N,85-89 / *04:04,05 / *05:04
41	26 GTT	88 GTG	105	***DQB1*06:14:01,14:02,69 / *05:38***
42	26 GTT	178 GTT	195	***DQB1*06:16***
43	77 TCT	211 GGC	175	***DQB1*06:17, 24, 30,42***
44	26 GTT	141 CGA	155	DQB1*06:02:05,19 / *03:30,72 / *04:01:01-03:02,06-08,10,11w-17 / *05:38
45	40 GCC 85 CCT	144 GCG	145 100	***DQB1*06:20, 31*** ***DQB1*06:26N***
46	77 GGG 33 TTA 91 ACG	144 GCG	110 150 95	***DQB1*06:23*** ***DQB1*06:33*** ***DQB1*06:40***
47	554 CAT	573 GAC	650	DQB1*03:02:01-03:07, 05:01-05:04,06?-08?,11?-15?,17:01?-18?,19,20?, 23?, 25?, 26?,30?,31-34?,37?-41?,43?-45?,48?,52?-66N?,67?-72?,74?-79?,81?, 82?,85?-89? / *04:01:01,01:02?-01:04?,02:01,02:02?-02:04?, 03:01?-17?
48				Kontaminationskontrolle / *Contamination control*

[1] The codon at the 3'-end of the primer. The number given is the nucleotide position.
Das Codon am 3'-Ende des Primers. Die Nummer gibt die Nukleotidposition an.

[2] **The control band is smaller than the specific band (410 bp) / *Die Kontrollbande ist kleiner als die spezifische Bande (410 bp)***

- Alleles in italics: Positive reactions could not be verified experimentally. The correct reactivity of the primers was tested in other mixes if possible. /
  Kursiv gedruckte Allele: Die positiven Reaktionen konnten nicht experimentell überprüft werden. Die einzelnen Primer wurden aber soweit möglich in anderen Mixen auf korrekte Reaktivität überprüft.

w weak reaction / *schwache Reaktion*

? no sequence information available for primer binding site / *keine Sequenzinformation für Primerbindungsstelle vorhanden*

The following alleles cannot be detected / Die folgenden Allele werden nicht erkannt: /: DQB1*06:35,43