LifeCell® Diagnostics is now mfine /diagnostics

Preparing for a successful

TRANSPLANT

Count on us for all testing solutions
Pre & Post Transplant

HLA & Transplant Immunology

- Donor Screening Antibody Testing PRA 1 & 2, Tissue Crossmatch
- Single Antigen Bead (SAB) Donor Speific Antibodies (DSA)
- HLA Typing High Resolution NGS
- Transplant Infectious Disease Testing
- Post Transplant Drug Monitoring

Detection of Allosensitization in recipient through antibody detection methods

Class I & II Antibody detection (PRA%) serum

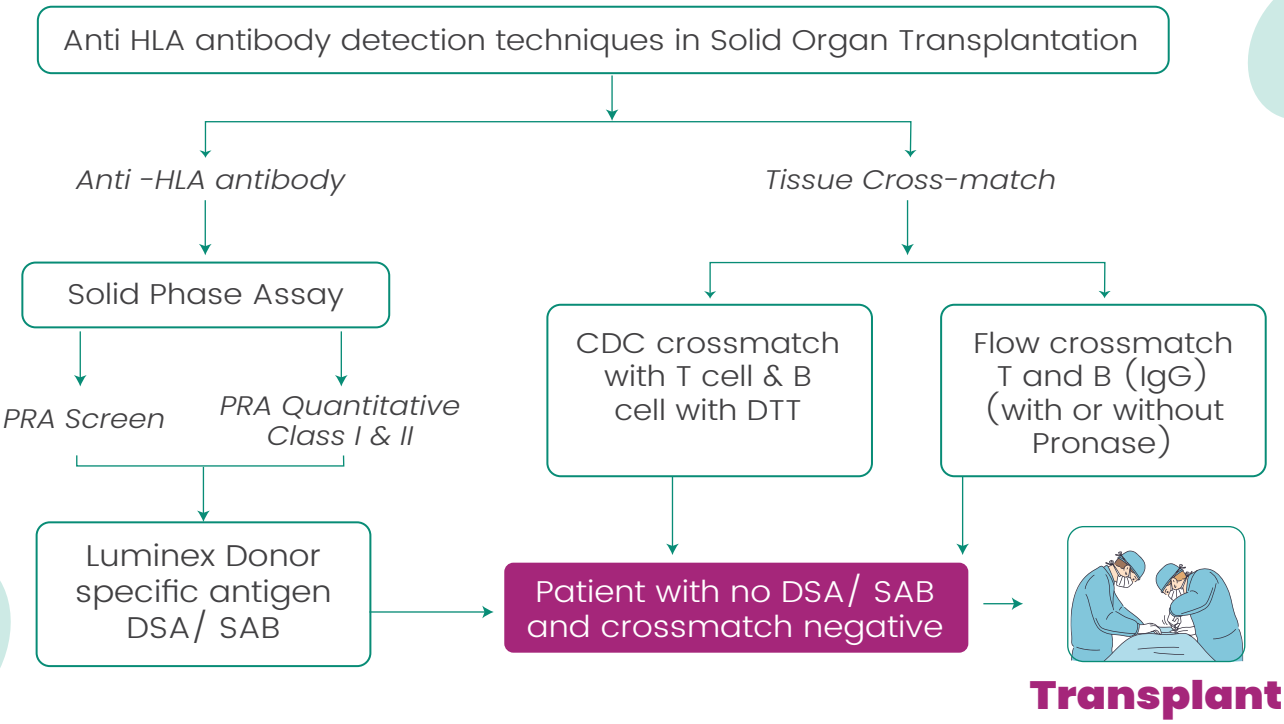
Panel Reactive Antibodies (PRA) are a measure of patient sensitization. Patients develop anti-HLA antibodies by sensitization through previous transplants, blood transfusions, infections and pregnancy.

- Used for regular follow up of patients waiting for Renal transplantation and for Post-transplant follow up.
- In the latter case if the previously negative sample shows positive results, Quantitative PRA may be performed.
- Recommended tests for all patients awaiting Cadaver transplant.
- Done on X map Technology.

Donor Specific IgG Antibodies (DSA), Class I & II

- DSA is an established biomarker predicting antibody-mediated rejection.
- Screen for the presence of antibodies directed against the HLA antigens of the donor.
- Ideal for pre and post-transplant testing.
- Donor-specific antibodies (DSAs) identified before kidney transplant can cause early rejection, such as hyperacute rejection, accelerated acute rejection, early acute antibody-mediated rejection and eventually to graft loss.

