Calling All Super Heroes

Search Strategies for Efficient Donor Identification

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Disclosures

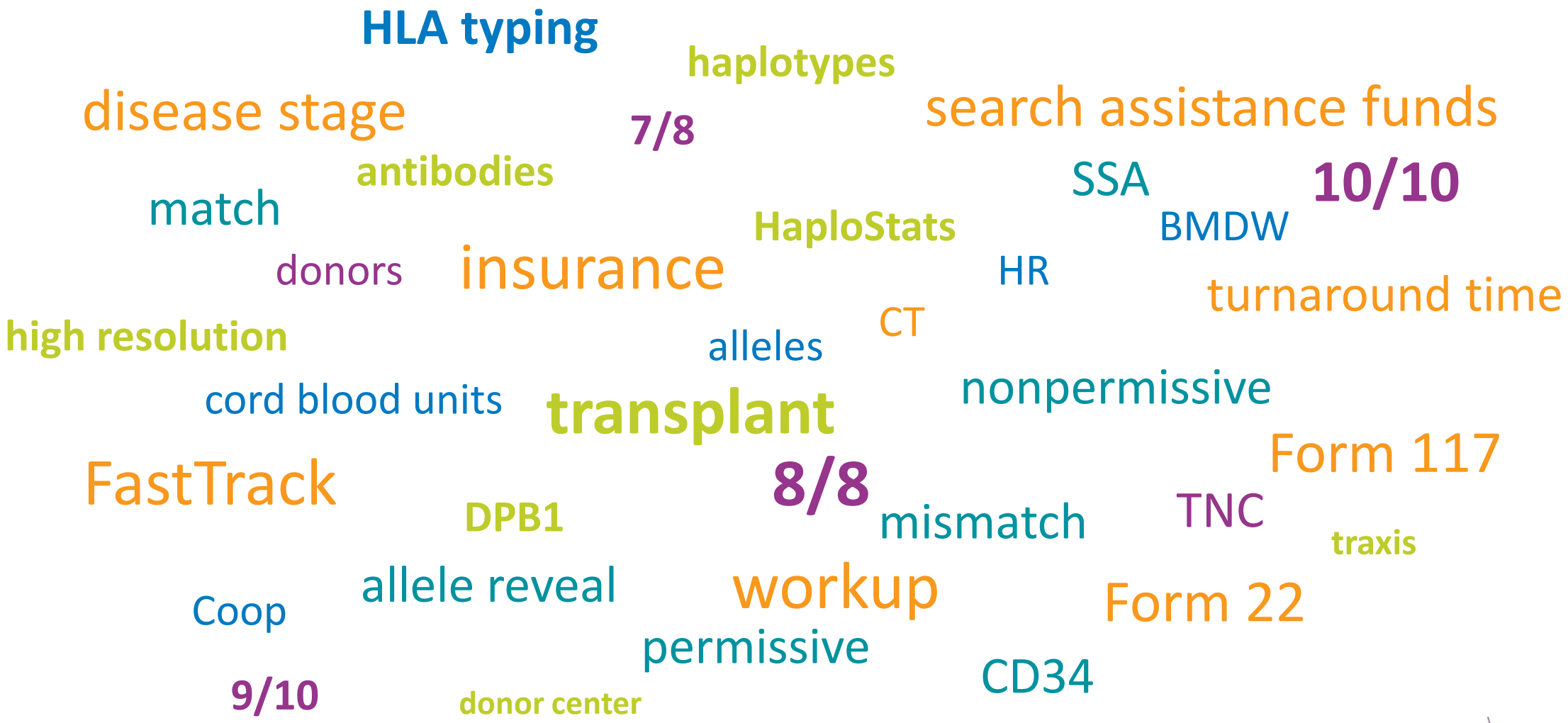
The following faculty and planning committee staff have the following financial disclosures:

Name	Institution	Disclosure
Kelly Lazration	NMDP/Be The Match	None
Janelle Olson	NMDP/Be The Match	None
Kelly Buck	NMDP/Be The Match	None
Jane Kempenich	NMDP/Be The Match	None
Bernadette Anton	NMDP/Be The Match	None
Robin Gach	Mayo Clinic	None

Learning Objectives

At the conclusion of this session, attendees will be able to:

- ✓ Integrate HLA/search strategy tools and resources into a comprehensive roadmap for navigating patient searches,
- ✓ Evaluate patient searches for more efficient cell source identification, and
- ✓ Determine how HapLogic matching predictions can be optimally used to identify HLA matched donors and cords.



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Let's go!

1 TYPE PATIENT

Consider:
High Resolution HLA Typing,
Antibody Testing, DPB1 Typing

Search Prognosis Tool

Related Donor Services

- ✓ High resolution HLA typing
- ✓ Antibody testing
- ✓ DPB1 typing
- ✓ Search prognosis tool
- ✓ Related Donor Services

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Search Prognosis Tool

- ✓ HLA genotype frequency (GF) gives a measure of the commonality of a patient's HLA type
- ✓ An NMDP study demonstrated that GF can be predictive of search prognosis, or the ability to identify a 10/10 and/or 9/10 URD in the Be The Match Registry

Wadsworth, K. et. al. Bone Marrow Transplant 2016 Nov;51(11):1476-81

Genotype Frequency as a Search Prognosis Tool

Patient HLA Type

HLA-A	HLA-B	HLA-C	HLA-DRB1	HLA-DQB1
11:01	18:01	07:01	01:01	05:01
68:02	35:01	04:01	14:01	05:03

+ Patient Ethnicity

Genotype Frequency Tool

- **Good**
  - ≥ 3 10/10 donors
- **Fair**
  - 1-2 10/10s or
  - No 10/10s and ≥ 3 9/10 donors
- **Poor**
  - No 10/10s and < 3 9/10 donors

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Wadsworth, K. et. al. Bone Marrow Transplant 2016 Nov;51(11):1476-81

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Online Search Prognosis Tool

Patient HLA Typing:

HLA Table Input

Example: 01:02 or 07:CGNF

See example typing.

HLA-A	11:01	68:02
HLA-B	18:01	35:01
HLA-C	04:01	07:01
HLA-DRB1	01:01	14:01
HLA-DQB1	05:01	05:03

Self Identified Race and Ethnicity

SIRE (Self Identified Race and Ethnicity)

Self Reported Race is based on the input selection.

White

Genotype Frequency

Genotype Frequency Information

This frequency is calculated for the most probable haplotype pair based on imputation of the typing.

6.669e-08

SIRE Search Prognosis

Search Prognosis Information

Using the Patient's Genotype and SIRE, we calculate the freqency and use a model to predict how this patient would fare during the search process.

Fair

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Benefits of Search Prognosis Tool

- ✓ Allows physicians/TC/HLA labs to get an early indication of likely URD search outcome
- ✓ Helps decide when to engage HLA expertise earlier in the search process
- ✓ Guides early clinical consideration of non-fully matched URD alternative stem cell source options

2 ENTER TYPING & VIEW RESULTS

Verify:
HLA Typing Entry & With Lab, If Applicable

C-B & DRB1-DQB1 Associations
Allele & Haplotype Frequencies
Haplostats & IMGT

- ✓ Verify HLA typing entry
  - ➢ Confirm with laboratory?
- ✓ Transplant timeframe
- ✓ View potential donor list in Traxis

- ✓ HLA Analysis Tools
  - ➢ B-C, DRB1-DQB1 associations
  - ➢ Allele and haplotype frequencies
  - ➢ HaploStats and IMGT

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Patient HLA Entry in Traxis: Case Study example 1

Initial Patient HLA Entry in Traxis:

A	B	C	DRB1	DQB1
01:01 03:01	08:01 45:01	07:01 08:02	03:01 13:02	02:01 06:09

Potential 10/10 donor list:

A	B	C	DRB1	DQB1
P P 99	P P 99	1	P P 99	A P 88
P P 99	P P 99	1	P P 99	86
P P 99	P P 99	1	P+ P+ 99	86

Corrected Patient HLA Entry in Traxis:

