Supplementary Table 5a. HLA-A G level frequencies between CIWD versions [a]

| HLA-A IPD-HLA/IMGT 3.31.0 | Highest Frequency | 3.0.0 CIWD Category by Population Group [b] | | | | | | | | HLA-A IPD-IMGT/HLA 3.9.0 | 2.0.0 CWD Category |
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK		
A*01:01:01G	C	C	C	C	C	C	C	C	C	A*01:01:01G	C
A*01:03:01G	C	C	C	C	C	C	C	WD	C	A*01:03 [e]	C
A*01:09:01G	WD	WD	WD							A*01:09	WD
A*02:01:01G	C	C	C	C	C	C	C	C	C	A*02:01:01G	C
A*02:02:01G	C	C	C	C	C	C	C	C	C	A*02:02	C
A*02:03:01G	C	C	C	C	I	C	C	C	C	A*02:03:01G	C
A*02:04:01G	C	C	C	WD	I	WD	C	C	C	A*02:04	C
A*02:05:01G	C	C	C	C	C	C	C	C	C	A*02:05:01G	C
A*02:06:01G	C	C	C	C	C	C	C	C	C	A*02:06:01G	C
A*02:07:01G	C	C	WD	C	C	C	C	C	C	A*02:07:01G	C
A*02:10:01G	C	I		C	WD				I	A*02:10	C
A*02:11:01G	C	C	C	C	C	C	C	C	C	A*02:11:01G	C
A*02:16:01G	C	C	WD	C	WD	WD			I	A*02:16:01G	WD
A:02:17:01G [c]	C	C	C	I	C	C	C	C	C	A*02:17:01G	C
A*02:22:01G	C	C	C	I	C	C	C	C	C	A*02:22:01G	C
A*02:49:01G	WD	WD			WD	WD			WD	A*02:49	WD
A*02:81:01G	WD	WD			WD					A*02:81	o
A*03:01:01G	C	C	C	C	C	C	C	C	C	A*03:01:01G	C
A*03:02:01G	C	C	C	C	C	C	C	C	C	A*03:02:01	C
A*11:01:01G	C	C	C	C	C	C	C	C	C	A*11:01:01G	C
A*11:02:01G	C	C	WD	C	I	WD	I	WD	C	A*11:02:01G	C
A*11:03:01G	C	C	WD	C	WD	WD	WD	C	I	A*11:03	WD
A*11:05:01G	I	I	WD		I		I		I	A*11:05	WD
A*23:01:01G	C	C	C	C	C	C	C	C	C	A*23:01:01G	C
A*24:02:01G	C	C	C	C	C	C	C	C	C	A*24:02:01G	C
A*24:03:01G	C	C	C	C	C	C	C	C	C	A*24:03:01G	C
A*24:05:01G	C	I	WD	I	WD		C	C	I	A*24:05:01G	WD
A*24:14:01G	C	I	WD	WD	WD		C	C	I	A*24:14	WD

Supplementary Table 5a. HLA-A G level frequencies between CIWD versions [a]

| HLA-A IPD-HLA/IMGT 3.31.0 | 3.0.0 CIWD Category by Population Group [b] | | | | | | | | | 2.0.0 CWD | |
	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-A IPD-IMGT/HLA 3.9.0	Category
A*24:20:01G	C	I		C	WD	WD			C	A*24:20	C
A*24:26:01G	I	I	WD		WD	WD	I		I	A*24:26	WD
A*25:01:01G	C	C	C	C	C	C	C	C	C	A*25:01:01G	C
A*26:01:01G	C	C	C	C	C	C	C	C	C	A*26:01:01G	C
A*29:01:01G	C	C	C	C	C	C	C	C	C	A*29:01:01G	C
A*29:02:01G	C	C	C	C	C	C	C	C	C	A*29:02:01G	C
A*30:01:01G	C	C	C	C	C	C	C	C	C	A*30:01:01G	C
A*30:02:01G	C	C	C	C	C	C	C	C	C	A*30:02:01G	C
A*30:04:01G	C	C	C	C	C	C	C	C	C	A*30:04:01	C
A*31:01:02G	C	C	C	C	C	C	C	C	C	A*31:01:02G	C
A*32:01:01G	C	C	C	C	C	C	C	C	C	A*32:01:01G	C
A*33:01:01G	C	C	C	C	C	C	C	C	C	A*33:01:01G	C
A*33:03:01G	C	C	C	C	C	C	C	C	C	A*33:03:01G	C
A*34:01:01 [d]	C	C	WD	C	I	WD	C	C	C	A*34:01:01	C
A*66:01:01G	C	C	C	C	C	C	C	C	C	A*66:01:01G	C
A*66:03:01G	C	I	C		WD	WD	C	C	C	A*66:03	WD
A*68:01:01G	C	C	C	C	C	C	C	C	C	A*68:01:01G	C
A*68:01:02G	C	C	C	C	C	C	C	C	C	A*68:01:02G	C
A*68:02:01G	C	C	C	C	C	C	C	C	C	A*68:02:01G	C
A*69:01:01G	C	I	WD	I	I	C	C	WD	C	A*69:01	C
A*74:01:01G	C	C	C	C	C	C	C	C	C	A*74:01:01G	C
A*80:01:01G	C	C	C	I	C	C	C	C	C	A*80:01	C

