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### TEST INFO

Sample Date:	Amp Tech:	Kit Lot #: <b>K3549-CR</b>
Sample ID: <b>1806993</b>	Analysis Tech:	Test Date: <b>11/29/2018</b>
Patient ID: <b>AFK3166</b>	Review Tech:	

### SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA and DPB

TEST	GENOTYPE	PHENOTYPE	TEST	GENOTYPE	PHENOTYPE
HLA-A	A*03 A*24	A3 A24	HLA-C	C*02 C*04	Cw2 Cw4
HLA-B	B*27 B*35	B27 B35	Bw		Bw6 Bw6
HLA-DRB1	DRB1*04 DRB1*07	DR4 DR7	HLA-DRB345	DRB4 DRB4*01	DR53
HLA-DQA1	DQA1*02 DQA1*03	DQA1*02 DQA1*03	HLA-DQB1	DQB1*02 DQB1*03	DQ2 DQ8
HLA-DPA1	DPA1*01 DPA1*01	DPA1*01 DPA1*01			

EPITYPE	ALLELES	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
<b>EDP12</b>	<b>DPB1* 04:02:01:01</b> (+49 rare alleles)	LFQG	EEFV	DEE	ILEEK	M	GGPM
<b>EDP15</b>	<b>DPB1* 15:01:01</b> (+4 rare alleles)	VYQG	QEYA	AAE	LLEER	M	VGPM
<i>This epitope was MANUALLY chosen.</i>							

(Notice: Cannot exclude other combinations. Review all results.)  
 All test results are based on IMGT/HLA release: version 3.27.0 - January 2017  
 For research use only. Not for use in diagnostic procedures.

## LABORATORY ASSIGNMENT

HLA-A: **A3 A24**  
HLA-C: **Cw2 Cw4**  
HLA-DQA1: **DQA1\*02 DQA1\*03**  
HLA-DPA1: **DPA1\*01 DPA1\*01**

HLA-B: **B27 B35**  
HLA-DRB1: **DR4 DR7**  
HLA-DQB1: **DQ2 DQ8**  
HLA-DPB1: **DPB1\*04:02**  
**DPB1\*15:01**

Bw: **Bw6 Bw6**  
HLA-DRB345: **DR53**

# HLA-A

GROUP	ALLELES	ANTIGEN
<b>A*03</b>	<b>A* 03:01:01:01, 03:02:01;</b> <i>A* 03:01:01:03d, 03:01:02d;</i> A* 03:01:01:04e-03:01:01:10e, 03:01:04e-03:01:18e, 03:01:20e-03:01:37e, 03:01:40e-03:01:62e, 03:02:02e-03:02:04e, 03:04e, 03:20e	<b>A3</b>
	<i>A* 03:21Nd;</i> A* 03:01:01:02Ne, 03:03Ne, 03:11Ne	Null
	<i>A* 03:06d-03:07d, 03:09d, 03:22:01d, 03:26d, 03:50d;</i> A* 03:13e-03:16e, 03:17:02e, 03:19e, 03:22:02e, 03:23:02e, 03:25e, 03:27e-03:29e, 03:31e, 03:33e-03:35e, 03:37e-03:40e, 03:44e-03:49e, 03:51e-03:56e, 03:58e-03:71e, 03:73e-03:81e, 03:83e-03:87e, 03:90e-03:106e, 03:110e-03:121e, 03:123e-03:134e, 03:136e-03:151e, 03:153e-03:166e, 03:168Ne-03:170e, 03:173e-03:175e, 03:177e-03:185e, 03:188e-03:197Ne, 03:199e-03:204e, 03:206e-03:218e, 03:220e-03:224e, 03:226e-03:230e, 03:231:02e-03:259e, 03:261e-03:266Ne, 03:268e-03:272e, 03:274e-03:275Ne	-
<b>A*24</b>	<i>A* 24:05:01d;</i> A* 24:05:02e	A9
	<b>A* 24:02:01:01-24:02:01:02L, 24:07:01, 24:20;</b> <i>A* 24:02:02d, 24:06d, 24:13:01d, 24:14:01:01d, 24:37d, 24:43d, 24:58d;</i> A* 24:02:01:03e-24:02:01:10e, 24:02:04e-24:02:26e, 24:02:28e-24:02:100e, 24:07:02e, 24:13:02e, 24:14:01:02e, 24:21e, 24:27e, 24:76e, 24:78e	<b>A24</b>
	<i>A* 24:23d</i>	A2403
	<i>A* 24:11Nd;</i> A* 24:40Ne, 24:45Ne, 24:48Ne, 24:60Ne	Null
	<b>A* 24:25;</b> <i>A* 24:15d, 24:26d, 24:30d-24:32d, 24:35d, 24:38d, 24:47d, 24:53d, 24:56d, 24:64d, 24:72d, 24:81d, 24:90:01Nd, 24:95d;</i> A* 24:02:03Qe, 24:34e, 24:39e, 24:46e, 24:49e-24:52e, 24:54e-24:55e, 24:59e, 24:61e, 24:63e, 24:68e-24:70e, 24:73e-24:75e, 24:77e, 24:79e-24:80e, 24:83Ne-24:88e, 24:90:02Ne-24:91e, 24:93e, 24:96e-24:103e, 24:105e, 24:107e-24:108e, 24:110e-24:119e, 24:121e-24:123e, 24:126e-24:128e, 24:130e-24:137e, 24:139e-24:144e, 24:146e-24:155Ne, 24:157e-24:166e, 24:168e-24:176e, 24:178e-24:189e, 24:192e-24:203e, 24:205e-24:206e, 24:209e, 24:212e-24:242e, 24:244e-24:288e, 24:291e-24:295e, 24:297e-24:298e, 24:301e-24:307e, 24:311e-24:314e, 24:316e-24:329e, 24:331e-24:334e, 24:336e-24:338e, 24:341e, 24:343e-24:354e, 24:356e, 24:358e, 24:360e-24:372e, 24:375e-24:377e	-
<i>This genotype was MANUALLY chosen.</i>		
<b>This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.</b>		