A	B	C	DRB1	DQB1
01:01 03:01	08:01 45:01	07:01 06:02	03:01 13:02	02:01 06:09

Potential 10/10 donor list:

A	B	C	DRB1	DQB1
A A 99	A A 99	A A 99	A A 99	A A 99
P P 99	P P 99	P P 99	A A 99	P A 99
P P 99	P P 99	P P 99	A A 99	A A 99

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Patient transplanted with 10/10 donor

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Patient HLA Entry in Traxis: Case Study example 2

Initial Patient HLA Entry in Traxis: # Likely 10/10s

A	B	C	DRB1	DQB1
02:01 29:02	07:02 58:01	07:19 07:27	08:04 15:01	04:02 06:02

0

Corrected Patient HLA Entry in Traxis: # Likely 10/10s

A	B	C	DRB1	DQB1
02:01 29:02	07:02 58:01	07:01 07:02	08:04 15:01	04:02 06:02

221

Locus	IMGT/HLA 3.9.0 Allele Name	CWD 2.0.0 Category
C	C*07:19	WD
C	C*07:27:01	WD

IMGT Ambiguous Allele Combinations

Ambiguous typing combinations over exon 2 + 3	
Combination 1	Combination 2
C*07:01:01G+C*07:02:01G	C*07:19+C*07:27:01

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Patient transplanted with 10/10 donor

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Patient HLA Entry in Traxis: Case Study example 3

Initial Patient HLA Entry in Traxis:

A	B	C	DRB1	DQB1
01:01	08:01	07:01	03:01	02:01
68:01		06:02	10:01	05:01

# Likely 10/10s	HLA Typing
0	Uncommon B/C association (08:01-06:02) AND homozygous B

A	B	C	DRB1	DQB1
P P	P P		P A	
99	99	1	99	99

Corrected Patient HLA Entry in Traxis:

A	B	C	DRB1	DQB1
01:01	08:01	07:01	03:01	02:01
68:01	37:01	06:02	10:01	05:01

# Likely 10/10s	HLA Typing	Outcome
130	Common B/C association (37:01-06:02)	10/10 Transplant

A	B	C	DRB1	DQB1
A A	A A	A A	A A	A A
99	99	99	99	99

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Patient transplanted with 10/10 donor

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2 ENTER TYPING & VIEW RESULTS

Verify:
HLA Typing Entry & With Lab, If Applicable

C-B & DRB1-DQB1 Associations
Allele & Haplotype Frequencies
Haplostats & IMGT

- ✓ Verify HLA typing entry
  - ➢ Confirm with laboratory?
- ✓ Transplant timeframe
- ✓ View potential donor list in Traxis

- ✓ HLA Analysis Tools
  - ➢ B-C, DRB1-DQB1 associations
  - ➢ Allele and haplotype frequencies
  - ➢ HaploStats and IMGT

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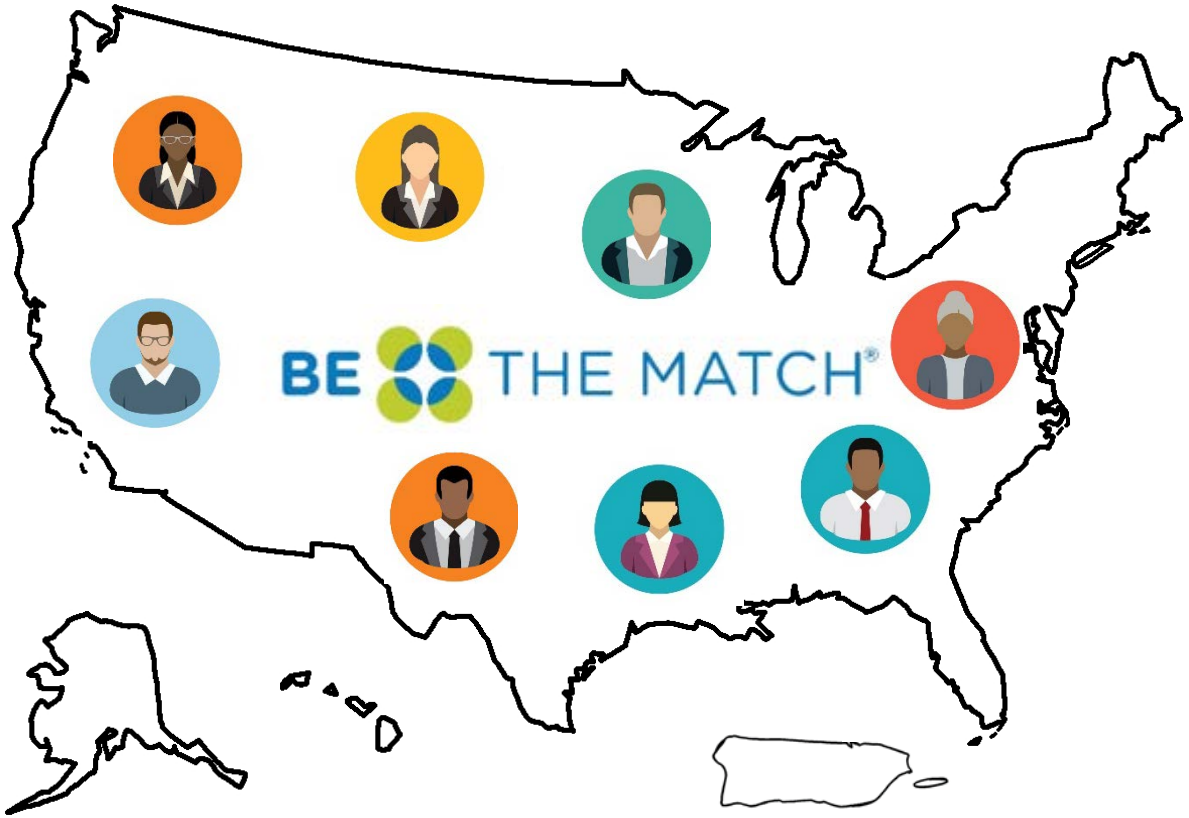
NMDP HLA Allele and Haplotype Frequencies



- ✓ Based on the HLA typing of donors on the Be The Match registry
- ✓ HLA allele/haplotype frequencies differ among different ethnic groups
- ✓ Helps identify donor populations that carry HLA alleles/haplotypes of interest
- ✓ Form the basis of the HapLogic matching algorithm

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Gragert et al. Human Immunology 2013; 74 (1313-1320)

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NMDP Haplotype Frequencies, by the numbers