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population group in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times in this dataset. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

Supplementary Table 5a. HLA-A G level frequencies between CIWD versions [a]

HLA-A IPD-HLA/IMGT 3.31.0	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-A IPD-IMGT/HLA 3.9.0	Category
3.0.0 CIWD Category by Population Group [b]										**2.0.0 CWD**	

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] A*02:17:01G was reported in the dataset but A*02:17:01 was found to be identical to A*02:17:02 so there is only one member in this G group.

[d] Not reported as G in the dataset; however, version 3.31.0 nomenclature has assigned this allele to a G group.

[e] Alleles in this column without a G designation were not assigned as a G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

References

Mack SJ, Cano P, Hollenbach JA, He J, Hurley CK, Middleton D, Moraes ME, Pereira SE, Kempenich JH, Reed EF, Setterholm M, Smith AG, Tilanus MG, Torres M, Varney MD, Voorter CE, Fischer GF, Fleischhauer K, Goodridge D, Klitz W, Little AM, Maiers M, Marsh SG, Muller CR, Noreen H, Rozemuller EH, Sanchez-Mazas A, Senitzer D, Trachtenberg E, Fernandez-Vina M: Common and well-documented HLA alleles: 2012 update to the CWD catalogue. Tissue Antigens 81:194-203, 2013.

Supplementary Table 5b. HLA-B G level frequencies between CIWD versions [a]

HLA-B IPD-HLA/IMGT 3.31.0	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-B IPD-IMGT/HLA 3.9.0	Category
		3.0.0 CIWD Category by Population Group [b]								2.0.0 CWD	
B*07:02:01G	C	C	C	C	C	C	C	C	C	B*07:02:01G	C
B*07:05:01G	C	C	C	C	C	C	C	C	C	B*07:05:01G	C
B*07:37:01G	I	WD			WD				I	B*07:37 [d]	WD
B*08:01:01G	C	C	C	C	C	C	C	C	C	B*08:01:01G	C
B*13:01:01G	C	C	C	C	C	C	C	C	C	B*13:01:01G	C
B*13:02:01G	C	C	C	C	C	C	C	C	C	B*13:02:01G	C
B*14:01:01G	C	C	C	C	C	C	C	C	C	B*14:01:01	C
B*14:02:01G	C	C	C	C	C	C	C	C	C	B*14:02:01	C
B*15:01:01G	C	C	C	C	C	C	C	C	C	B*15:01:01G	C
B*15:02:01G	C	C	C	C	I	C	C	C	C	B*15:02:01G	C
B*15:03:01G	C	C	C	C	C	C	C	C	C	B*15:03:01G	C
B*15:04:01G	C	C	WD	C	I		C	C	C	B*15:04	WD
B*15:07:01G	C	C	WD	C	C		C	C	C	B*15:07:01G	C
B*15:09:01G	C	C	WD	I	C	C	C	C	C	B*15:09	C
B*15:11:01G	C	C		C	I	C	WD		C	B*15:11:01G	C
B*15:12:01G	C	C		C	WD		I		C	B*15:12:01G	C
B*15:16:01G	C	C	C	I	C	C	C	C	C	B*15:16:01	C
B*15:17:01G	C	C	C	C	C	C	C	C	C	B*15:17:01G	C
B*15:18:01G	C	C	C	C	C	C	C	C	C	B*15:18:01G	C
B*15:21:01G	C	C	WD	C	I	WD	I		C	B*15:21	C
B*15:25:01G	C	C	WD	C	I	C	I	C	C	B*15:25:01G	C
B*15:28:01G	o [c]	o								B*15:28	WD
B*15:30:01G	C	C	WD	I	I	WD	C	C	C	B*15:30	C
B*15:123:01G	WD	WD				WD				B*15:123	o
B*18:01:01G	C	C	C	C	C	C	C	C	C	B*18:01:01G	C
B*18:05:01G	C	C	WD	I	C	C	C	C	C	B*18:05	WD
B*18:18:01G	I	I			I				I	B*18:18	WD
B*27:02:01G	C	C	C	C	C	C	C	C	C	B*27:02:01	C
B*27:04:01G	C	C	WD	C	I	C	I	C	C	B*27:04:01G	C