# HLA-B

GROUP	ALLELES	ANTIGEN
<b>B*27</b>	<b>B* 27:02:01:01, 27:03-27:04:01, 27:05:02, 27:06;</b> <i>B* 27:05:03d, 27:09d-27:10d, 27:12d, 27:17d, 27:20d;</i> B* 27:02:01:02e-27:02:03e, 27:04:02e, 27:04:04e-27:04:06e, 27:05:04e-27:05:32e, 27:13e, 27:38e	<b>B27</b>
	<b>B* 27:08</b>	B2708
	<i>B* 27:27d;</i> B* 27:16e, 27:25e-27:26e, 27:31e, 27:35e-27:36e, 27:39e-27:42e, 27:45e-27:46e, 27:48e-27:51e, 27:53e-27:61e, 27:63e-27:66Ne, 27:68e-27:69e, 27:72e-27:74e, 27:76e-27:80e, 27:82e-27:118e, 27:120e-27:124e, 27:126e, 27:128e-27:129e, 27:132e-27:137e, 27:139e-27:141e, 27:143e-27:152e, 27:154e-27:161e	-
<b>B*35</b>	<b>B* 35:01:01:01, 35:03:01:01, 35:08:01, 35:20:01, 35:23, 35:41;</b> <i>B* 35:06d, 35:15:01d, 35:29:01d, 35:30d, 35:55d;</i> B* 35:01:01:02e-35:01:09e, 35:01:11e-35:01:16e, 35:01:18e-35:01:46e, 35:03:01:02e-35:03:06e, 35:03:08e-35:03:21e, 35:07e, 35:08:02e-35:08:09e, 35:11:03e, 35:15:02e, 35:20:02e, 35:29:02e, 35:42e, 35:50e, 35:52e, 35:57e, 35:61:02e, 35:70e	<b>B35</b>
	B* 35:40Ne, 35:53Ne	Null
	<i>B* 35:34d, 35:48d, 35:77d;</i> B* 35:33e, 35:36e, 35:38e, 35:54e, 35:62e, 35:64e-35:65Qe, 35:74e-35:75e, 35:78e, 35:84e-35:85e, 35:90e-35:94e, 35:98e, 35:100e-35:101e, 35:103e-35:108e, 35:110e-35:112e, 35:115e-35:116e, 35:119e-35:123e, 35:126e-35:128e, 35:130Ne-35:134Ne, 35:136e-35:141e, 35:143e-35:148e, 35:150e, 35:152e-35:153e, 35:155e-35:156e, 35:158e-35:161e, 35:163e, 35:165Ne-35:166e, 35:168e, 35:170e-35:171e, 35:173Ne-35:181e, 35:187e, 35:189e, 35:191e-35:197e, 35:200e, 35:202e, 35:204e-35:206e, 35:209e-35:210e, 35:212e, 35:214e, 35:216Ne, 35:218e-35:219e, 35:221e-35:225e, 35:227e-35:228e, 35:231e, 35:236e-35:241e, 35:243e-35:250e, 35:252e-35:253e, 35:255e-35:256e, 35:259e-35:260e, 35:262e-35:264e, 35:268e-35:269e, 35:272e, 35:275e, 35:279e-35:284e, 35:286e, 35:288e-35:290e, 35:293e, 35:295e-35:308e, 35:310e, 35:312e-35:315e, 35:319e, 35:322e, 35:324e-35:328e, 35:330e-35:334e	-