6.59 million subjects

6 HLA loci

HLA-A, -B, -C, -DRB1, -DQB1, -DRB3/4/5

23 ETHNIC GROUPS

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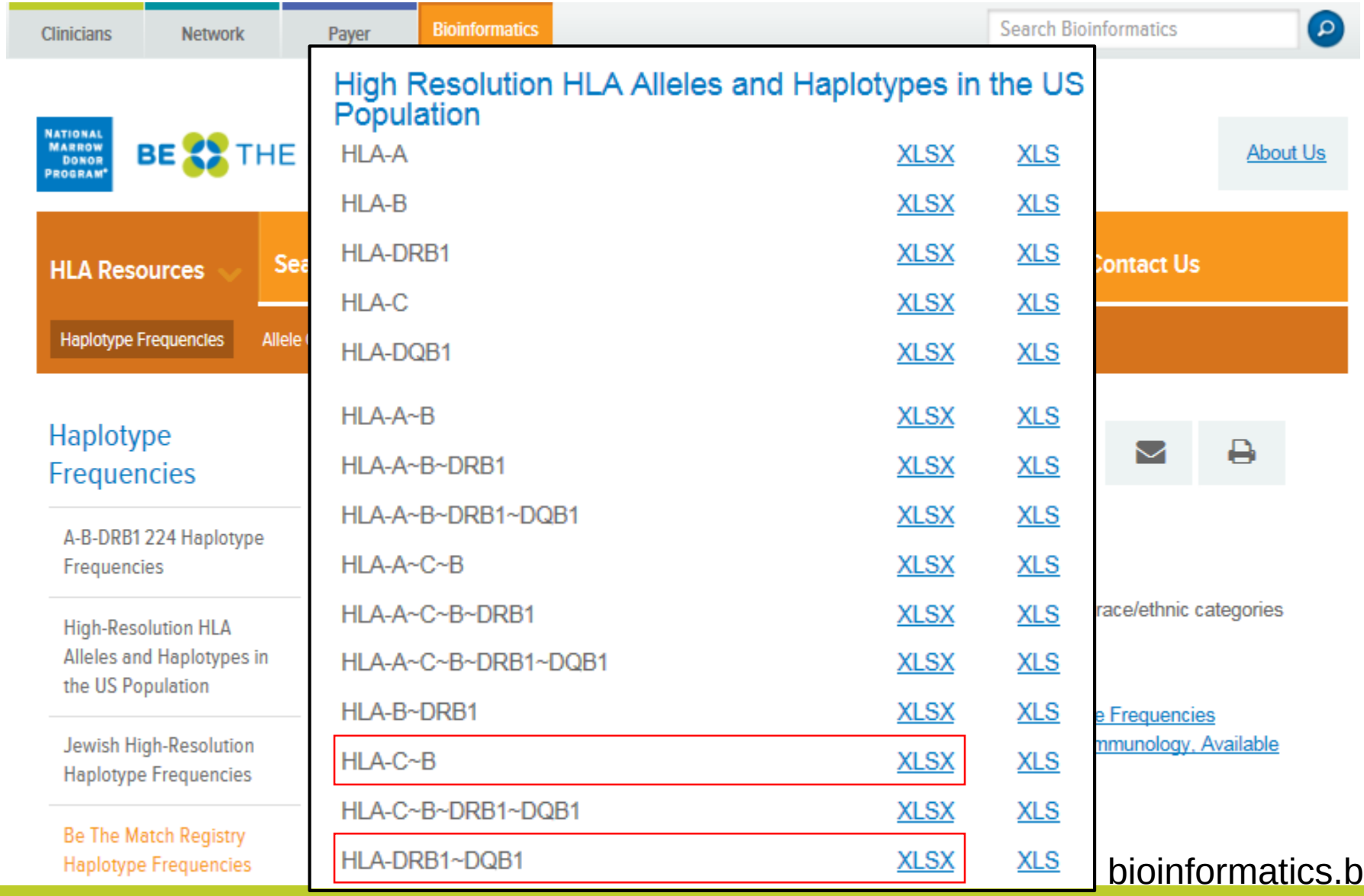
Accessing NMDP Allele and Haplotype Frequencies



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bioinformatics.bethematchclinical.org

HLA-C~B Association Table

C	B	AFA_freq	AFA_rank	API_freq	API_rank	CAU_freq	CAU_rank	HIS_freq	HIS_rank
C*04:01g	B*53:01	0.10790	1	0.00079	102	0.00363	44	0.01530	16
C*02:02g	B*15:03g	0.06076	2	0.00012	165	0.00076	66	0.01129	26
C*07:02g	B*07:02g	0.05984	3	0.02923	12	0.12300	1	0.05652	2
C*04:01g	B*35:01g	0.05482	4	0.03018	11	0.05588	4	0.06563	1
C*17:01g	B*42:01	0.05262	5	0.00012	168	0.00032	92	0.00628	45
C*06:02g	B*58:02	0.04008	6	0.00007	212	0.00013	132	0.00365	63
C*16:01	B*45:01g	0.03735	7	0.00041	121	0.00072	69	0.00920	32
C*04:01g	B*44:03	0.03164	8	0.00199	73	0.01567	18	0.01478	18
C*03:04g	B*15:10	0.03088	9	0.00027	140	0.00031	95	0.00445	55
C*07:01g	B*49:01	0.02804	10	0.00287	61	0.01611	17	0.02362	9

Code	NMDP Ethnic Group
AFA	African American
API	Asian or Pacific Islander
CAU	Caucasian
HIS	Hispanic

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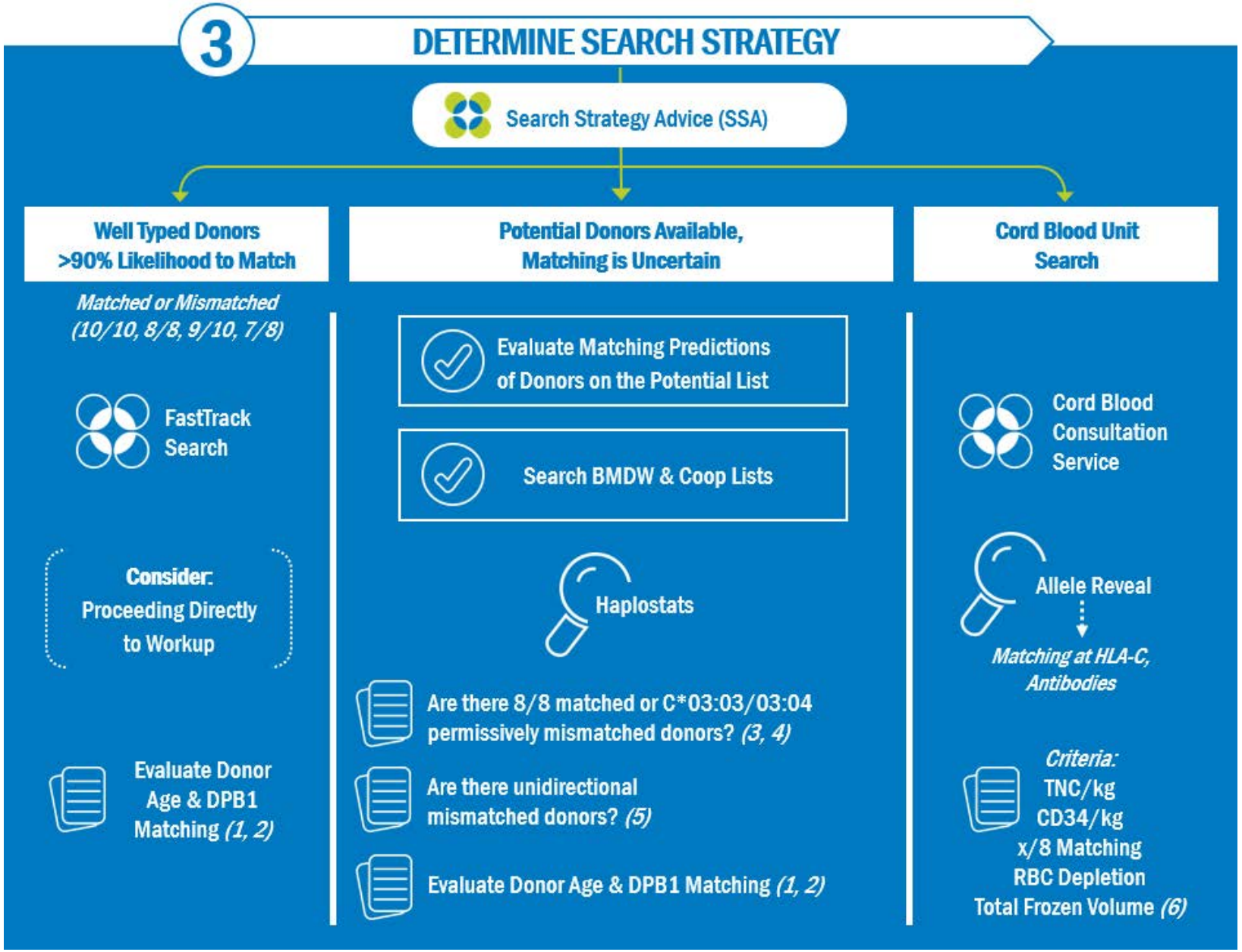
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DETERMINE SEARCH STRATEGY
Search Strategy Advice (SSA)
Well Typed Donors
>90% Likelihood to Match
Potential Donors Available,
Matching is Uncertain
Cord Blood Unit
Search
Matched or Mismatched
(10/10, 8/8, 9/10, 7/8)
FastTrack
Search
Consider:
Proceeding Directly
to Workup
Evaluate Donor
Age & DPB1
Matching (1, 2)
Evaluate Matching Predictions
of Donors on the Potential List
Search BMDW & Coop Lists
Haplostats
Are there 8/8 matched or C*03:03/03:04
permissively mismatched donors? (3, 4)
Are there unidirectional
mismatched donors? (5)
Evaluate Donor Age & DPB1 Matching (1, 2)
Cord Blood
Consultation
Service
Allele Reveal
Matching at HLA-C,
Antibodies
Criteria:
TNC/kg
CD34/kg
x/8 Matching
RBC Depletion
Total Frozen Volume (6)