Supplementary Table 5b. HLA-B G level frequencies between CIWD versions [a]

HLA-B IPD-HLA/IMGT 3.31.0	Highest Frequency	3.0.0 CIWD Category by Population Group [b]								HLA-B IPD-IMGT/HLA 3.9.0	2.0.0 CWD Category
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK		
B*27:05:02G	C	C	C	C	C	C	C	C	C	B*27:05:02G	C
B*27:07:01G	C	C	WD	C	C	C	C	C	C	B*27:07:01G	C
B*27:12:01G	C	I	WD		I	C	C		C	B*27:12	WD
B*35:01:01G	C	C	C	C	C	C	C	C	C	B*35:01:01G	C
B*35:02:01G	C	C	C	C	C	C	C	C	C	B*35:02:01	C
B*35:03:01G	C	C	C	C	C	C	C	C	C	B*35:03:01G	C
B*35:05:01G	C	C	C	C	I	C	C	C	C	B*35:05:01	C
B*35:08:01G	C	C	C	C	C	C	C	C	C	B*35:08:01	C
B*35:43:01G	C	C	C	I	I	WD	C	C	C	B*35:43:01G	C
B*37:01:01G	C	C	C	C	C	C	C	C	C	B*37:01:01G	C
B*38:01:01G	C	C	C	C	C	C	C	C	C	B*38:01:01	C
B*38:02:01G	C	C	C	C	I	C	C	C	C	B*38:02:01G	C
B*39:01:01G	C	C	C	C	C	C	C	C	C	B*39:01:01G	C
B*39:02:02G	C	C	C	I	I		C	C	C	B*39:02:02	C
B*39:03:01G	C	C	WD		I		C	C	C	B*39:03	C
B*39:05:01G	C	C	C	C	C	C	C	C	C	B*39:05:01	C
B*39:06:02G	C	C	C	C	C	C	C	C	C	B*39:06:02	C
B*39:09:01G	C	C	WD	C	I		C	C	C	B*39:09	WD
B*39:14:01G	C	I			WD		C	C	I	B*39:14	WD
B*39:31:01G	C	I	WD	I	C	C	I		I	B*39:31	WD
B*40:01:01G	C	C	C	C	C	C	C	C	C	B*40:01:01G	C
B*40:02:01G	C	C	C	C	C	C	C	C	C	B*40:02:01G	C
B*40:03:01G	C	I	WD	C	WD		C	C	C	B*40:03	WD
B*40:05:01G	C	C	WD	I	I		C	C	C	B*40:05	C
B*40:06:01G	C	C	C	C	C	C	C	C	C	B*40:06:01G	C
B*40:10:01G	C	I		C	WD		WD		C	B*40:10:01	WD
B*40:20:01G	C	I			WD		C	C	I	B*40:20	WD
B*40:40:01G	I	WD		I					WD	B*40:40	WD
B*40:155:01G	WD	WD		WD						B*40:155	o

