



Human Leukocyte Antigen Reference Standard

BACKGROUND

The human leukocyte antigen (HLA) system is a complex of genes on chromosome 6 in humans that encode cell-surface proteins responsible for regulation of the immune system. It is the most polymorphic region of the genome. To 2016, 14473 unique HLA alleles have been described in the IMGT/HLA database.

INTRODUCTION

To help establish an accurate assay for HLA typing, CB-Gene has launched HLA single-locus genotyping (4-digit HLA alleles) and HLA matching multi-locus genotyping (6-digit HLA alleles) standard products.

HLA single-locus genotyping standard

include mainly HLA-B typing, which have been verified by sanger sequencing and **the gold standard PCR-SBT method** recommended by WHO. Such products are relevant for the personalization of medicines, such as auxiliary diagnosis of ankylosing spondylitis (AS), medication guidance for gout and Stephen Johnson syndrome (SJS) caused by anti-epileptic drug carbamazepine, etc.

HLA matching multi-locus genotyping standard

cover a relatively complete set of 11 loci A、B、C、DRB1/3/4/5、DPA1、DPB1、DQA1、DQB1 verified by third-generation sequencing, with ultra-high resolution typing, which can accurately confirm the typing sequence. This type of product plays a key role in **donor-recipient matching** for bone marrow transplantation and other tissue and organ transplants such as liver and kidney. The HLA genotype matching degree of both donors and recipients significantly affects the long-term survival rate of the transplant recipients. The higher the degree of matching, the better. , the higher the long-term survival rate.

Advantages

- ✓ CB-Gene launched HLA standard products have a human cell background, *better simulate clinical samples*, and have the advantages of *reproducibility, sustainable and stable supply, and small batch-to-batch differences*.
- ✓ CB-Gene has passed **ISO90001 and ISO13485** dual system certification, and its product quality is undoubtedly.

PRODUCT DATA

HLA single-locus genotype Reference Standard List

Catalog No.	Name	HLA-B genotype	Verification method
CBPQ0001	HLA-B*27:04 Reference Standard	HLA-B*27:04 HLA-B*40:01	PCR-SBT/Sanger
CBPQ0002	HLA-B*27:05 Reference Standard	HLA-B*27:05 HLA-B*27:05	PCR-SBT/Sanger
CBPQ0003	HLA-B*57:01 Reference Standard	HLA-B*57:01 HLA-B*57:01	PCR-SBT/Sanger
CBPQ0004	HLA-B*15:02 Reference Standard	HLA-B*15:02 HLA-B*58:01	PCR-SBT/Sanger
CBPQ0005	HLA-B*58:01 Reference Standard	HLA-B*15:02 HLA-B*58:01	PCR-SBT/Sanger
CBPQ0006	HLA-B*13:01 Reference Standard	HLA-B*13:01 HLA-B*13:01	PCR-SBT/Sanger

HLA matching multi-locus genotype Reference Standard List

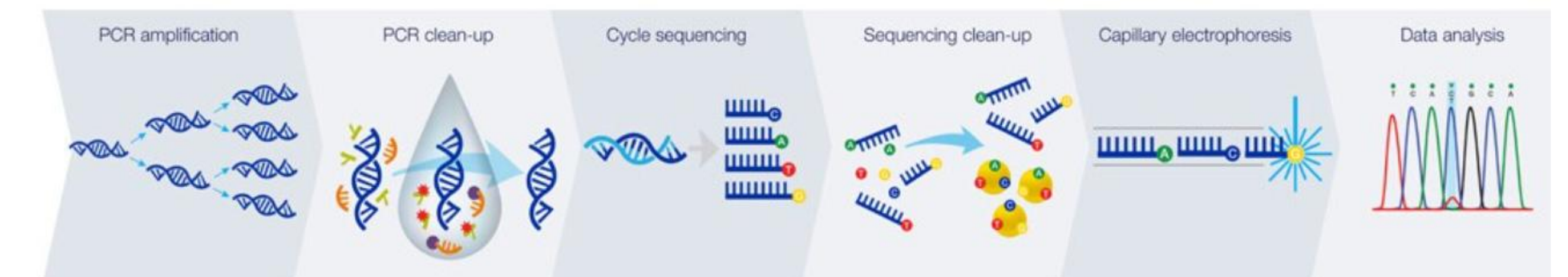
Catalog No.	HLA-A	HLA-B	HLA-C	HLA-DQA1	HLA-DQB1	Verification method
CBPQ0007	HLA-A*02:06:01	HLA-B*46:01:01	HLA-C*01:02:01	HLA-DOA1*03:01:01	HLA-DOB1*03:02:01	Third-generation sequencing
	HLA-A*31:01:02	HLA-B*40:02:01	HLA-C*03:04:01	HLA-DOA1*05:03:01	HLA-DOB1*03:01:01	
	HLA-DPA1	HLA-DPB1	HLA-DRB1	HLA-DRB3/4/5		
	HLA-DPA1*02:02:02	HLA-DPB1*05:01:01	HLA-DRB1*14:03:01	HLA-DRB3*01:01:02		
	HLA-DPA1*02:02:02	HLA-DPB1*02:01:02	HLA-DRB1*04:07:01	HLA-DRB4*01:03:01		