	ALLELES	ANTIGEN
<b>Bw6</b>	<b>B* 27:08 / B* 35:01:01:01, 35:03:01:01, 35:08:01, 35:20:01, 35:23, 35:41;</b> <i>B* 27:12d / B* 35:06d, 35:15:01d, 35:29:01d, 35:30d, 35:34d, 35:48d, 35:55d, 35:77d;</i> B* 27:26e, 27:40e, 27:42e, 27:89e / B* 35:01:01:02e-35:01:09e, 35:01:11e-35:01:16e, 35:01:18e-35:01:46e, 35:03:01:02e-35:03:06e, 35:03:08e-35:03:21e, 35:07e, 35:08:02e-35:08:09e, 35:11:03e, 35:15:02e, 35:20:02e, 35:29:02e, 35:33e, 35:36e, 35:38e, 35:40Ne, 35:42e, 35:50e, 35:52e-35:54e, 35:57e, 35:61:02e-35:62e, 35:64e-35:65Qe, 35:70e, 35:74e-35:75e, 35:78e, 35:84e-35:85e, 35:90e-35:94e, 35:98e, 35:100e-35:101e, 35:103e-35:108e, 35:110e-35:112e, 35:115e-35:116e, 35:119e-35:123e, 35:126e-35:128e, 35:130Ne-35:134Ne, 35:136e-35:141e, 35:143e-35:148e, 35:150e, 35:152e-35:153e, 35:155e-35:156e, 35:158e-35:161e, 35:163e, 35:165Ne-35:166e, 35:168e, 35:170e-35:171e, 35:173Ne-35:181e, 35:187e, 35:189e, 35:191e-35:197e, 35:200e, 35:202e, 35:204e-35:206e, 35:209e-35:210e, 35:212e, 35:214e, 35:216Ne, 35:218e-35:219e, 35:221e-35:225e, 35:227e-35:228e, 35:231e, 35:236e-35:241e, 35:243e-35:250e, 35:252e-35:253e, 35:255e-35:256e, 35:259e-35:260e, 35:262e-35:264e, 35:268e-35:269e, 35:272e, 35:275e, 35:279e-35:284e, 35:286e, 35:288e-35:290e, 35:293e, 35:295e-35:308e, 35:310e, 35:312e-35:315e, 35:319e, 35:322e, 35:324e-35:328e, 35:330e-35:334e	<b>Bw6</b>

## HLA-C

GROUP	ALLELES	ANTIGEN
<b>C*02</b>	<b>C* 02:02:02:01, 02:10:01:01;</b> <i>C* 02:02:01d, 02:08d;</i> C* 02:02:02:02e-02:02:12e, 02:02:14e-02:02:28e, 02:02:30e-02:02:32e, 02:10:01:02e-02:10:02e	<b>Cw2</b>
	<i>C* 02:04d, 02:07d, 02:14:01d, 02:19d;</i> C* 02:05:02e-02:05:03e, 02:09e, 02:11e-02:13e, 02:14:02e-02:15e, 02:20e-02:31e, 02:33e-02:42e, 02:44e-02:46e, 02:48e, 02:50e, 02:52Ne-02:54e, 02:56e-02:86e, 02:88e-02:128e	-
<b>C*04</b>	<b>C* 04:01:01:01, 04:07;</b> <i>C* 04:10d;</i> C* 04:01:01:02e-04:01:22e, 04:01:24e-04:01:81e, 04:20e	<b>Cw4</b>
	<b>C* 04:04:01;</b> <i>C* 04:05d, 04:08d, 04:19d, 04:27d, 04:82d;</i> C* 04:04:02e, 04:11e-04:12e, 04:14e-04:15e, 04:18e, 04:23e-04:26e, 04:28e-04:36e, 04:38e-04:41e, 04:43e-04:57e, 04:59Qe-04:60e, 04:62e-04:67e, 04:69e-04:79e, 04:81e, 04:83e-04:93Ne, 04:95Ne-04:99e, 04:101e-04:102e, 04:104e-04:106e, 04:108e-04:111e, 04:113e-04:139e, 04:141e-04:146e, 04:148e-04:159e, 04:161e-04:168e, 04:170Ne, 04:172e-04:177e, 04:179e-04:189e, 04:191Ne-04:211e, 04:214e-04:216e, 04:218e-04:219e, 04:221e-04:222e, 04:225Ne-04:229e, 04:231e-04:255Ne, 04:257e-04:262e	-

