



Centro de Hemoterapia y  
Hemodonacion de Castilla y Leon



**SEI**  
Sociedad Española  
de Inmunología



External Quality Assurance Program for diagnostic immunology  
laboratories GECLID-SEI 2018

## Report HLA: 6AB HLA class I and II DNA typing (High resolution) - 2018 round r1

HISTOCOMPATIBILITY & IMMUNOGENETICS SUBPROGRAMME (LAB HLA003B)



### LABORATORY INFORMATION

Code: HLA003B

Laboratory: SERVICIO INMUNOLOGÍA

Center: HOSPITAL UNIVERSITARIO REINA SOFÍA

Address: AVDA. MENÉNDEZ PIDAL, S/N - 14004 -  
CÓRDOBA - CORDOBA

Contact person: DR. RAFAEL GONZÁLEZ

Dates: 16/01/2018

Report: 23/05/2018

### HLA TYPING SCHEME ASSESMENT

For HLA typing schemes the entire typing must be correct for a sample to be considered correct.

DNA-based EPT:

> For all DNA based EPT (2 or 4 digits) the HLA typing accepted by the EPT Provider is designated as the correct result.

> DNA typing (4 digits): HLA alleles must be assessed on the basis of differences in exons 2 and 3 for class I and exon 2 for class II, as a minimum requirement. Examples of possible discrepancies:

- A participant reports an allele not included in the typing accepted by the Provider.
- A participant fails to report an allele included in the typing accepted by the Provider.
- A participant reports a different allele, e.g. the participant reports HLA-A\*01:02 while the correct typing is HLA-A\*01:01.

### SUCCESSFUL PERFORMANCE IN EPT

Successful performance applies to the annual EPT performance of the laboratory.

The maximum number of discrepancies allowed is used to determine the acceptable laboratory performance levels:

>HLA typing: 9 correct HLA types per 10 samples tested or 90% of the total number tested.

According to EFI standard D1.4.1.2 HLA alleles must be identified at the level of resolution which defines the first and second fields according to WHO nomenclature by at least resolving all ambiguities that encompass a null allele, wherever the polymorphism is located, unless it can be demonstrated that an expressed antigen is present on the cells.

' HLA-A\*31:01:02 and HLA-A\*31:01 include null allele A\*31:01:02:03N (2015) and are therefore not acceptable unless explicitly discarding it

\* DRB4\*01:03 comprises null allele DRB4\*01:03:01:02N and is therefore not acceptable

## SAMPLE HLA18-6AB.01R1

Alleles	n	Min.	Máx.	Assigned typing Accepted typing	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
HLA-A(allele1)*				33:01:01   33:01   33:01P   33:01:01:01				33:01		0
HLA-A(allele2)*				68:02:01   68:02:01G   68:02   68:02P   68:02:01:0				68:02		0
HLA-B(allele1)*				14:02:01   14:02P   14:02   14:02:01:01				14:02		0
HLA-B(allele2)*				44:03:01   44:03   44:03P   44:03:01:02				44:03		0
HLA-C(allele1)*				02:02:02   02:02:02G   02:02P   02:02:02:01   02:0				02:02		0
HLA-C(allele2)*				08:02:01   08:02   08:02P   08:02:01:01				08:02		0
HLA-DRB1(allele1)*				01:02:01   01:02:01G   01:02   01:02P				01:02		0
HLA-DRB1(allele2)*				15:01:01   15:01:01G   15:01   15:01P				15:01		0
HLA-DRB3(allele1)*				-   none						
HLA-DRB3(allele2)*				-   none						
HLA-DRB4(allele1)*				-   none						
HLA-DRB4(allele2)*				-   none						
HLA-DRB5(allele1)*				01:01:01   01:01:01G   01:01   01:01P						
HLA-DRB5(allele2)*				-						
HLA-DQA1(allele1)*				01:01P   01:01   01:01:02				01:01		0
HLA-DQA1(allele2)*				01:02:01   01:02P   01:02				01:02		0
HLA-DQB1(allele1)*				05:01:01   05:01   05:01P   05:01:01:01				05:01		0
HLA-DQB1(allele2)*				06:02:01   06:02   06:02P   06:02:01:01				06:02		0
HLA-DPA1(allele1)*				01:03P   01:03   01:03:01						
HLA-DPA1(allele2)*				none   -						
HLA-DPB1(allele1)*				04:01:01   04:01   04:01P				04:01P		0
HLA-DPB1(allele2)*				15:01:01   15:01:01G   15:01   15:01P				15:01		0