Catalog No.	HLA-A	HLA-B	HLA-C	HLA-DQA1	HLA-DQB1	Verification method
CBPQ0008	HLA-A*03:01:01	HLA-B*56:01:01	HLA-C*01:02:01	HLA-DOA1*01:01:01	HLA-DOB1*05:01:01	Third-generation sequencing
	HLA-A*11:01:01	HLA-B*44:02:01	HLA-C*05:01:01	HLA-DOA1*05:05:01	HLA-DOB1*03:01:01	
	HLA-DPA1	HLA-DPB1	HLA-DRB1	HLA-DRB3/4/5		
	HLA-DPA1*01:03:01	HLA-DPB1*02:01:02	HLA-DRB1*12:01:01	HLA-DRB3*02:02:01		
	HLA-DPA1*01:03:01	HLA-DPB1*03:01:01	HLA-DRB1*01:01:01			

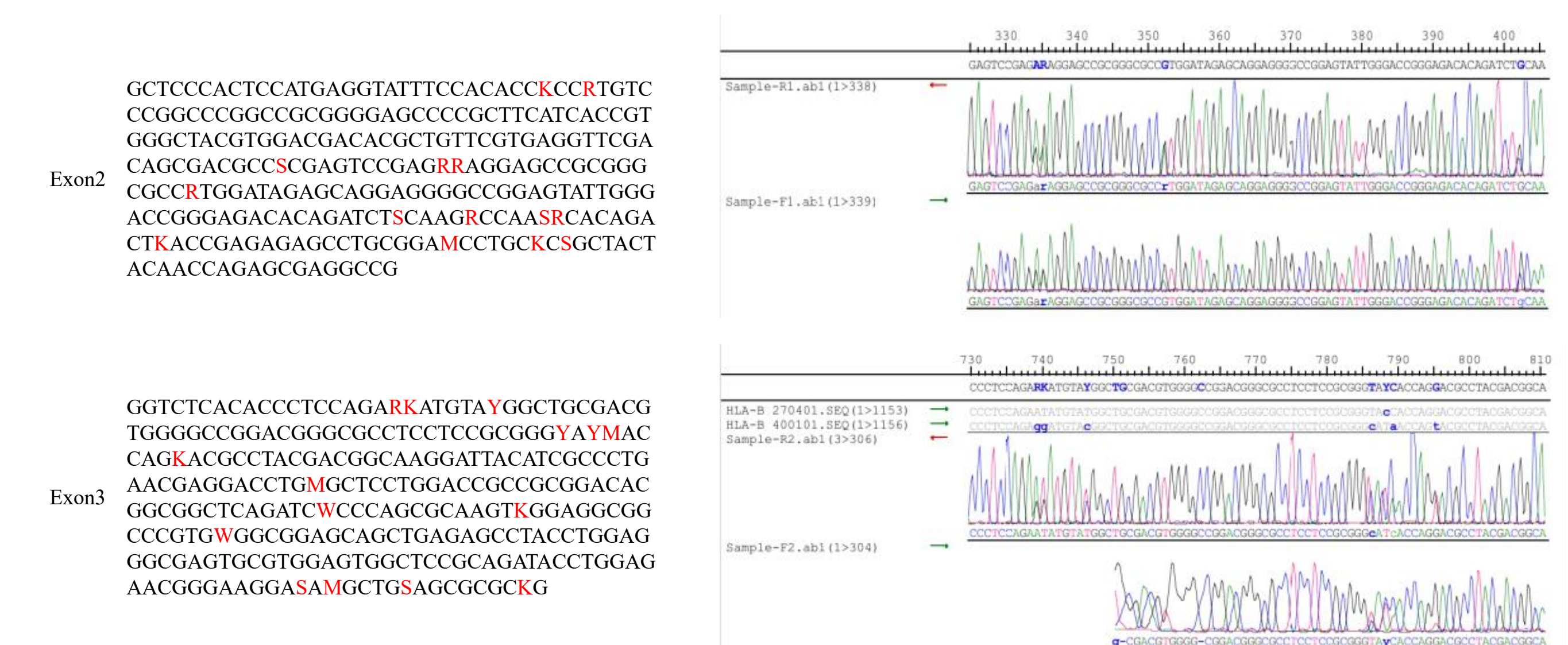
Catalog No.	HLA-A	HLA-B	HLA-C	HLA-DQA1	HLA-DQB1	Verification method
CBPQ0010	HLA-A*26:01:01	HLA-B*48:01:01	HLA-C*08:01:01	HLA-DQA1*03:02:01	HLA-DQB1*05:03:01	Third-generation sequencing
	HLA-A*26:02:01	HLA-B*40:06:01	HLA-C*03:03:01	HLA-DQA1*01:04:01	HLA-DQB1*03:03:02	
	HLA-DPA1	HLA-DPB1	HLA-DRB1	HLA-DRB3/4/5		
	HLA-DPA1*01:03:01	HLA-DPB1*02:01:02	HLA-DRB1*14:54:01	HLA-DRB3*02:02:01		
	HLA-DPA1*01:03:01	HLA-DPB1*02:01:02	HLA-DRB1*09:01:02	HLA-DRB4*01:03:02		

