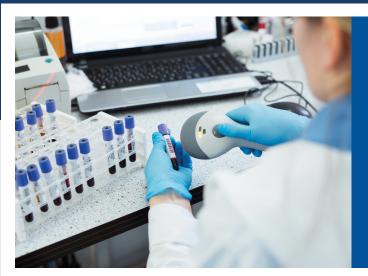
# **Histocompatibility & Immunogenetics (HLA)**





NYBCe's Histocompatibility and Immunogenetics Laboratories provides human leukocyte antigen (HLA) typing for Hematopoietic Stem Cell Transplant candidates and their potential donors (related and unrelated), platelet donors and recipients, disease association, and drug hypersensitivity as well as for Allogeneic cellular therapies, vaccine design, and clinical trials. The laboratory uses state-of-the-art methodologies to give our healthcare partners the most accurate information and insights for HLA testing.

#### **Laboratory Accreditation**

- Clinical Laboratory Improvement Amendments (CLIA) and New York State Department of Health (NYSDOH)
- American Society for Histocompatibility and Immunogenetics (ASHI)
- European Federation of Immunogenetics (EFI)

#### **Consultation Available**

Laboratory Experts are available for consultation to guide healthcare professionals in the ordering of appropriate tests and in the interpretation of test results.

## **HLA Sample Requirements\***

Typing and Chimerism	Antibody Screening and Identification
Frozen Cells (Ship on dry ice)	Peripheral Blood 3-5 ml in Red Top (Clot tube)
Cord Blood Unit Contiguous Segment (Ship on dry ice)	
Whole Blood 3-5 ml in EDTA or ACD (Ship in ambient	
temperature)	
<b>Cell line in culture medium</b> 3-5 x 10 <sup>6</sup> / sample	
(Ship in ambient temperature)	
Buccal Swab Minimum of 4 swabs (Ship in ambient	
temperature)	
Genomic DNA Minimum of 20µg (Ship in ambient	*Each specimen container must be
temperature)	individually labeled.







### **Clinical Applications For HLA Testing**

Lab Directors are available for consultation to guide healthcare professionals in the ordering of appropriate tests and in the interpretation of test results.

- Hematopoietic Stem Cell Transplant
- Platelet Transfusion
- Disease Association\*
- Drug Hypersensitivity
- Allogeneic Cellular Therapies and Vaccine Design

# **HLA Testing by Next Generation Sequencing (NGS) Methodology**

- High Resolution HLA-A, B, C, DRB1, DRB3/4/5 DQA1/DQB1, DPA1/DPB1
- High Resolution HLA-A and B
- Chimerism Testing and Engraftment Monitoring\*\*
- \*\*NEW: Chimerism Testing & Engraftment Monitoring
- \*\*\*HLA Antibody Screening and Identification by Luminex available, please contact the laboratory for further details.

#### **Disease Association Panel**

HLA antigens are known to be associated with creating autoimmune diseases and drug-induced adverse reactions. The presence or absence of the HLA antigen associated with the disease or drug hypersensitivity is significant in the diagnosis and treatment of patients. In these scenarios, physicians will test the patient's HLA type to determine if the patient is predisposed to developing a condition or may hyper-react to prescribed drugs.

Drug Hypersensitivity & Disease Examples	HLA Association	HLA- Locus	Testing Method
Abacavir	B*57:01	В	NGS
Allopurinol	B*58:01	В	NGS
Carbamazepine	B*15:02, A*31:01	В	NGS
Ankylosing Spondylitis Reactive Arthritis (Reiter's Syndrome)	B*27 (27:05/27:04/27:02), B*27	В	NGS
Psoriasis	B*27, C*06:01	В, С	NGS
Eye Disease Acute Anterior Uveitis Behçet's Disease Birdshot chorioretinopathy	B*27, B*51:01, A*29:02	А, В	NGS
Celiac Disease	DQA1*05/DQB1*02:01, 02/02:02 (DQ2), DQA1*03/DQB1*03:02 (DQ8)	DQA1/DQB1	NGS
Narcolepsy	DRB*15, DQA1*01:02/ DQB1*06:02	DRB1, DQA1/DQB1	NGS

Next Generation Sequencing (NGS) Methodology