UKNEQAS for HISTOCOMPATIBILITY and IMMUNOGENETICS
UNITED KINGDOM EXTERNAL QUALITY ASSESSMENT SERVICE

SCHEME 4A2 - SEQUENCES IDENTICAL
over exons 2 and 3 for HLA Class I and exon 2 for HLA Class II
please refer to - http://www.ebi.ac.uk/imgt/hla/ Release 3.16.0

SAMPLES 4A2 01-05/2014

Sample 4A2 01/14
Class I

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
A*02:01	A*02:09	A*02:43N	A*02:66	A*02:75	A*02:83N	A*02:89	A*02:97	A*02:132	A*02:134	A*02:140
	A*02:241	A*02:252	A*02:256	A*02:266	A*02:291	A*02:294	A*02:305N	A*02:327	A*02:329	A*02:356N
	A*02:357	A*02:397	A*02:411	A*02:446	A*02:455	A*02:469	A*02:481			
A*11:01	A*11:21N	A*11:69N	A*11:86	A*11:100	A*11:102	A*11:108	A*11:120	A*11:124	A*11:126	A*11:129
	A*11:142	A*11:154	A*11:163	A*11:171	A*11:172	A*11:173	A*11:174			
B*40:02	B*40:56	B*40:97	B*40:144N	B*40:176						
B*51:01	B*51:11N	B*51:30	B*51:32	B*51:48	B*51:51	B*51:142	B*51:164	B*51:165	B*51:166	B*51:169
C*02:02	C*02:29	C*02:69	C*02:70							
C*15:02	C*15:13	C*15:47	C*15:81	C*15:82	C*15:87					

Class II

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
DRB1*04:01										
DRB1*11:01	DRB1*11:97									
DRB3*02:02	DRB3*02:28	DRB3*02:29N								
DRB4*01:03	DRB4*01:01	DRB4*01:06								
DQA1*03:01	DQA1*03:02	DQA1*03:03								
DQA1*05:05	DQA1*05:01	DQA1*05:03	DQA1*05:06	DQA1*05:07	DQA1*05:08	DQA1*05:09	DQA1*05:11			
DQB1*03:01	DQB1*03:09	DQB1*03:19	DQB1*03:21	DQB1*03:22	DQB1*03:24	DQB1*03:29	DQB1*03:35	DQB1*03:42	DQB1*03:49	DQB1*03:50
	DQB1*03:51	DQB1*03:84N	DQB1*03:94	DQB1*03:115	DQB1*03:116					
DQB1*03:02	DQB1*03:32	DQB1*03:85								
DPA1*01:03										
DPA1*										
DPB1*02:01	DPB1*141:01									
DPB1*04:02	DPB1*105:01									

Sample 4A2 02/14
Class I

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
A*03:01	A*03:20	A*03:21N	A*03:26	A*03:37	A*03:45	A*03:78	A*03:112	A*03:118	A*03:129N	A*03:132
	A*03:134	A*03:162N	A*03:182							
A*11:01	A*11:21N	A*11:69N	A*11:86	A*11:100	A*11:102	A*11:108	A*11:120	A*11:124	A*11:126	A*11:129
	A*11:142	A*11:154	A*11:163	A*11:171	A*11:172	A*11:173	A*11:174			
B*44:03										
B*15:16										
C*14:02	C*14:23	C*14:31	C*14:57	C*14:60						
C*16:01	C*16:58									

Class II

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
DRB1*04:05										
DRB1*07:01										
DRB4*01:01	DRB4*01:03	DRB4*01:06								
DRB4*01:03	DRB4*01:01	DRB4*01:06								
DQA1*02:01										
DQA1*03:03	DQA1*03:01	DQA1*03:02								
DQB1*02:02	DQB1*02:01	DQB1*02:04	DQB1*02:06	DQB1*02:09	DQB1*02:10					
DQB1*03:02	DQB1*03:32	DQB1*03:85								
DPA1*01:03										
DPA1*02:02										
DPB1*01:01	DPB1*162:01									
DPB1*04:01	DPB1*126:01									

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Class I

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
A*01:01	A*01:04N	A*01:22N	A*01:32	A*01:37	A*01:45	A*01:56N	A*01:81	A*01:87N	A*01:103	A*01:107
	A*01:109	A*01:132	A*01:141	A*01:142	A*01:155					
A*										
B*08:01	B*08:19N	B*08:109								
B*37:01	B*37:23	B*37:43	B*37:45	B*37:46	B*37:47					
C*06:02	C*06:46N	C*06:55	C*06:73	C*06:83	C*06:111					
C*07:01	C*07:06	C*07:18	C*07:52	C*07:153	C*07:166	C*07:337	C*07:343			

Class II

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
DRB1*03:01										
DRB1*10:01										
DRB3*01:01										
DQA1*01:05	DQA1*01:01	DQA1*01:04	DQA1*01:12							
DQA1*05:01	DQA1*05:03	DQA1*05:05	DQA1*05:06	DQA1*05:07	DQA1*05:08	DQA1*05:09	DQA1*05:11			
DQB1*02:01	DQB1*02:02	DQB1*02:04	DQB1*02:06	DQB1*02:09	DQB1*02:10					
DQB1*05:01	DQB1*05:18	DQB1*05:27	DQB1*05:31	DQB1*05:32	DQB1*05:45					
DPA1*01:03										
DPA1*02:01										
DPB1*01:01	DPB1*162:01									
DPB1*02:01	DPB1*141:01									