PRODUCT PROCESS

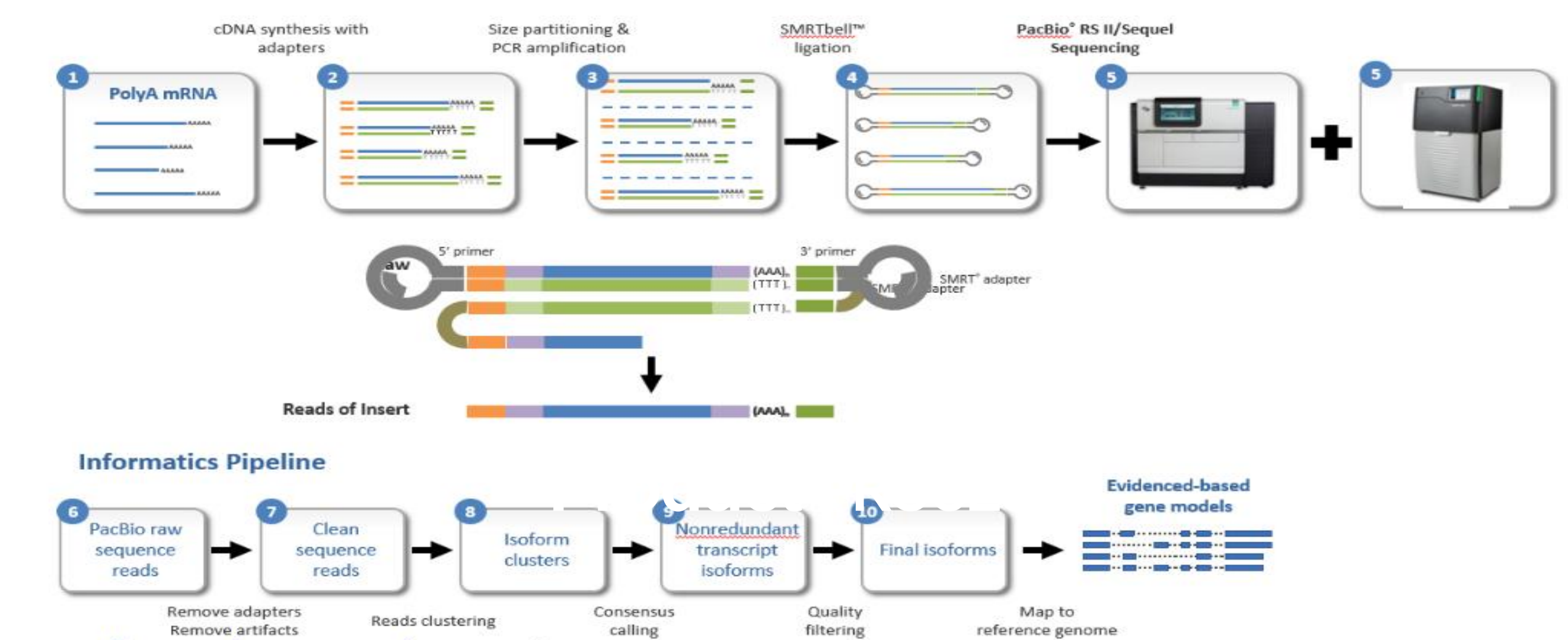
HLA single-locus genotype Reference Standard sanger sequencing process



HLA single-locus genotype Reference Standard sanger sequencing result



HLA matching multi-locus genotype Reference Standard sanger sequencing process



TEST PRINCIPLE

HLA Reference products have been tested using sanger sequencing、PCR-SBT or third-generation sequencing. By sequence-alignment with IMGT/HLA database sequence, we accurately confirm the genotypes of every sample .

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