Supplementary Table 5b. HLA-B G level frequencies between CIWD versions [a]

| HLA-B IPD-HLA/IMGT 3.31.0 | Highest Frequency | 3.0.0 CIWD Category by Population Group [b] | | | | | | | | HLA-B IPD-IMGT/HLA 3.9.0 | Category |
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK	2.0.0 CWD	
B*41:02:01G	C	C	C	C	C	C	C	C	C	B*41:02:01	C
B*42:01:01G	C	C	C	C	C	C	C	C	C	B*42:01:01	C
B*42:02:01G	C	C	C	I	C	C	C	C	C	B*42:02	C
B*44:02:01G	C	C	C	C	C	C	C	C	C	B*44:02:01G	C
B*44:03:01G	C	C	C	C	C	C	C	C	C	B*44:03:01G	C
B*44:03:02G	C	C	C	C	C	C	C	C	C	B*44:03:02	C
B*44:15:01G	C	WD	C		WD				WD	B*44:15	WD
B*45:01:01G	C	C	C	C	C	C	C	C	C	B*45:01:01G	C
B*46:01:01G	C	C	C	C	C	C	C	C	C	B*46:01:01G	C
B*47:01:01G	C	C	C	C	C	C	C	C	C	B*47:01:01G	C
B*48:01:01G	C	C	C	C	C	C	C	C	C	B*48:01:01G	C
B*49:01:01G	C	C	C	C	C	C	C	C	C	B*49:01:01	C
B*50:01:01G	C	C	C	C	C	C	C	C	C	B*50:01:01	C
B*51:01:01G	C	C	C	C	C	C	C	C	C	B*51:01:01G	C
B*51:02:01G	C	C	C	C	I	C	C	C	C	B*51:02:01	C
B*52:01:01G	C	C	C	C	C	C	C	C	C	B*52:01:01G	C
B*52:01:02G	C	C	C	C	C	C	C	C	C	B*52:01:02	C
B*53:01:01G	C	C	C	C	C	C	C	C	C	B*53:01:01	C
B*54:01:01G	C	C	WD	C	I	C	I	C	C	B*54:01:01G	C
B*55:01:01G	C	C	C	C	C	C	C	C	C	B*55:01:01G	C
B*55:02:01G	C	C	WD	C	I	C	I		C	B*55:02:01G	C
B*56:01:01G	C	C	C	C	C	C	C	C	C	B*56:01:01G	C
B*57:01:01G	C	C	C	C	C	C	C	C	C	B*57:01:01G	C
B*57:03:01G	C	C	C	C	C	C	C	C	C	B*57:03:01	C
B*58:01:01G	C	C	C	C	C	C	C	C	C	B*58:01:01G	C
B*59:01:01G	C	I		C	WD		I		C	B*59:01:01G	C
B*67:01:02G	C	I	WD	C	I		I		I	B*67:01:02	o
B*78:01:01G	C	C	C	I	I	C	C	C	C	B*78:01:01	C
B*81:01:01G	C	C	C	C	I	C	C	C	C	B*81:01:01G	C

Supplementary Table 5b. HLA-B G level frequencies between CIWD versions [a]

HLA-B IPD-HLA/IMGT 3.31.0	Highest Frequency	3.0.0 CIWD Category by Population Group [b]								2.0.0 CWD	
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-B IPD-IMGT/HLA 3.9.0	Category

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population group in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times in 3.0.0 dataset. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Observed in dataset but <5 observations.

[d] Alleles in this column without a G designation were not assigned as a G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

Supplementary Table 5c. HLA-C G level frequencies between CIWD versions [a]