## SAMPLE HLA18-6AB.02R1

Alleles	n	Min.	Máx.	Assigned typing Accepted typing	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
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Alleles	n	Min.	Máx.	Assigned	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
				typing Accepted typing						
HLA-A(allele1)*				02:01P   02:01   02:01:01				02:01		0
HLA-A(allele2)*				-   none				-		0
HLA-B(allele1)*				18:01:01   18:01   18:01P				18:01		0
HLA-B(allele2)*				51:01:01   51:01   51:01P				51:01		0
HLA-C(allele1)*				07:01:01   07:01   07:01P   07:01:01:01				07:01		0
HLA-C(allele2)*				14:02:01   14:02:01G   14:02   14:02P   14:02:01:0				14:02		0
HLA-DRB1(allele1)*				08:01:01G   08:01P   08:01   08:01:01				08:01		0
HLA-DRB1(allele2)*				11:01:08   11:01:01G   11:01   11:01P				11:01		0
HLA-DRB3(allele1)*				02:02:01   02:02   02:02P						
HLA-DRB3(allele2)*				-   none						
HLA-DRB4(allele1)*				-   none						
HLA-DRB4(allele2)*				-   none						
HLA-DRB5(allele1)*				-   none						
HLA-DRB5(allele2)*				-   none						
HLA-DQA1(allele1)*				04:01:01   04:01   04:01P				04:01		0
HLA-DQA1(allele2)*				05:05:01   05:05   05:01P				05:05		0
HLA-DQB1(allele1)*				03:01:01   03:01   03:01P				03:01		0
HLA-DQB1(allele2)*				04:02:01   04:02   04:02P				04:02		0
HLA-DPA1(allele1)*				01:03P   01:03   01:03:01						
HLA-DPA1(allele2)*				none   -						
HLA-DPB1(allele1)*				03:01:01G   03:01   03:01P   03:01:01				03:01		0
HLA-DPB1(allele2)*				04:02:01G   04:02   04:02P   04:02:01				04:02		0

## SAMPLE HLA18-6AB.03R1

Alleles	n	Min.	Máx.	Assigned	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
				typing Accepted typing						
HLA-A(allele1)*				02:01:01   02:01   02:01P				02:01		0
HLA-A(allele2)*				24:02:01   24:02   24:02P   24:02:01:01				24:02		0
HLA-B(allele1)*				18:01:01   18:01   18:01P				18:01		0
HLA-B(allele2)*				35:01:01   35:01   35:01P				35:01		0
HLA-C(allele1)*				04:01:01   04:01   04:01P   04:01:01:01				04:01		0

Alleles	n	Min.	Máx.	Assigned	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
				typing Accepted typing						
HLA-C(allele2)*				07:01:01   07:01:01G   07:01:01   07:01P   07:01:01:0				07:01		0
HLA-DRB1(allele1)*				11:01:01   11:01:01G   11:01:01   11:01P				11:01		0
HLA-DRB1(allele2)*				14:54:01   14:01:01G   14:54:01   14:01P				14:01P		0
HLA-DRB3(allele1)*				02:02:01   02:02:01   02:02P						
HLA-DRB3(allele2)*				-   none						
HLA-DRB4(allele1)*				-   none						
HLA-DRB4(allele2)*				-   none						
HLA-DRB5(allele1)*				-   none						
HLA-DRB5(allele2)*				-   none						
HLA-DQA1(allele1)*				01:04:01   01:04:01   01:01P				01:04		0
HLA-DQA1(allele2)*				05:05:01   05:05:01   05:01P				05:05		0
HLA-DQB1(allele1)*				03:01:01   03:01:01   03:01P				03:01		0
HLA-DQB1(allele2)*				05:03:01   05:03:01   05:03P				05:03		0
HLA-DPA1(allele1)*				01:03   01:03P   01:03:01						
HLA-DPA1(allele2)*				none   -						
HLA-DPB1(allele1)*				02:01:02G   02:01:01   02:01P   02:01:02				02:01		0
HLA-DPB1(allele2)*				04:02:01G   04:02:01   04:02P   04:02:01				04:02		0