Search Strategy Advice (SSA)

Provides a prioritized list of potential matches to aid in the selection of donors and CBUs by TCs

- ✓ **Make donor/cord blood unit recommendations based on TC criteria**
- ✓ Advisors with HLA expertise use patient HLA typing along with knowledge of haplotypes and linkage frequencies to develop a search strategy
- ✓ Search Be The Match registry and all global registries
- ✓ Turnaround time within 3-5 days
- ✓ Free service that requires no commitment
  - ➢ Request for some or all patients

>90% likelihood to match

- ✓FastTrack Search
- ✓Proceed directly to workup
- ✓Evaluate donor age and DPB1 matching

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CT at WU: Recommendations for donor typing

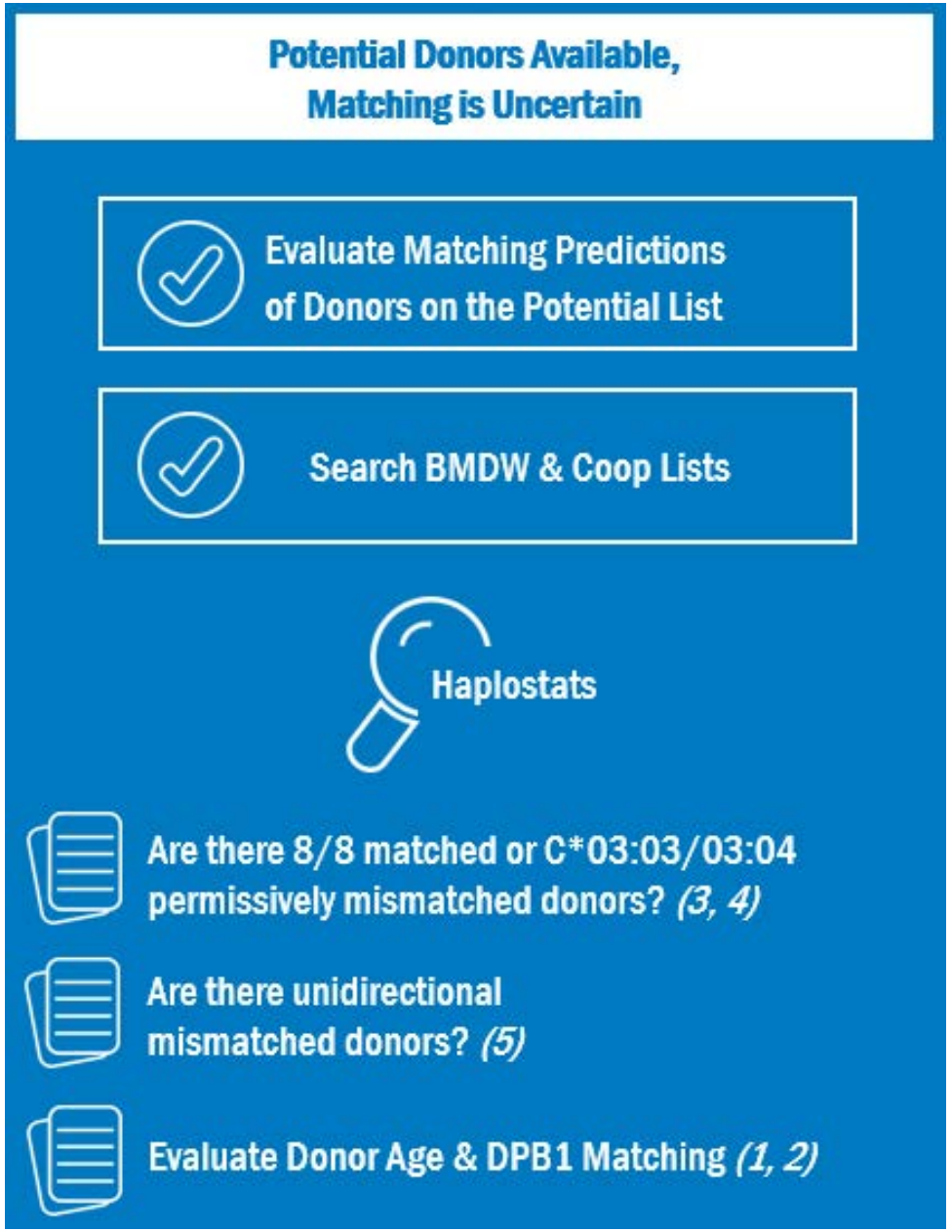
High-resolution, well-typed donors that are **likely to match** can **CT at WU**.

A	B	C	DRB1	DQB1	A	B	C	DRB1	DQB1
A/A 99	A/A 99	A/A 99	A/A 99	A/A 99	11:01 24:02	35:01 35:02	04:01 04:01	11:04 11:04	03:01 03:01
A	**B**	**C**	**DRB1**	**DQB1**	**A**	**B**	**C**	**DRB1**	**DQB1**
P/P 99	P/P 99	P/P 99	P/P 99	P/P 99	11:AWFBF 24:AYRZE	35:BCZHB 35:TXYP	04:BCZHM 04:BCZHM	11:AMFTT 11:AMFTT	03:AWFCW 03:AWFCW

CT-WU

A	B	C	DRB1	DQB1	A	B	C	DRB1	DQB1
P/P 99	P/A 99	99	A/A 99	99	11:BMTS 24:BZBD	35:BEZX 35:02		11:04 11:04	

CT



Matching is uncertain

- ✓ Evaluate predictions on the Potential List
  - ➢ Should donors be HR typed?