HLA-C IPD-IMGT/HLA 3.31.0	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-C IPD-IMGT/HLA 3.9.0	Category
		3.0.0 CIWD Category by Population Group [b]								2.0.0 CWD	
C*01:02:01G	C	C	C	C	C	C	C	C	C	C*01:02:01G	C
C*01:03:01G	C	I		C	WD	C			I	C*01:03:01G	WD
C*02:02:02G	C	C	C	C	C	C	C	C	C	C*02:02:02G	C
C*02:10:01G	C	C	C	I	C	C	C	C	C	C*02:10 [c]	C
C*02:14:01G	C	I	C		WD		I		I	C*02:14	WD
C*03:02:01G	C	C	C	C	C	C	C	C	C	C*03:02:01G	C
C*03:03:01G	C	C	C	C	C	C	C	C	C	C*03:03:01G	C
C*03:04:01G	C	C	C	C	C	C	C	C	C	C*03:04:01G	C
C*03:04:02G	C	C	C	C	C	C	C	C	C	C*03:04:02	C
C*03:05:01G	C	C	C	I	I	WD	C	C	C	C*03:05	C
C*03:14:01G	I	I			I		I		I	C*03:14	WD
C*03:40:01G	I	WD			WD		I		I	C*03:40:01	WD
C*04:01:01G	C	C	C	C	C	C	C	C	C	C*04:01:01G	C
C*04:03:01G	C	C	C	C	C	C	C	C	C	C*04:03	C
C*04:04:01G	C	C	C	WD	I	C	C	C	C	C*04:04:01	C
C*05:01:01G	C	C	C	C	C	C	C	C	C	C*05:01:01G	C
C*06:02:01G	C	C	C	C	C	C	C	C	C	C*06:02:01G	C
C*06:127:01G	I	WD		I						C*06:127:01G	o [d]
C*07:01:01G	C	C	C	C	C	C	C	C	C	C*07:01:01G	C
C*07:02:01G	C	C	C	C	C	C	C	C	C	C*07:02:01G	C
C*07:04:01G	C	C	C	C	C	C	C	C	C	C*07:04:01G	C
C*07:04:02G	WD	WD			WD					C*07:04:02G	o
C*08:01:01G	C	C	C	C	C	C	C	C	C	C*08:01:01G	C
C*08:02:01G	C	C	C	C	C	C	C	C	C	C*08:02:01G	C
C*08:03:01G	C	C	C	C	C	C	C	C	C	C*08:03:01G	C
C*12:02:01G	C	C	C	C	C	C	C	C	C	C*12:02:01G	C
C*12:03:01G	C	C	C	C	C	C	C	C	C	C*12:03:01G	C
C*14:02:01G	C	C	C	C	C	C	C	C	C	C*14:02:01G	C

Supplementary Table 5c. HLA-C G level frequencies between CIWD versions [a]

HLA-C IPD-IMGT/HLA 3.31.0	Highest Frequency	3.0.0 CIWD Category by Population Group [b]								HLA-C IPD-IMGT/HLA 3.9.0	Category
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK	2.0.0 CWD	
C*14:03:01G	C	C	C	C	C	C	C	C	C	C*14:03	C
C*15:02:01G	C	C	C	C	C	C	C	C	C	C*15:02:01G	C
C*15:04:01G	C	C	WD	C	C	C	C	C	C	C*15:04	C
C*15:05:01G	C	C	C	C	C	C	C	C	C	C*15:05:01G	C
C*16:01:01G	C	C	C	C	C	C	C	C	C	C*16:01:01	C
C*16:02:01G	C	C	C	C	C	C	C	C	C	C*16:02:01G	C
C*16:04:01G	C	C	C	C	C	C	C	C	C	C*16:04:01	C
C*17:01:01G	C	C	C	C	C	C	C	C	C	C*17:01:01G	C
C*18:01:01G	C	C	C	I	C	C	C	C	C	C*18:01:01G	C

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population group in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Alleles in this column without a G designation were not assigned as G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

[d] Not CIWD, o

Supplementary Table 5d. HLA-DRB1 G level frequencies between CIWD versions [a]