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Class I

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
A*02:01	A*02:09	A*02:43N	A*02:66	A*02:75	A*02:83N	A*02:89	A*02:97	A*02:132	A*02:134	A*02:140
	A*02:241	A*02:252	A*02:256	A*02:266	A*02:291	A*02:294	A*02:305N	A*02:327	A*02:329	A*02:356N
	A*02:357	A*02:397	A*02:411	A*02:446	A*02:455	A*02:469	A*02:455	A*02:469	A*02:481	
A*										
B*27:05	B*27:13									
B*44:02	B*44:19N	B*44:27	B*44:66	B*44:118	B*44:187					
C*02:02	C*02:29	C*02:69	C*02:70							
C*05:01	C*05:03	C*05:37	C*05:53	C*05:93						

Class II

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
DRB1*01:01	DRB1*01:50									
DRB1*15:01										
DRB5*01:01										
DQA1*01:01	DQA1*01:04	DQA1*01:05	DQA1*01:12							
DQA1*01:02	DQA1*01:08	DQA1*01:09	DQA1*01:11							
DQB1*05:01	DQB1*05:18	DQB1*05:27	DQB1*05:31	DQB1*05:32	DQB1*05:45					
DQB1*06:02	DQB1*06:47	DQB1*06:84	DQB1*06:109	DQB1*06:111	DQB1*06:116	DQB1*06:117	DQB1*06:127			
DPA1*02:01										
DPA1*02:02										
DPB1*05:01	DPB1*135:01									
DPB1*10:01										

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Class I

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
A*01:01	A*01:04N	A*01:22N	A*01:32	A*01:37	A*01:45	A*01:56N	A*01:81	A*01:87N	A*01:103	A*01:107
	A*01:109	A*01:132	A*01:141	A*01:142	A*01:155					
A*29:02	A*29:26	A*29:46								
B*08:01	B*08:19N	B*08:109								
B*44:03										
C*07:01	C*07:06	C*07:18	C*07:52	C*07:153	C*07:166	C*07:337	C*07:343			
C*16:01	C*16:58									

Class II

Allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele	Alternative allele
DRB1*04:01										
DRB1*07:01										
DRB4*01:01	DRB4*01:03	DRB4*01:06								
DRB4*01:03	DRB4*01:01	DRB4*01:06								
DQA1*02:01										
DQA1*03:03	DQA1*03:01	DQA1*03:02								
DQB1*02:02	DQB1*02:01	DQB1*02:04	DQB1*02:06	DQB1*02:09	DQB1*02:10					
DQB1*03:01	DQB1*03:09	DQB1*03:19	DQB1*03:21	DQB1*03:22	DQB1*03:24	DQB1*03:29	DQB1*03:35	DQB1*03:42	DQB1*03:49	DQB1*03:50
	DQB1*03:51	DQB1*03:84N	DQB1*03:94	DQB1*03:115	DQB1*03:116					
DPA1*01:03										
DPA1*02:01										
DPB1*04:01	DPB1*126:01									
DPB1*11:01										

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SCHEME 4A2 - AMBIGUOUS TYPING COMBINATIONS
over exons 2 and 3 for HLA Class I and exon 2 for HLA Class II
please refer to - http://www.ebi.ac.uk/imgt/hla/

SAMPLES 4A2 01-05/2014

Sample 4A2 01/14

Locus	Combination 1 (consensus)		Combination 2	Combination 3	Combination 4	Combination 5	Combination 6	Combination 7	Combination 8	Combination 9	Combination 10	Combination 11	Combination 12	Combination 13
A*	**02:01**	**11:01**	A*02:12 + A*11:24	A*02:24 + A*11:119	A*02:27 + A*11:31	A*02:34 + A*11:19	A*02:45 + A*11:70	A*02:56 + A*11:121	A*02:86 + A*11:73	A*02:90 + A*11:06	A*02:92 + A*11:103	A*02:101 + A*11:04	A*02:226N + A*11:24	A*02:346 + A*11:12
B*	**40:02**	**51:01**	B*40:05 + B*51:31	B*40:06 + B*51:64	B*40:08 + B*52:01	B*40:19 + B*78:02	B*40:35 + B*51:24	B*40:40 + B*51:151	B*40:220 + B*51:07					
C*	**02:02**	**15:02**	C*02:16 + C*15:74	C*02:43 + C*15:42	C*02:47 + C*15:09									
DRB1*	**04:01**	**11:01**	DRB1*04:35 + DRB1*11:37	DRB1*04:145 + DRB1*13:14	DRB1*04:08 + DRB1*11:93	DRB1*04:47 + DRB1*11:79								
DQA1*	**03:01**	**05:05**												
DQB1*	**03:01**	**03:02**	DQB1*03:03 + DQB1*03:04	DQB1*03:14 + DQB1*03:113	DQB1*03:69 + DQB1*03:70	DQB1*03:74+DQB1*03:138								
DPA1*	**01:03**													
DPB1*	**02:01**	**04:02**												