## HLA-DR

### HLA-DRB1

GROUP	ALLELES	ANTIGEN
<b>DRB1*04</b>	<b>DRB1* 04:01:01:01, 04:02:01, 04:03:01, 04:04:01, 04:05:01, 04:06:01, 04:07:01, 04:08:01, 04:09-04:10:01, 04:11:01, 04:17:02;</b> <i>DRB1* 04:03:02d, 04:13d-04:14d, 04:16d, 04:19d, 04:23d, 04:25d-04:26d;</i> DRB1* 04:01:01:02e-04:01:17e, 04:02:02e-04:02:05e, 04:03:03e-04:03:13e, 04:04:02e-04:04:10e, 04:05:02e-04:05:18e, 04:06:02e-04:06:06e, 04:07:02e-04:07:05e, 04:08:02e-04:08:04e, 04:10:02e-04:10:03e, 04:11:02e-04:11:04e, 04:17:01e, 04:20e-04:21e, 04:24e, 04:28e-04:29e, 04:31e-04:32e, 04:42e, 04:64e	<b>DR4</b>
	<b>DRB1* 04:38;</b> <i>DRB1* 04:12d, 04:18d, 04:33d, 04:35d, 04:40d-04:41d, 04:50d-04:51d, 04:54d;</i> DRB1* 04:27e, 04:30e, 04:36e-04:37e, 04:39e, 04:43e-04:49e, 04:52e-04:53e, 04:55e-04:60e, 04:62e, 04:65e, 04:67e-04:109e, 04:111e-04:137e, 04:139e-04:144e, 04:146e-04:153e, 04:155e-04:159e, 04:162e-04:169e, 04:171e-04:210e, 04:212Ne-04:221e	-
<b>DRB1*07</b>	<b>DRB1* 07:01:01:01;</b> <i>DRB1* 07:03d;</i> DRB1* 07:01:01:02e-07:01:21e, 07:04e, 07:09e	<b>DR7</b>
	DRB1* 07:10Ne	Null
	<i>DRB1* 07:05d, 07:07d, 07:11d, 07:13d;</i> DRB1* 07:06e, 07:08e, 07:12e, 07:14e-07:49e, 07:51e-07:76e	-

### HLA-DRB345

GROUP	ALLELES	ANTIGEN
DRB4	<i>DRB4* 01:01:01:01, 01:03:01:01, 01:03:03;</i> <i>DRB4* 01:03:02d;</i> <i>DRB4* 01:01:02e, 01:03:01:03e, 01:03:04e, 01:05e</i>	DR53
	<i>DRB4* 03:01Nd</i>	Null
	<i>DRB4* 01:02;</i> <i>DRB4* 01:04e, 01:06e, 01:07:01e, 01:07:02e, 01:08e, 01:09e, 01:10e, 01:11e, 01:12e, 01:13e, 01:14e, 01:15e, 01:16Ne, 01:17e, 01:18e, 01:19e, 01:20e, 01:21e, 01:22e, 01:23e, 01:24e, 01:25e, 01:26e, 01:27e, 01:28e, 01:29e, 01:30e, 01:31e, 01:32e, 01:33e, 01:34e, 01:35e, 01:36e, 01:37e, 01:38Ne, 01:39e, 01:40e, 01:41e, 01:42e, 01:43e, 01:44e, 01:45e, 01:46e, 01:47e, 01:48e</i>	-
DRB4*01	<i>DRB4* 01:01:01:01, 01:03:01:01, 01:03:03;</i> <i>DRB4* 01:03:02d;</i> <i>DRB4* 01:01:02e, 01:03:01:03e, 01:03:04e, 01:05e</i>	DR53
	<i>DRB4* 01:02;</i> <i>DRB4* 01:04e, 01:06e, 01:07:01e, 01:07:02e, 01:08e, 01:09e, 01:10e, 01:11e, 01:12e, 01:13e, 01:14e, 01:15e, 01:16Ne, 01:17e, 01:18e, 01:19e, 01:20e, 01:21e, 01:22e, 01:23e, 01:24e, 01:25e, 01:26e, 01:27e, 01:28e, 01:29e, 01:30e, 01:31e, 01:32e, 01:33e, 01:34e, 01:35e, 01:36e, 01:37e, 01:38Ne, 01:39e, 01:40e, 01:41e, 01:42e, 01:43e, 01:44e, 01:45e, 01:46e, 01:47e, 01:48e</i>	-
One DRB4*01 allele is present. Cannot determine whether another DRB4 allele is also present.		