## SAMPLE HLA18-6AB.04R1

Alleles	n	Min.	Máx.	Assigned	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
				typing Accepted typing						
HLA-A(allele1)*				24:02:01   24:02:01   24:02P   24:02:01:01				24:02		0
HLA-A(allele2)*				30:02:01   30:02:01G   30:02:01   30:02P   30:02:01:0				30:02		0
HLA-B(allele1)*				18:01:01   18:01:01   18:01P				18:01		0
HLA-B(allele2)*				45:01:01   45:01:01G   45:01P   45:01				45:01		0
HLA-C(allele1)*				05:01:01   05:01:01   05:01P   05:01:01:01				05:01		0
HLA-C(allele2)*				16:01:01   16:01:01G   16:01:01   16:01P   16:01:01:0				16:01		0
HLA-DRB1(allele1)*				03:01:01   03:01:01G   03:01:01   03:01P				03:01		0
HLA-DRB1(allele2)*				10:01:01   10:01:01G   10:01:01   10:01P				10:01		0

Alleles	n	Assigned		Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
		Min.	Máx. typing Accepted typing						
HLA-DRB3(allele1)*			02:02:01   02:02   02:02P						
HLA-DRB3(allele2)*			-   none						
HLA-DRB4(allele1)*			-   none						
HLA-DRB4(allele2)*			-   none						
HLA-DRB5(allele1)*			-   none						
HLA-DRB5(allele2)*			-   none						
HLA-DQA1(allele1)*			01:05:01   01:05   01:01P				01:05		0
HLA-DQA1(allele2)*			05:01:01   05:01   05:01P				05:01		0
HLA-DQB1(allele1)*			02:01:01   02:01   02:01P				02:01		0
HLA-DQB1(allele2)*			05:01:01   05:01   05:01P				05:01		0
HLA-DPA1(allele1)*			01:03   01:03P   01:03:01						
HLA-DPA1(allele2)*			none   -						
HLA-DPB1(allele1)*			03:01:01   03:01:01G   03:01   03:01P				03:01		0
HLA-DPB1(allele2)*			none   -				-		0

### SAMPLE HLA18-6AB.05R1

Alleles	n	Assigned		Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
		Min.	Máx. typing Accepted typing						
HLA-A(allele1)*			30:04:01   30:04:01G   30:04   30:04P				30:04		0
HLA-A(allele2)*			31:01:02:01   31:01:02   31:01P   31:01				31:01P		0
HLA-B(allele1)*			41:06				41:06		0
HLA-B(allele2)*			45:01:01   45:01:01G   45:01   45:01P				45:01		0
HLA-C(allele1)*			16:01:01   16:01:01G   16:01   16:01P   16:01:01:0				16:01		0
HLA-C(allele2)*			17:01:01   17:01:01G   17:01   17:01P   17:01:01:0				17:01		0
HLA-DRB1(allele1)*			03:01:01   03:01:01G   03:01   03:01P				03:01		0
HLA-DRB1(allele2)*			10:01:01   10:01:01G   10:01   10:01P				10:01		0
HLA-DRB3(allele1)*			02:02:01   02:02   02:02P						
HLA-DRB3(allele2)*			-   none						
HLA-DRB4(allele1)*			-   none						
HLA-DRB4(allele2)*			-   none						
HLA-DRB5(allele1)*			-   none						
HLA-DRB5(allele2)*			-   none						
HLA-DQA1(allele1)*			01:05:01   01:05   01:01P				01:05		0

Alleles	n	Min.	Máy.	Assigned typing Accepted typing	Stand. Dev.	Uncertainty	Iterations	Your typing	z-score	Eval.
HLA-DQA1(allele2)*				05:01:01   05:01   05:01P				05:01		0
HLA-DQB1(allele1)*				02:01:01   02:01   02:01P				02:01		0
HLA-DQB1(allele2)*				05:01:01   05:01   05:01P				05:01		0
HLA-DPA1(allele1)*				01:03P   01:03   01:03:01						
HLA-DPA1(allele2)*				none   -						
HLA-DPB1(allele1)*				104:01   03:01:01G   03:01P   104:01:01				03:01		1
HLA-DPB1(allele2)*				04:02:01   04:02:01G   04:02   04:02P				04:02		0

## LAB PERFORMANCE

Parameter	Nb. reported samples	Score	Nb. Labs reporting
Class I HLA	5	0	28
Class II HLA	5	1	28

Parameter	Nb. reported samples	Score	Nb. Labs reporting
HLA-A*	5	0	28
HLA-B*	5	0	28
HLA-C*	5	0	27
HLA-DRB1*	5	0	28
HLA-DRB3*	0	0	8
HLA-DRB4*	0	0	3
HLA-DRB5*	0	0	8
HLA-DQA1*	5	0	11
HLA-DQB1*	5	0	27
HLA-DPA1*	0	0	5
HLA-DPB1*	5	1	14

Scoring: Zero (0) means that there are no mistakes; each class I (or class II) sample failed scores 1 point.



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