| HLA-DRB1 IPD-HLA/IMGT 3.31.0 | Highest Frequency | 3.0.0 CIWD Category by Population Group [b] | | | | | | | | HLA-DRB1 IPD-IMGT/HLA 3.9.0 | 2.0.0 CWD Category |
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK		
DRB1*01:01:01G	C	C	C	C	C	C	C	C	C	DRB1*01:01:01 [c]	C
DRB1*01:02:01G	C	C	C	C	C	C	C	C	C	DRB1*01:02:01	C
DRB1*03:01:01G	C	C	C	C	C	C	C	C	C	DRB1*03:01:01G	C
DRB1*04:01:01G	C	C	C	C	C	C	C	C	C	DRB1*04:01:01	C
DRB1*04:03:01G	C	C	C	C	C	C	C	C	C	DRB1*04:03:01	C
DRB1*04:05:01G	C	C	C	C	C	C	C	C	C	DRB1*04:05:01	C
DRB1*04:06:01G	C	C	C	C	C	C	C	C	C	DRB1*04:06:01G	C
DRB1*04:07:01G	C	C	C	C	C	C	C	C	C	DRB1*04:07:01G	C
DRB1*04:10:01G	C	C	C	C	I	C	C	C	C	DRB1*04:10:01	C
DRB1*07:01:01G	C	C	C	C	C	C	C	C	C	DRB1*07:01:01G	C
DRB1*08:01:01G	C	C	C	C	C	C	C	C	C	DRB1*08:01:01G	C
DRB1*08:02:01G	C	C	C	C	C	C	C	C	C	DRB1*08:02:01	C
DRB1*08:03:02G	C	C	C	C	C	C	C	C	C	DRB1*08:03:02	C
DRB1*09:01:02G	C	C	C	C	C	C	C	C	C	DRB1*09:01:02	C
DRB1*10:01:01G	C	C	C	C	C	C	C	C	C	DRB1*10:01:01	C
DRB1*11:01:01G	C	C	C	C	C	C	C	C	C	DRB1*11:01:01G	C
DRB1*11:04:01G	C	C	C	C	C	C	C	C	C	DRB1*11:04:01	C
DRB1*11:06:01G	C	C	WD	C	I	C	I	C	C	DRB1*11:06:01G	C
DRB1*11:11:01G	C	I	WD	C	I	WD	WD		I	DRB1*11:11:01G	C
DRB1*11:13:01G	I	I	WD		I	WD	I		I	DRB1*11:13:01G	WD
DRB1*12:01:01G	C	C	C	C	C	C	C	C	C	DRB1*12:01:01G	C
DRB1*12:02:01G	C	C	C	C	C	C	C	C	C	DRB1*12:02:01	C
DRB1*13:01:01G	C	C	C	C	C	C	C	C	C	DRB1*13:01:01G	C
DRB1*13:02:01G	C	C	C	C	C	C	C	C	C	DRB1*13:02:01	C
DRB1*13:03:01G	C	C	C	C	C	C	C	C	C	DRB1*13:03:01	C
DRB1*14:01:01G	C	C	C	C	C	C	C	C	C	DRB1*14:01:01G	C
DRB1*14:02:01G	C	C	C	C	C	C	C	C	C	DRB1*14:02	C
DRB1*14:05:01G	C	C	WD	C	I	C	I		C	DRB1*14:05:01	C
DRB1*15:01:01G	C	C	C	C	C	C	C	C	C	DRB1*15:01:01G	C

Supplementary Table 5d. HLA-DRB1 G level frequencies between CIWD versions [a]

HLA-DRB1 IPD-HLA/IMGT 3.31.0	Highest Frequency	3.0.0 CIWD Category by Population Group [b]								HLA-DRB1 IPD-IMGT/HLA 3.9.0	2.0.0 CWD Category
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK		
DRB1*15:02:01G	C	C	C	C	C	C	C	C	C	DRB1*15:02:01	C
DRB1*15:03:01G	C	C	C	C	C	C	C	C	C	DRB1*15:03:01G	C
DRB1*16:02:01G	C	C	C	C	C	C	C	C	C	DRB1*16:02:01	C

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population group in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Alleles in this column without a G designation were not assigned as G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

Supplementary Table 5e. HLA-DRB3/4/5 G level frequencies between CIWD versions [a]

| HLA-DRB3/4/5 IPD-IMGT/HLA 3.31.0 | Highest Frequency | 3.0.0 CIWD Category by Population Group [b] | | | | | | | | 2.0.0 CWD | |
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-DRB3/4/5 IPD-IMGT/HLA 3.9.0	Category
DRB3*01:01:02G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB3*01:01:02G	C
DRB3*02:01:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB3*02:01:01G	C
DRB3*02:02:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB3*02:02:01G	C
DRB3*03:01:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB3*03:01:01G	C
DRB4*01:01:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB4*01:01:01G	C
DRB5*01:01:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB5*01:01:01 [c]	C
DRB5*01:02:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB5*01:02:01G	C
DRB5*02:02:01G	WD	WD	WD	WD	WD	WD	WD	WD	WD	DRB5*02:02:01G	C