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Locus	Combination 1 (consensus)		Combination 2	Combination 3	Combination 4	Combination 5	Combination 6	Combination 7	Combination 8	Combination 9	Combination 10	Combination 11	Combination 12	Combination 13
A*	**03:01**	**11:01**	A*03:56 + A*11:117	A*03:63 + A*11:12	A*03:65 + A*11:24:02	A*03:69N + A*11:24:01	A*03:127 + A*11:20							
B*	**44:03**	**15:16**	B*15:22 + B*44:79											
C*	**14:02**	**16:01**	C*14:05+C*16:23											
DRB1*	**04:05**	**07:01**	DRB1*04:90 + DRB1*07:11											
DQA1*	**02:01**	**03:03**												
DQB1*	**02:02**	**03:02**												
DPA1*	**01:03**	**02:02**	DPA1*02:01 + DPA1*03:02											
DPB1*	**01:01**	**04:01**	DPB1*39:01 + DPB1*90:01	DPB1*65:01 + DPB1*199:01	DPB1*150:01 + DPB1*158:01									

Sample 4A2 03/14

Locus	Combination 1 (consensus)		Combination 2	Combination 3	Combination 4	Combination 5	Combination 6	Combination 7	Combination 8	Combination 9	Combination 10	Combination 11	Combination 12	Combination 13
A*	**01:01**													
B*	**08:01**	**37:01**	B*08:04 + B*37:21											
C*	**06:02**	**07:01**	C*06:04+C*07:22	C*06:11+C*07:09	C*06:17+C*07:01:13	C*06:31+C*07:165	C*06:122+C*07:247	C*06:42+C*07:01:01G						
DRB1*	**03:01**	**10:01**	DRB1*03:05 + DRB1*10:02											
DQA1*	**01:05**	**05:01**												
DQB1*	**02:01**	**05:01**												
DPA1*	**01:03**	**02:01**	DPA1*01:06 + DPA1*02:03											
DPB1*	**01:01**	**02:01**	DPB1*08:01 + DPB1*158:01	DPB1*65:01 + DPB1*200:01	DPB1*71:01 + DPB1*122:01	DPB1*75:01+DPB1*247:01	DPB1*89:01 + DPB1*188:01	DPB1*172:01 + DPB1*201:01						

Sample 4A2 04/14

Locus	Combination 1 (consensus)		Combination 2	Combination 3	Combination 4	Combination 5	Combination 6	Combination 7	Combination 8	Combination 9	Combination 10	Combination 11	Combination 12	Combination 13
A*	**02:01**													
B*	**27:05**	**44:02**	B*27:29+B*44:97	B*27:37+B*44:55	B*27:38+B*44:21	B*27:47+B*44:64								
C*	**02:02**	**05:01**	C*02:08 + C*05:58:02	C*02:22 + C*05:04	C*02:26 + C*05:26	C*02:32 + C*05:08								
DRB1*	**01:01**	**15:01**	DRB1*01:15 + DRB1*15:66	DRB1*01:18 + DRB1*15:07	DRB1*01:20 + DRB1*15:02	DRB1*01:24 + DRB1*15:05								
DQA1*	**01:01**	**01:02**												
DQB1*	**05:01**	**06:02**	DQB1*05:11 + DQB1*06:79	DQB1*05:51+DQB1*06:20	DQB1*05:62+DQB1*06:11									
DPA1*	**02:01**	**02:02**												
DPB1*	**05:01**	**10:01**	DPB1*265:01+DPB1*284:01											

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Locus	Combination 1 (consensus)		Combination 2	Combination 3	Combination 4	Combination 5	Combination 6	Combination 7	Combination 8	Combination 9	Combination 10	Combination 11	Combination 12	Combination 13
A*	**01:01**	**29:02**	A*01:17+A*29:34	A*01:61+A*29:09	A*01:100+A*29:66	A*29:03+A*36:04								
B*	**08:01**	**44:03**	B*08:02 + B*44:46	B*08:12 + B*44:110	B*08:13 + B*44:02	B*08:21 + B*44:163	B*08:47 + B*44:109	B*08:60 + B*44:65	B*08:71+B*44:192	B*08:74+B*44:45	B*08:87+B*44:77			
C*	**07:01**	**16:01**	C*07:16 + C*16:26	C*07:26 + C*16:21	C*07:40 + C*16:15	C*07:53 + C*16:35								
DRB1*	**04:01**	**07:01**	DRB1*04:155 + DRB1*07:11											
DQA1*	**02:01**	**03:03**												
DQB1*	**02:02**	**03:01**	DQB1*02:03+DQB1*03:04	DQB1*02:31+DQB1*03:73										
DPA1*	**01:03**	**02:01**	DPA1*01:06 + DPA1*02:03											
DPB1*	**04:01**	**11:01**	DPB1*147:01+DPB1*294:01											