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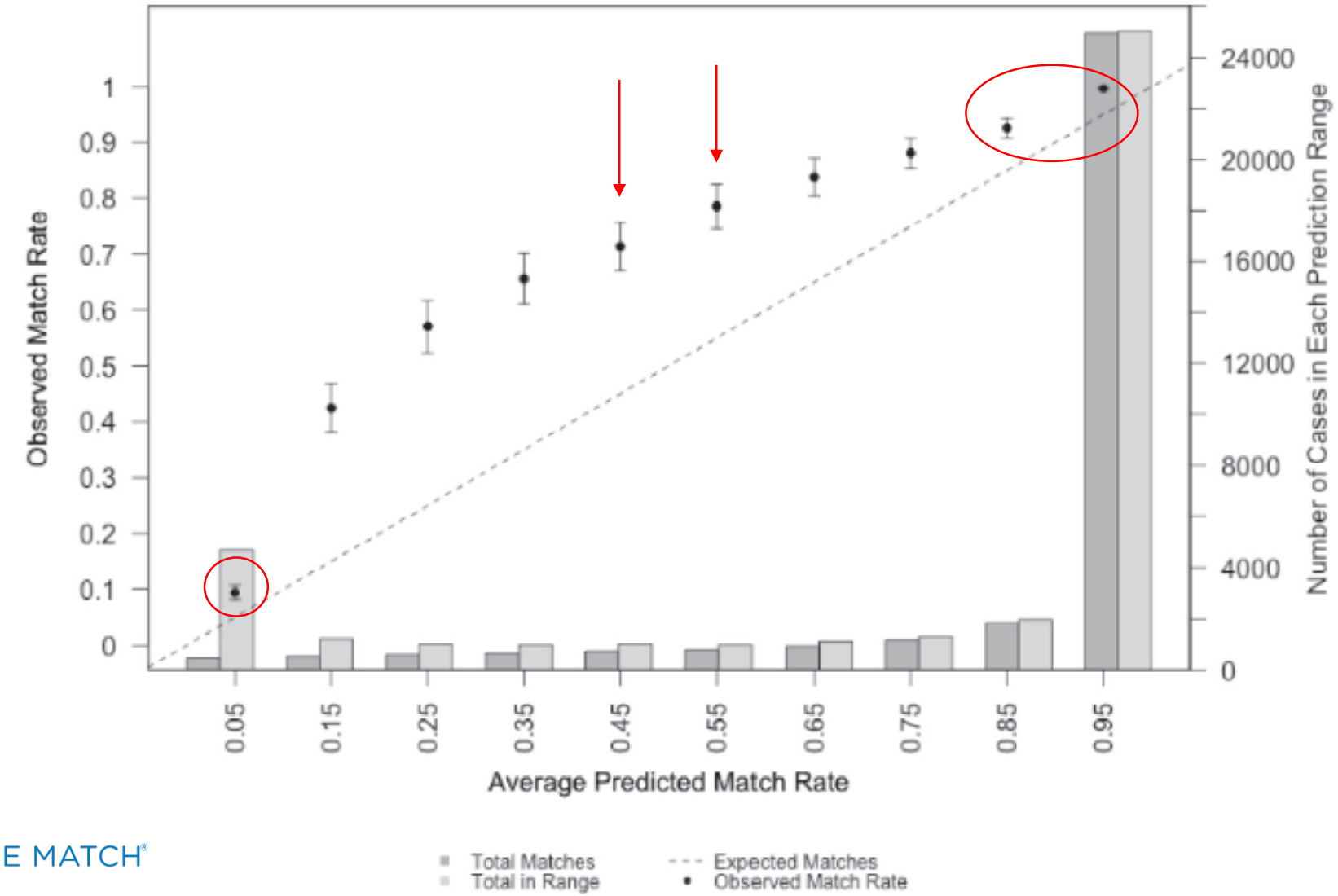
HapLogic Predictions: Things to Keep in Mind

- ✓ HapLogic prediction of 1% can often be closer to 0%
- ✓ Predictions at low and high ends are most accurate
- ✓ Predictions in intermediate ranges are pessimistic (HapLogic tends to predict lower)

HapLogic Accuracy



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Dehn, et al. Biol Blood Marrow Transplant 22 (2016) 2038-2046

HapLogic Probability: Case Study example 1

		MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1
Donor 1	Japanese	10/10	10/10=7 9/10=96 8/10=99	8/8=7 7/8=97 6/8=99	P P 99	P P 99	7	P+ P+ 99
Donor 2	Japanese	10/10	10/10=7 9/10=96 8/10=99	8/8=7 7/8=97 6/8=99	P P 99	P P 99	7	P P 99
Donor 3	Japanese	10/10	10/10=7 9/10=96 8/10=99	8/8=7 7/8=97 6/8=99	P P 99	P P 99	7	P P 99
Donor 4	Japanese	10/10	10/10=7 9/10=96 8/10=99	8/8=7 7/8=97 6/8=99	P P 99	P P 99	7	P P 99

HapLogic Probability: Case Study example 1

		MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1
Donor 2	Japanese	10/10	10/10=99 9/10=99 8/10=99	8/8=99 7/8=99 6/8=99	A A 99	A A 99	A A 99	A A 99
Donor 1	Japanese	9/10	10/10=0 9/10=99 8/10=99	8/8=0 7/8=99 6/8=99	A A 99	A A 99	A M 0	A A 99
Donor 3	Japanese	9/10	10/10=0 9/10=99 8/10=99	8/8=0 7/8=99 6/8=99	P P 99	P P 99	P M 0	A A 99
Donor 4	Japanese	9/10	10/10=0 9/10=99 8/10=99	8/8=0 7/8=99 6/8=99	P P 99	P P 99	P M 0	P A 99

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HapLogic Probability: Case Study example 2

Patient: Asian - Filipino

A	B	C	DRB1	DQB1
24:07 34:01	15:02 40:02	08:01 15:02	12:02 15:02	03:01 05:02

	MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1	DQB1	A	B	C	DRB1	DQB1
Donor 1: Asian - Filipino	10/10	10/10=66 9/10=95 8/10=99	8/8=68 7/8=97 6/8=99	P+ P+ 71	A+ P+ 99	95	A+ A+ 99	92	24:XX 34:XX	15:02 40:BKEZ		12:02 15:02	
Donor 2: Asian - Filipino	10/10	10/10=66 9/10=95 8/10=99	8/8=68 7/8=97 6/8=99	P+ P+ 71	A+ P+ 99	95	A P 99	92	24:XX 34:XX	15:02 40:PJA		12:02 15:AFB	
Donor 3: Asian - Filipino	10/10	10/10=66 9/10=95 8/10=99	8/8=68 7/8=97 6/8=99	P+ P+ 71	A P 99	95	A+ A+ 99	92	24:XX 34:XX	15:02 40:BXZM		12:02 15:02	
Donor 4: Asian - Filipino	10/10	10/10=66 9/10=95 8/10=99	8/8=68 7/8=97 6/8=99	P+ P+ 71	A+ P+ 99	95	A+ A+ 99	92	24:XX 34:XX	15:02 40:BKEZ		12:02 15:02	
Donor 5: Asian - Filipino	10/10	10/10=61 9/10=88 8/10=93	8/8=64 7/8=92 6/8=95	P P 68	P P 94	89	P P 99	90	s24 s34	s75 s61		12:MN 15:ADE	

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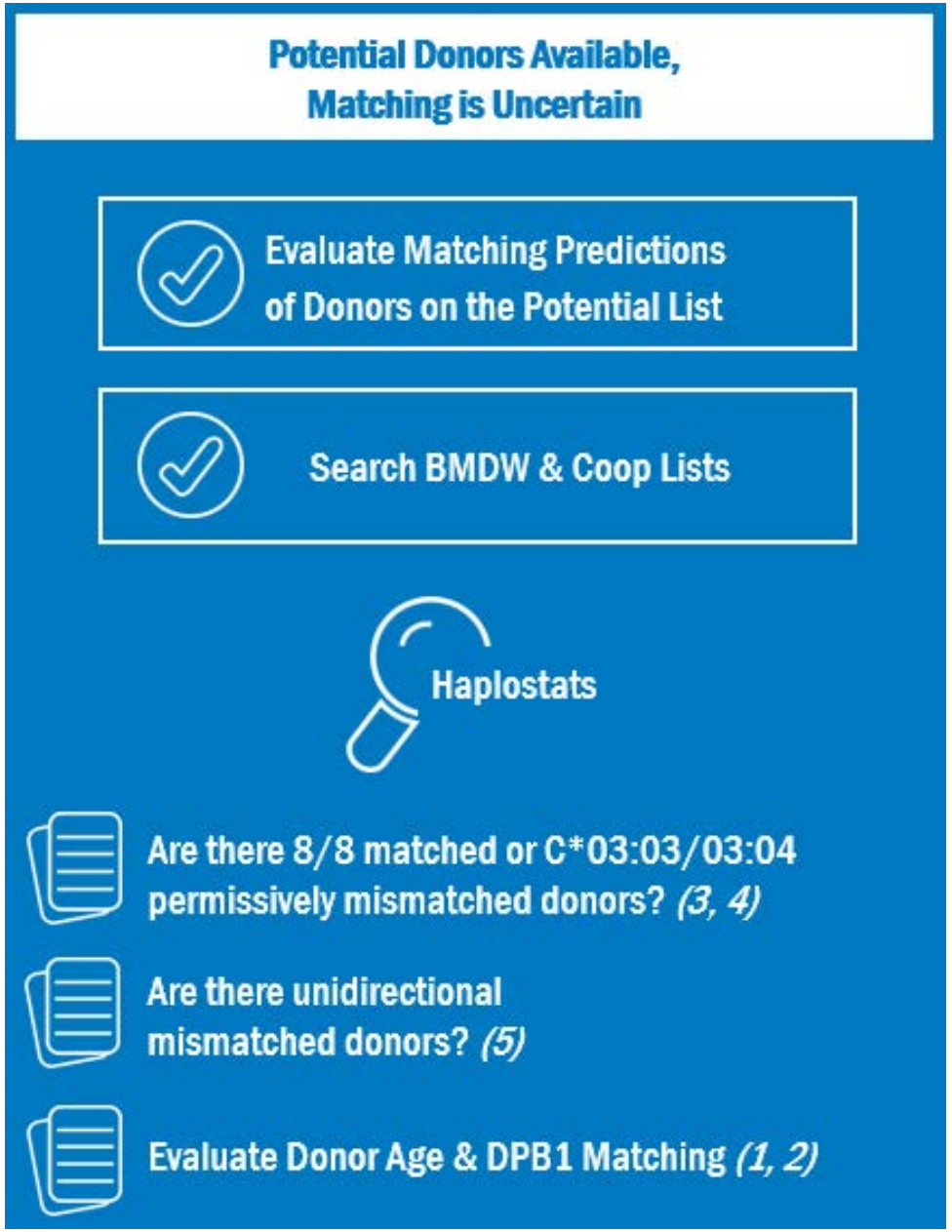