Cannot exclude RARE alleles from another locus.

#### HLA-DQA1

GROUP	ALLELES	ANTIGEN
DQA1*02	<i>DQA1* 02:01:01:01;</i> <i>DQA1* 02:01:01:02e</i>	-
DQA1*03	<i>DQA1* 03:01:01, 03:02-03:03:01:01;</i> <i>DQA1* 03:01:03e, 03:03:01:02e-03:03:02e</i>	-

#### HLA-DQB1

GROUP	ALLELES	ANTIGEN
DQB1*02	<i>DQB1* 02:01:01, 02:02:01:01, 02:03;</i> <i>DQB1* 02:01:02e-02:01:24e, 02:02:01:02e-02:02:04e</i>	DQ2
	<i>DQB1* 02:04e-02:88e</i>	-
DQB1*03	<i>DQB1* 03:02:01:01;</i> <i>DQB1* 03:02:02d;</i> <i>DQB1* 03:02:01:02e, 03:02:03e-03:02:04e, 03:02:07e-03:02:10e, 03:02:12e-03:02:24e</i>	DQ8
	<i>DQB1* 03:07e-03:08e, 03:11e, 03:14:02e, 03:18e, 03:32e, 03:37e, 03:45e, 03:62e-03:64e, 03:66Ne-03:68e, 03:70e, 03:81e, 03:85e, 03:106e-03:107e, 03:125e, 03:138e, 03:146e, 03:153e, 03:161e, 03:174e-03:175e, 03:178e-03:179e, 03:185e, 03:189e-03:190e, 03:199e, 03:203e-03:205e, 03:210e-03:211e, 03:213Ne-03:215e, 03:223e-03:226e, 03:228e-03:229e, 03:233e, 03:237Ne, 03:240e, 03:245e, 03:247e, 03:251e</i>	-

## HLA-DPA1

GROUP	ALLELES	ANTIGEN
DPA1*01	DPA1* 01:03:01:01, 01:04; DPA1* 01:03:01:02e-01:03:05e, 01:05e-01:07e, 01:09e-01:10e, 01:12e	-
DPA1*01	DPA1* 01:03:01:01, 01:04; DPA1* 01:03:01:02e-01:03:05e, 01:05e-01:07e, 01:09e-01:10e, 01:12e	-

## HLA-DPB1

EPITYPE	ALLELES	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP12	DPB1* 04:02:01:01; DPB1* 04:02:01:02e-04:02:08e / DPB1* 77:01e / DPB1* 82:01e / DPB1* 94:01e / DPB1* 144:01e / DPB1* 153:01e / DPB1* 185:01e / DPB1* 210:01e / DPB1* 252:01e / DPB1* 256:01e / DPB1* 257:01e / DPB1* 260:01e / DPB1* 263:01e / DPB1* 286:01e / DPB1* 307:01e / DPB1* 308:01e / DPB1* 321:01e / DPB1* 338:01e / DPB1* 342:01e / DPB1* 364:01e / DPB1* 373:01e / DPB1* 380:01e / DPB1* 402:01e / DPB1* 420:01e / DPB1* 424:01e / DPB1* 429:01e / DPB1* 430:01e / DPB1* 443:01e / DPB1* 463:01e / DPB1* 477:01e / DPB1* 488:01e / DPB1* 494:01e / DPB1* 525:01e / DPB1* 539:01e / DPB1* 549:01e / DPB1* 577:01e / DPB1* 586:01e / DPB1* 594:01e / DPB1* 596:01e / DPB1* 606:01e / DPB1* 624:01e / DPB1* 627:01e	LFQG	EEFV	DEE	ILEEK	M	GGPM
EDP15	DPB1* 15:01:01; DPB1* 15:01:02e / DPB1* 345:01e / DPB1* 471:01e / DPB1* 585:01e	VYQG	QEYA	AAE	LLEER	M	VGPM
This epitope was MANUALLY chosen.							
This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.							