C, common; WD, well-documented

[a] Because we are uncertain about the denominator, we are unable to estimate frequencies. All assignments observed five or more times are listed as WD. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Alleles in this column without a G designation were not assigned as a G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

Supplementary Table 5f. HLA-DQB1 G level frequencies between CIWD versions [a]

HLA-DQB1 IPD-HLA/IMGT 3.31.0	3.0.0 CIWD Category by Population Group [b]									2.0.0 CWD	
	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-DQB1 IPD-IMGT/HLA 3.9.0	Category
DQB1*02:01:01G	C	C	C	C	C	C	C	C	C	DQB1*02:01:01G	C
DQB1*03:01:01G	C	C	C	C	C	C	C	C	C	DQB1*03:01:01G	C
DQB1*03:02:01G	C	C	C	C	C	C	C	C	C	DQB1*03:02:01G	C
DQB1*03:03:02G	C	C	C	C	C	C	C	C	C	DQB1*03:03:02G	C
DQB1*03:04:01G	C	C	C	I	C	C	C	C	C	DQB1*03:04 [c]	C
DQB1*03:05:01G	C	C	C	C	C	C	C	C	C	DQB1*03:05:01	C
DQB1*03:10:01G	WD	WD			WD					DQB1*03:10:01	o [d]
DQB1*03:10:02G	WD	WD			WD					DQB1*03:10:02	o
DQB1*04:01:01G	C	C	WD	C	I	C	C	C	C	DQB1*04:01:01G	C
DQB1*04:02:01G	C	C	C	C	C	C	C	C	C	DQB1*04:02:01	C
DQB1*05:01:01G	C	C	C	C	C	C	C	C	C	DQB1*05:01:01G	C
DQB1*05:02:01G	C	C	C	C	C	C	C	C	C	DQB1*05:02:01G	C
DQB1*05:03:01G	C	C	C	C	C	C	C	C	C	DQB1*05:03:01G	C
DQB1*05:04:01G	C	C	C	C	C	C	C	C	C	DQB1*05:04	C
DQB1*06:01:01G	C	C	C	C	C	C	C	C	C	DQB1*06:01:01G	C
DQB1*06:02:01G	C	C	C	C	C	C	C	C	C	DQB1*06:02:01G	C
DQB1*06:03:01G	C	C	C	C	C	C	C	C	C	DQB1*06:03:01G	C
DQB1*06:04:01G	C	C	C	C	C	C	C	C	C	DQB1*06:04:01G	C
DQB1*06:09:01G	C	C	C	C	C	C	C	C	C	DQB1*06:09	C

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population group in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.

Supplementary Table 5f. HLA-DQB1 G level frequencies between CIWD versions [a]

		3.0.0 CIWD Category by Population Group [b]								2.0.0 CWD	
HLA-DQB1 IPD-HLA/IMGT 3.31.0	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	HLA-DQB1 IPD-IMGT/HLA 3.9.0	Category

[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other).

Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Alleles in this column without a G designation were not assigned as a G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.

[d] Not CWD, o

Supplementary Table 5g. HLA-DPB1 G level frequencies between CIWD versions [a]