Matching is uncertain

- ✓ Search BMDW/Coop lists
  - ➢ Use HaploStats to evaluate likelihood of matching

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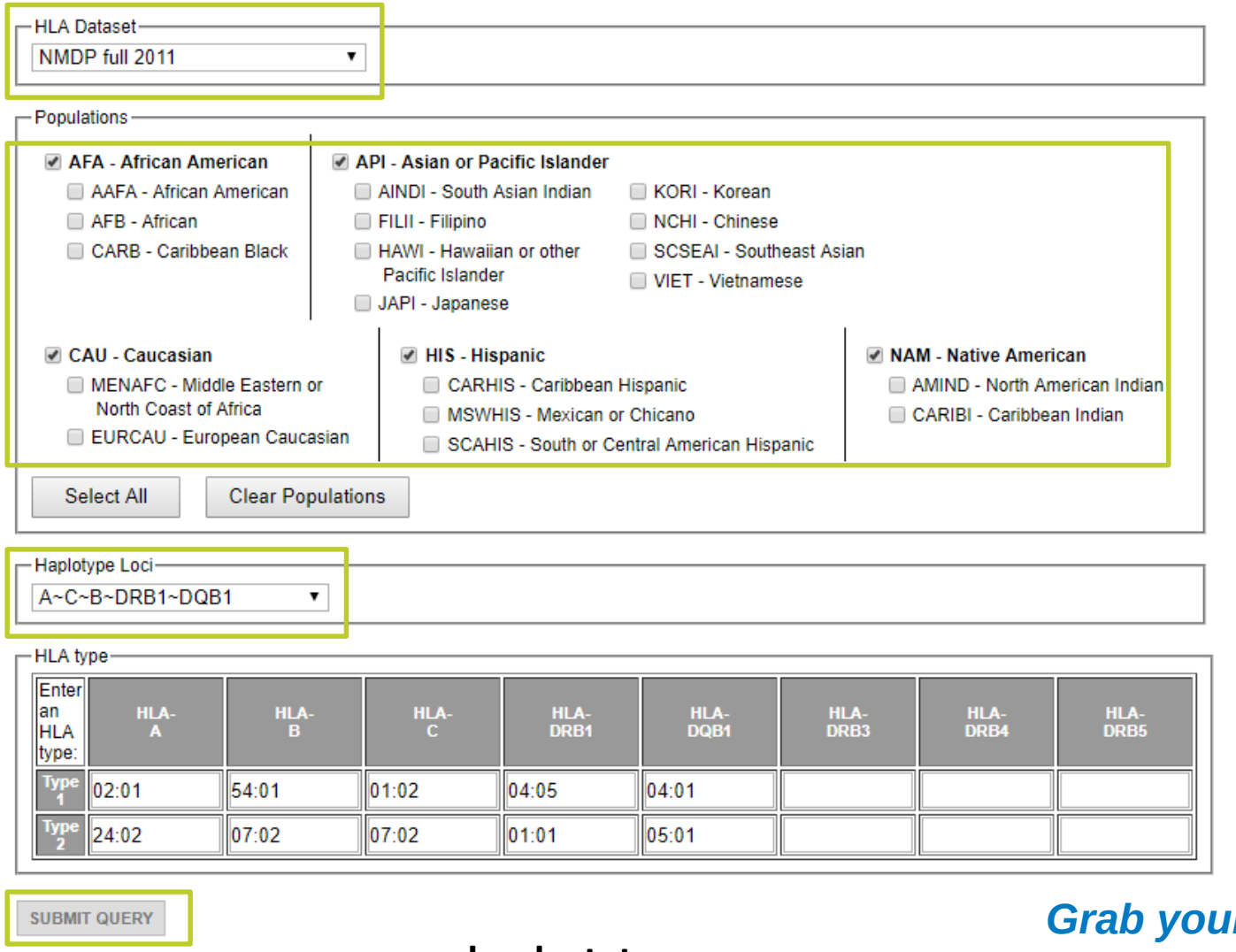
HaploStats Overview

NMDP dataset

Populations

Haplotype Loci



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www.haplostats.org

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HaploStats: Case Study example 1

Patient: Asian - Japanese

A	B	C	DRB1
02:01 11:01	35:01 40:06	03:03 08:01	04:05 09:01

NMDP donors: unlikely 8/8s

…check BMDW!

	MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1
Donor 1	10/10	10/10=1 9/10=3 8/10=7	8/8=2 7/8=6 6/8=39	P P 46	P P 8	6	P A 95
Donor 2	10/10	10/10=1 9/10=2 8/10=4	8/8=1 7/8=3 6/8=31	P P 48	P P 7	1	P A 84
Donor 3	10/10	10/10=1 9/10=2 8/10=4	8/8=1 7/8=3 6/8=31	P P 48	P P 7	1	P+ P+ 84

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HaploStats: Case Study example 1

Patient: Asian - Japanese

A	B	C	DRB1
02:01 11:01	35:01 40:06	03:03 08:01	04:05 09:01

BMDW: 8/8 matched Japan donors

MCat	A	B	C	DRB1	A	B	C	DRB1
10/10	P P	P P	P P	P P	02:AAYAC 11:AAYFY	35:AAUKN 40:AAVGN	03:AAMGF 08:AAMTE	04:WNEF 09:WNHB
10/10	P P	P P	P P	P P	02:AKHNX 11:AKHXZ	35:AKNNS 40:AKPKC	03:AKFWP 08:AKGGF	04:AFGGU 09:AKKHS
10/10	P P	P P	P P	P P	02:WPAD 11:WPGF	35:WJUJ 40:WKPW	03:WGUY 08:WHDJ	04:WNEF 09:WNHB

67% A*02:06+A*11:01 **M**
C*03:03+C*08:01
B*35:01+B*40:06
DRB1*04:05+DRB1*09:01
DQB1*03:03+DQB1*04:01

99% A*02:01+A*11:01 **P**
C*03:03+C*08:01
B*35:01+B*40:06
DRB1*04:05+DRB1*09:01
DQB1*03:03+DQB1*04:01

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A*02:AAYAC = 02:01/02:06/…
A*02:AKHNX = 02:01/02:06/…
A*02:WPAD = 02:01/02:09/…

HaploStats: Case Study example 2

Patient: Asian - Korean

A	B	C	DRB1
02:01 33:03	13:01 58:01	03:02 03:04	01:01 13:02

NMDP Summary Counts:
10/10 = 0
9/10 = 473

…check BMDW!

	MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1
Donor 1	9/10	10/10=0 9/10=98 8/10=99	8/8=0 7/8=99 6/8=99	P P 99	M P 0	P P 99	A A 99
Donor 2	9/10	10/10=0 9/10=98 8/10=99	8/8=0 7/8=99 6/8=99	P P 99	M P 0	P P 99	A A 99
Donor 3	9/10	10/10=0 9/10=98 8/10=99	8/8=0 7/8=99 6/8=99	P P 99	M P 0	P P 99	A A 99

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HaploStats: Case Study example 2

Patient: Asian - Korean

A	B	C	DRB1
02:01 33:03	13:01 58:01	03:02 03:04	01:01 13:02

BMDW: potential 8/8 donors

Demographics Add/Remove Data	MCat	A	B	C	DRB1	DQB1	A	B	C	DRB1	
China-CMDP Donor Count: 1	10/10	P A	P A	P P	A A		02:BGNHR 33:03	13:BFBTV 58:01	03:BFBZN 03:BFBZU	01:01 13:02	99%
Brazil Donor Count: 2	10/10	P P	P P		P P		02:XX 33:XX	13:XX 58:XX		01:XX 13:XX	<1%
China-CMDP Donor Count: 1	10/10	P P	P P		P A		02:BGNHR 33:BFBYR	13:BFBTV 58:AHTPA		01:AWFDC 13:02	96%
Korea-KONOS Donor Count: 1	10/10	P P	P P		P P		s2 s33	s13 s58		s1 s13	82%
Korea-KONOS Donor Count: 1	10/10	P P	P P		A P		s2 s33	s13 s58		01:01 13:AB	82%

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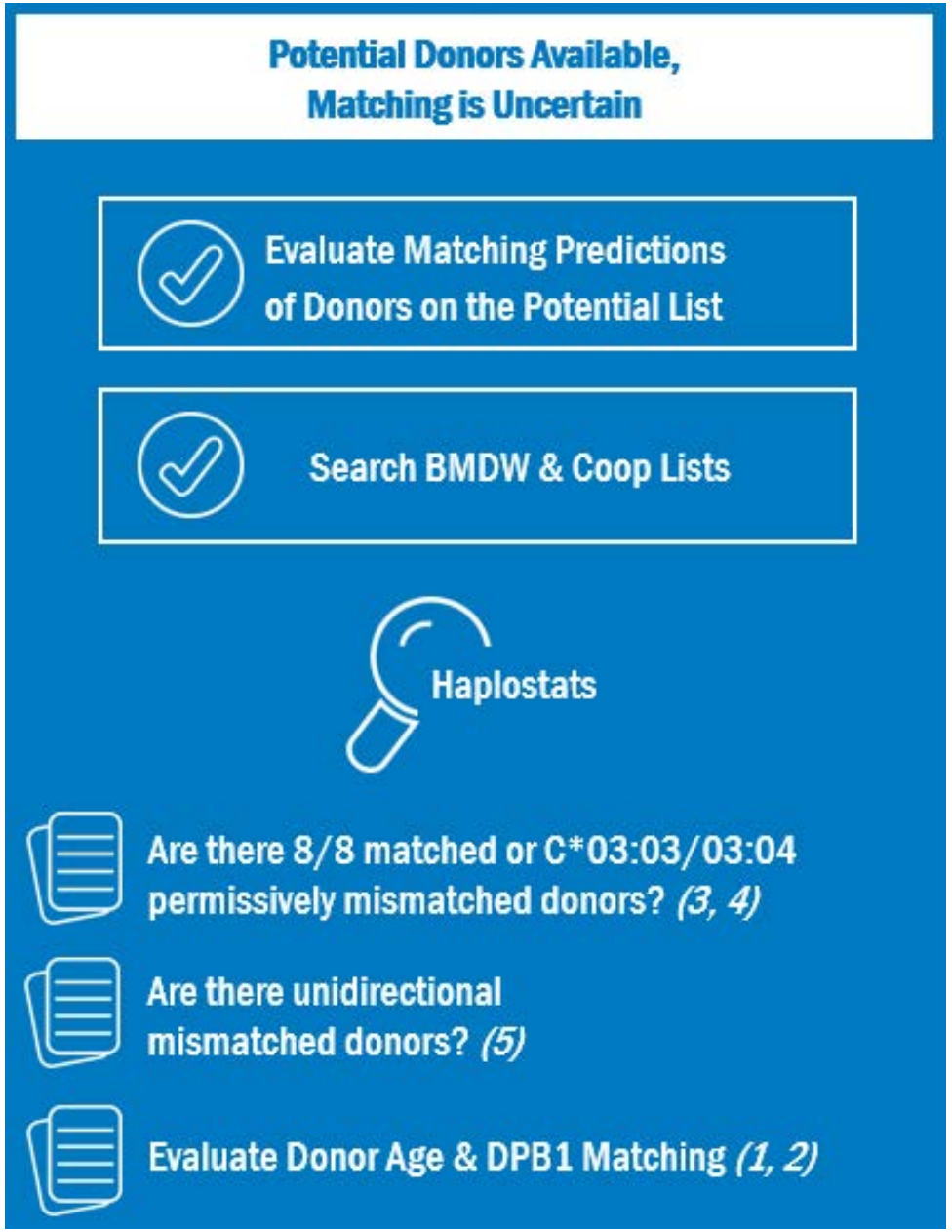

Matching is uncertain

- ✓ Permissively mismatched donors
  - 8/8 match (DQB1 mismatch)
  - C*03:03/03:04
- ✓ Unidirectional HvG mismatched 7/8 donors

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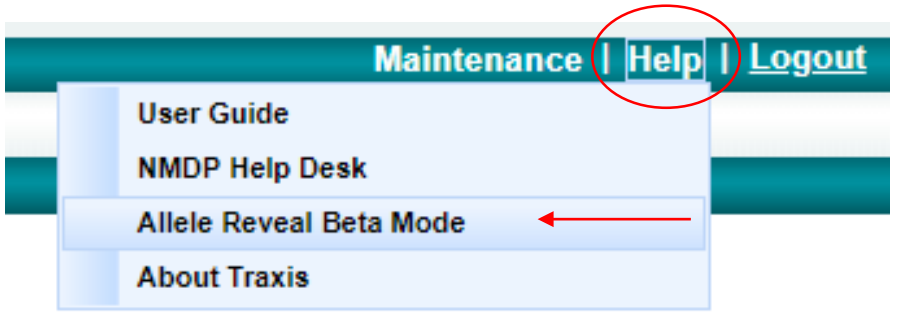
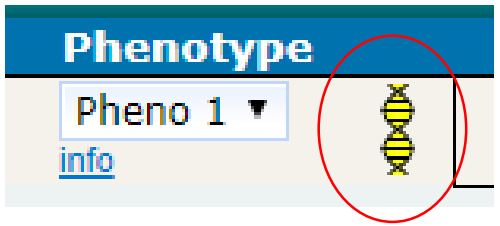
Allele Reveal Overview



- ✓ Allows user to better understand details of the search
- ✓ Displays more comprehensive HLA information for NMDP donors and cord blood units
- ✓ Most likely allele level typing in place of allele codes and at untyped loci, based on the HapLogic algorithm



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Permissive Mismatch: Case Study example

Patient

A	B	C	DRB1	DQB1
02:01 03:01	15:01 35:03	03:03 04:01	04:01 10:01	03:01 05:01

Permissive mismatch: C*03:03/C*03:04

	MCat	Pr(n) of 10 (%)	Pr(n) of 8 (%)	A	B	C	DRB1	DQB1
Donor 1: 49 F	10/10	10/10=65 9/10=99 8/10=99	8/8=65 7/8=99 6/8=99	P P 99	P P 99	P P 65	A A 99	P A 99
Donor 2: 31 F	10/10	10/10=59 9/10=99 8/10=99	8/8=59 7/8=99 6/8=99	P P 99	P P 99	 59	A A 99	P P 99