Antibody- Screening Algorithm



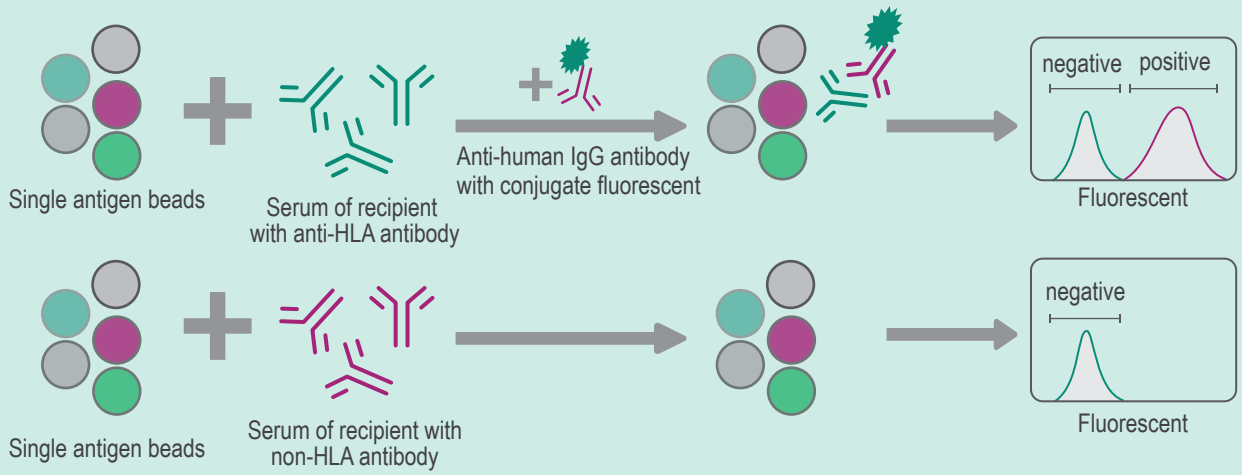
https://doi.org/10.2215/CJN.08140910

Single-antigen Bead Assay
to Define Unacceptable Antigen Mismatches

Single Antigen Bead (SAB) Class I and Class II allow for a precise, highly sensitive determination of a patient's antibody profile.

Test is performed on Solid-phase assay (Luminex) allows the measurement of anti-HLA antibodies (reported as MFI) with high sensitivity.

SAB panels are valuable in supporting a diagnosis of humoral rejection post-transplantation, in routine pre-transplantation and post- transplantation monitoring.



Test Ordering Information

Test Code	Test Name	Technique	Specimen Type	TAT
C0039a	Class I Antibody detection (PRA%), serum	Luminex X-map Technology	3 ml serum in SST/Red Top (No Additive) tube. 2-8°C, Do not freeze	Daily: 9:30 AM. Report in 2 days
C0039b	Class II Antibody detection (PRA%), serum	Luminex X-map Technology		
D0007	Donor Specific IgG Antibodies (DSA), Class I & II	Luminex X-map Technology	3mL+10mL Plasma SST/Red Top (No Additive) tube / Donor(ACD or heparin whole Blood). 2-8°C, Do not freeze	Daily by 6:00 PM. Report in 2 days
S0019a	Single antigen bead (SAB) Class I (A B & C loci), Serum	Luminex X-map Technology	3 ml serum in SST/Red Top (No Additive) tube. 2-8°C, Do not freeze	Daily: 9:30 AM. Report in 2 days
S0019b	Single antigen bead(SAB) Class II (DR DQ & DP loci), Serum	Luminex X-map Technology		
H0015d	HLA Single antigen bead assay Class I & II IgG antibodies, DSA SAB Class I & II, Serum	Luminex X-map Technology		

Report Illustration

Name:	Ms. ID_DUMMY	Lab ID:	20700102401	Received:	00-00-0000 00:00
Age:	26 Years	Collected:	00-00-0000 00:00	Reported:	00-00-0000 00:00
DOB:	00-00-0000	Referring Physician:	Dr. ID_DUMMY	Location:	CHENNAI
Gender:	Female	Hospital Name:	ID_DUMMY	CRM:	220894610004

Class II Single Antigen Bead (SAB) Result

Antibodies detected against HLA Class II antigens tested with MFI > 1000.

Allele Specificity	MFI
DPB1*04:01,DPA1*01:03	6,453
DQB1*02:01,DQA1*05:01	5,869
DPB1*23:01,DPA1*01:03	5,499
DPB1*11:01,DPA1*02:02	4,838
DQB1*02:01,DQA1*03:01	4,256
DPB1*01:01,DPA1*02:01	4,201
DPB1*13:01,DPA1*02:02	2,850
DPB1* 13:01,DPA1*02:01	2,816
DQB1*03:02,DQA1*03:01	1,960
DPB1*15:01,DPA1*02:01	1,807
DQB1*03:01,DQA1*02:01	1,779
DQB1*06:02,DQA1*01:02	1,452
DRB1*09:02	1,356
DQB1*06:02,0QA1*01:01	1,240
DQB1*02:02,DQA1*02:01	1,185
DRB3*02:02	1,130
DQB1*04:01,DQA1*02:01	1,128
DRB1*09:01	1,126
DRB1*04:03	1,056

Comments: The SAB % PRA Class II is 20 %. Donor HLA Typing report not available for comment on DSA. *Bead Specifity Chart for HLA Class II is on Page number 4.

Note: List of allele specificities included in the panel tested are given in the table attached.

Interpretation Single antigen bead (SAB)class I and class II assays detect anti HLA IgG antibodies in the patient and allow for a precise, highly sensitive determination of a patient's antibody profile. This makes discrimination between donor-specific antibodies (DSA) and non-donor-specific antibodies (non DSA) possible. SAB panels are valuable in supporting a diagnosis of humoral rejection post transplantation, in routine pre-transplantation and post-transplantation monitoring and in assessing the efficacy of antibody reduction programs.

The solid phase immunoassays allow the capture of both the HLA antibody specificities and the level of antibody that is measured as a Mean Florescent Intensity (MFI). The immunologic risk assessment is based on providing MFI information for each defined antibody specificity above a given MFI threshold. MFI of > or = 1000 is considered as significant.

Recommendations for monitoring with SAB : Pre-transplantation to determine the immunologic risk assessment. Post-transplantation serial screening of serum to determine the time of onset of de novo DSA and to correlate DSA with clinical/ renal biopsy profile.

Methodology The test is based on the Luminex technology. The Single Antigen Class I/ Class II beads are designed to detect IgG antibodies to HLA Class I/ Class II glycoproteins . The SAB Class I/ Class II are composed of different Luminex Beads to which purified recombinant Class I/ Class II HLA glycoproteins are conjugated. The presence or absence of antibodies in the sera depends on the antigen/ antibody binding on these beads that is detected by the luminex optic system.

Name of Salesperson: ..... Contact: .....