| HLA-DPB1 IPD-HLA/IMGT 3.31.0 | Highest Frequency | 3.0.0 CIWD — Category by Population Group [b] | | | | | | | | DPB1 IPD-IMGT/HLA 3.9.0 | Category |
		Total	AFA	API	EURO	MENA	HIS	NAM	UNK	2.0.0 CWD	
DPB1*01:01:01G	C	C	C	C	C	C	C	C	C	DPB1*01:01:01 [c]	C
DPB1*01:01:02G	C	C	C	I	C	C	C	C	C	DPB1*01:01:02	C
DPB1*02:01:02G	C	C	C	C	C	C	C	C	C	DPB1*02:01:02	C
DPB1*02:02:01G	C	C	C	C	C	C	C	C	C	DPB1*02:02	C
DPB1*03:01:01G	C	C	C	C	C	C	C	C	C	DPB1*03:01:01G	C
DPB1*04:01:01G	C	C	C	C	C	C	C	C	C	DPB1*04:01:01G	C
DPB1*04:01:04G	C	I			I		C		I		o [d]
DPB1*04:02:01G	C	C	C	C	C	C	C	C	C	DPB1*04:02:01G	C
DPB1*05:01:01G	C	C	C	C	C	C	C	C	C	DPB1*05:01:01G	C
DPB1*06:01:01G	C	C	C	C	C	C	C	C	C	DPB1*06:01	C
DPB1*10:01:01G	C	C	C	C	C	C	C	C	C	DPB1*10:01	C
DPB1*11:01:01G	C	C	C	C	C	C	C	C	C	DPB1*11:01:01	C
DPB1*13:01:01G	C	C	C	C	C	C	C	C	C	DPB1*13:01:01G	C
DPB1*14:01:01G	C	C	C	C	C	C	C	C	C	DPB1*14:01	C
DPB1*15:01:01G	C	C	C	C	C	C	C	C	C	DPB1*15:01	C
DPB1*16:01:01G	C	C	C	C	C	C	C	C	C	DPB1*16:01	C
DPB1*17:01:01G	C	C	C	C	C	C	C	C	C	DPB1*17:01:01G	C
DPB1*19:01:01G	C	C	C	C	C	C	C	C	C	DPB1*19:01:01G	C
DPB1*20:01:01G	C	C	C	C	C	C	C	C	C	DPB1*20:01:01	C
DPB1*23:01:01G	C	C	C	C	C	C	C	C	C	DPB1*23:01:01G	C
DPB1*28:01:01G	C	C	C	C	I	C	I	C	C	DPB1*28:01	C
DPB1*30:01:01G	C	C	C	I	C	C	C	C	C	DPB1*30:01	C
DPB1*33:01:01G	I	I		I	I	WD	I		I	DPB1*33:01	WD
DPB1*34:01:01G	C	C	C	C	C	C	C	C	C	DPB1*34:01	C
DPB1*39:01:01G	C	C	C	I	I	WD	C	C	C	DPB1*39:01	C
DPB1*40:01:01G	C	C	C	WD	I	WD	C	C	C	DPB1*40:01	WD
DPB1*41:01:01G	C	I		C	I	C	I		I	DPB1*41:01	o
DPB1*47:01:01G	C	I	WD	C	I	C			I	DPB1*47:01	WD
DPB1*49:01:01G	C	I	C	WD	WD	WD	C	C	I	DPB1*49:01	WD

Supplementary Table 5g. HLA-DPB1 G level frequencies between CIWD versions [a]

HLA-DPB1 IPD-HLA/IMGT 3.31.0	Highest Frequency	Total	AFA	API	EURO	MENA	HIS	NAM	UNK	DPB1 IPD-IMGT/HLA 3.9.0	Category
		3.0.0 CIWD Category by Population Group [b]								2.0.0 CWD	
DPB1*55:01:01G	C	I	C	I	WD	WD	C		I	DPB1*55:01	C
DPB1*57:01:01G	I	I	WD	I	I	WD	I		I	DPB1*57:01	WD
DPB1*69:01:01G	WD	WD	WD		WD		WD			DPB1*69:01	WD
DPB1*72:01:01G	I	WD		I	WD	WD			I	DPB1*72:01	WD
DPB1*81:01:01G	C	I	WD	I	I	C	I		I	DPB1*81:01	C
DPB1*85:01:01G	C	I	C		WD		I		I	DPB1*85:01	C
DPB1*91:01:01G	C	I		C	WD	C			I	DPB1*91:01	o

C, common; I, intermediate; WD, well-documented

[a] Alleles observed at least five times in any population in the current dataset are included in this table. The exception are alleles that were observed in previous datasets but that are not present or are observed less than five times. The table does not list all alleles from IPD-IMGT/HLA version 3.31.0.
[b] Population groups include: AFA (African/African American), API (Asian/Pacific Islands), EURO (European/European descent), MENA (Middle East/North Coast of Africa), HIS (South or Central America/Hispanic/Latino), NAM (Native American populations) and UNK (unknown/not asked/multiple ancestries/other). Total is the overall population i.e., all groups combined. Highest frequency is the highest CIWD designation among all the individual groups.

[c] Alleles in this column without a G designation were not assigned as a G group in 2.0.0 CWD. The allele listed is the allele the G group was named after.
[d] Not CWD, o. The allele representing this G group was not described in 2012.