Allele Reveal

C Genotype Probabilities		
Genotype	Percent	MatchGrade
C*03:03+C*04:01	65%	A A
C*03:04+C*04:01	35%	L A

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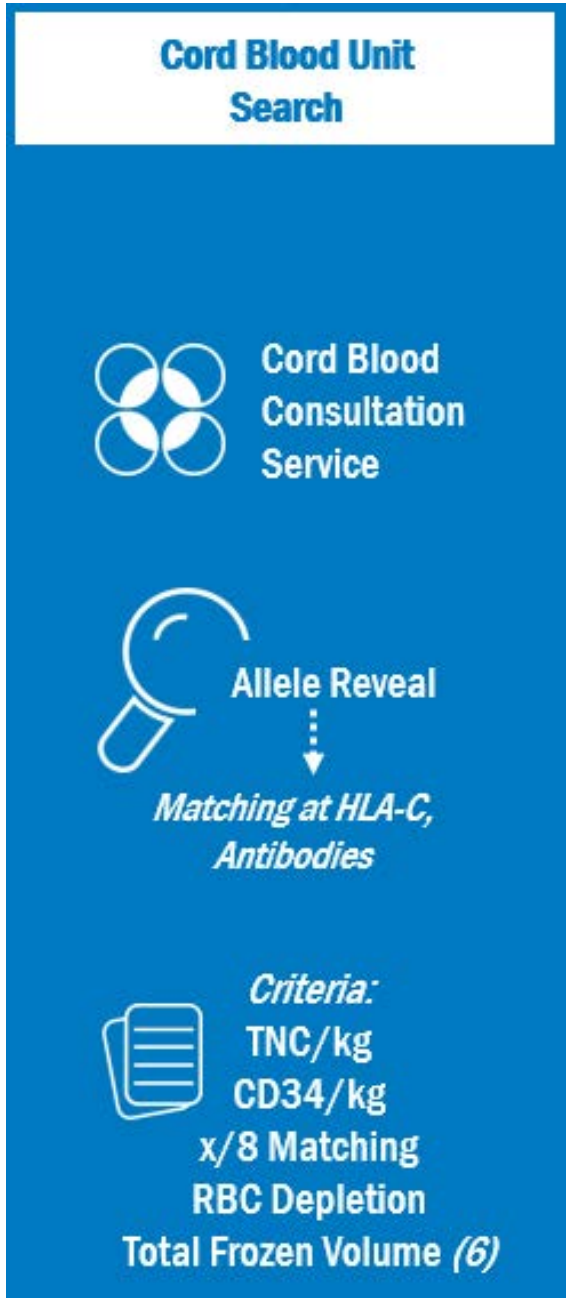

Cord Blood Unit Search

- ✓ Cord Blood Clinical Consultation service
- ✓ Use Allele Reveal to help predict matching

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Allele Reveal: Case study example 1

Patient typing

A	B	C	DRB1
02:01 24:02	07:02 51:01	02:02 07:02	01:01 13:02

Potential 6/8 cord blood unit

A	B	C	DRB1	DQB1	A	B	C	DRB1
P P 99	P P 99	9	M P 0	1	02:XX 24:XX	07:XX 51:AFKE		04:AFMZ 13:XX

Use Allele Reveal mode in Traxis to avoid two DRB1 mismatches

Likely double DRB1 mismatch

A	B	C	DRB1
P 02:01g P 24:02g 99 info (d)	P 07:02g P 51:01g 99 info (d)	(14:02g) (07:02g) 9 info	M 04:01 P 13:01g 0 info (d)

Locus Information

DRB1 Genotype Probabilities

Genotype	Percent	MatchGrade
DRB1*04:01+DRB1*13:01	76%	M L
DRB1*04:01+DRB1*13:02	21%	M A
DRB1*04:01+DRB1*13:03	3%	M L
DRB1*04:01+DRB1*13:05	1%	M L

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Allele Reveal: Case study example 2

Patient typing

A	B	C	DRB1
02:01 24:02	07:02 51:01	02:02 07:02	01:01 13:02

Antibody report

Class I	Class II
A11, 23, 24, 68, 69	DR17, 18
B8, 44, 45, 57, 58, 82	DQ2, 4
Cw5, 14, 15	DP10, 11, 13, 23, 28

Potential 6/8 cord blood unit

A	B	C	DRB1	DQB1	A	B	C	DRB1
A M 0	A A 99	6	A A 99	92	02:01 01:01	07:02 51:01		01:01 13:02

A	B	C	DRB1
A 02:01g• M 01:01g• 0 info (d)	A 07:02g• A 51:01g• 99 info (d)	(01:02g) (07:02g) 6 info	A 01:01g• A 13:02g• 99 info (d)

Locus Information

C Genotype Probabilities

Genotype	Percent	MatchGrade
C*01:02+C*07:02	29%	M A
C*14:02+C*07:02	28%	M A
C*15:02+C*07:02	23%	M A
C*02:02+C*07:02	6%	A A
C*16:02+C*07:02	5%	M A
C*04:01+C*07:02	2%	M A
C*05:01+C*07:02	2%	M A
C*12:03+C*07:02	1%	M A
C*07:02+C*07:02	1%	M A
C*16:01+C*07:02	1%	M A

Use Allele Reveal to identify units that could carry an antigen to which the patient has a reported antibody

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4 SELECT POTENTIAL SOURCES

Consider:
TC Criteria, Patient Antibodies, Donor Last Contact Date

Search Assistance Funds

- ✓ TC criteria
- ✓ Patient anti-HLA antibodies
- ✓ Donor last contact date
- ✓ Apply for Search Assistance Funds

Search Assistance Funds to the rescue…

SAF is here for your patients **when you can't start a search** because:

- Insurance doesn't cover search costs
- Search coverage is inadequate for what you need to request
- Patient doesn't have insurance yet (waiting for Medicaid approval, for example)
- You're waiting for prior authorization
- Fill in other financial or insurance barrier here _____

SAF is a **limited guarantee of approval** for specific NMDP search activities, per NMDP fee schedule

- Can cover Fast Track Service and workup/procurement costs, as well

Responses given within **one business day**

Payment is through **reimbursement** to your TC, on behalf of the patient

Applications must be approved **before requesting sources** (TCC or financial coordinator submits)

Contact: patientgrants@nmdp.org or 763-406-8114

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5 REQUEST TYPING

Consider:
CT vs Customized Typing, Turnaround Time

FastTrack Testing

6 REQUEST WORKUP OR SHIPMENT

- ✓ Donor typing
  - ➢ CT vs. HR screening
- ✓ Select backup donor(s)
- ✓ FastTrack Testing
- ✓ Electronic forms reporting

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Grab your cape. Let's go!

NMDP Laboratory Services

FastTrack Testing

- ✓ Rapid, high quality, cost-effective histocompatibility testing
  - ➢ Partnership with an ASHI-accredited contract laboratory
  - ➢ Turnaround time of 3 business days
  - ➢ Allele level confirmatory testing
  - ➢ Additional testing: KIR, CCR5 Δ32 mutation, Antibody screening, Crossmatch, Chimerism

Electronic Forms reporting

- ✓ NMDP Lab Services staff will work with your lab to set it up
  - ➢ Elimination of paper Form 117 and/or Form 22
  - ➢ More immediate HLA results from Traxis
  - ➢ Reduced potential for submission errors

HLA typing

high resolution
antibodies
DPB1

Traxis

SSA
10/10, 8/8, 9/10, 7/8
BMDW/Coop
CBUs

Donor/CBU selection

search assistance funds
HR, CT, WU request
Forms 117, 22

Transplant

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Acknowledgments

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Thank you!

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