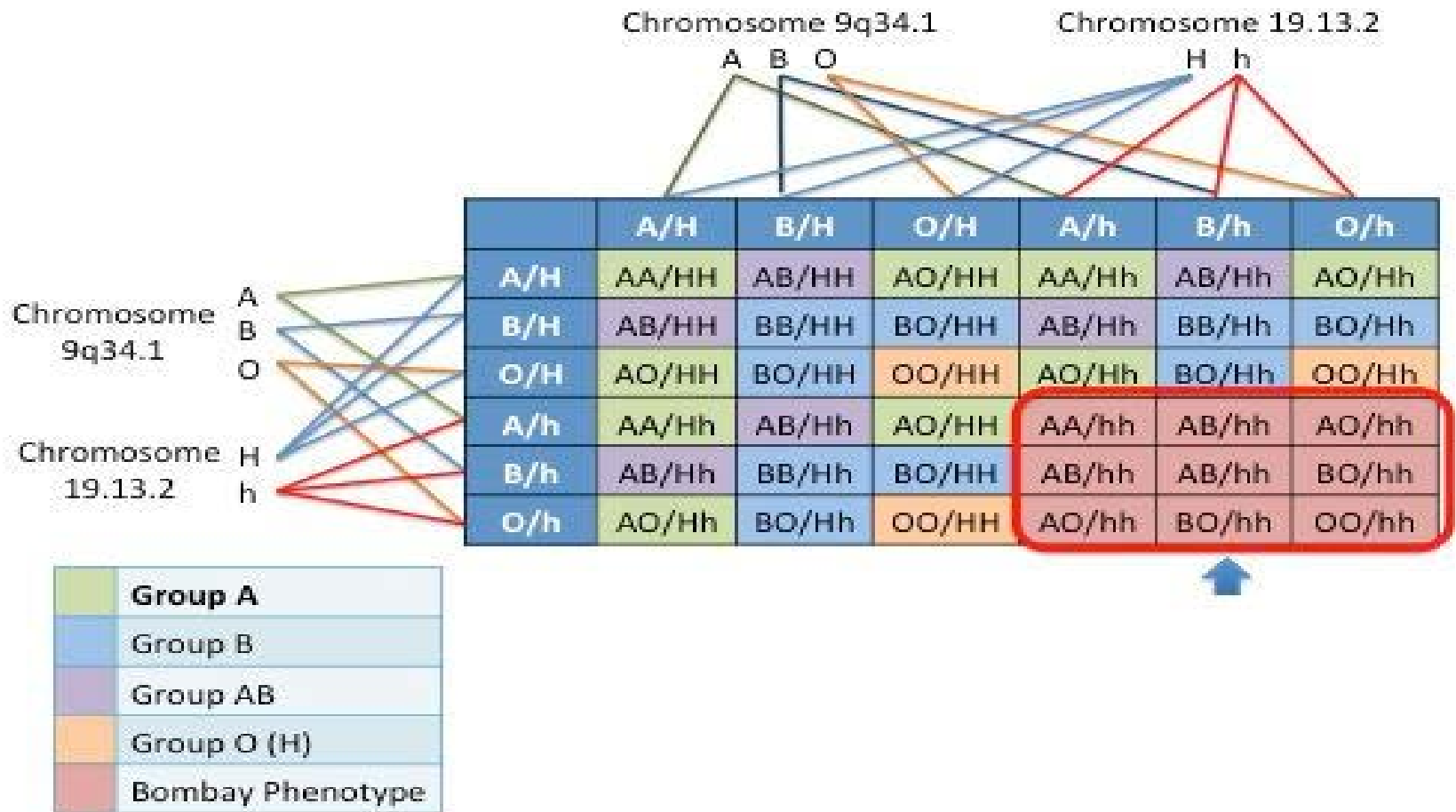


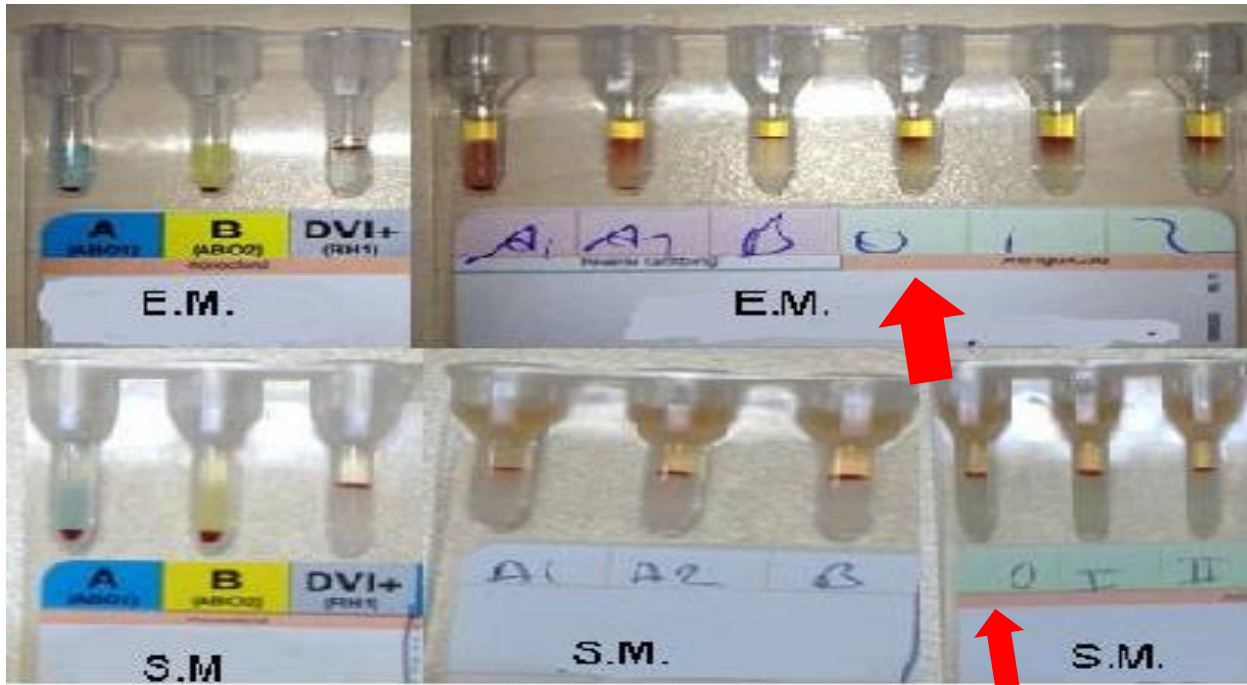
Uygun Kan Bağışçısına Ulaşımnda Problemler Çözüm Önerileri

Nadir ve Minör Antijen Tiplemeesi Yapılmış Kan Bağışçıları İçin
Ortak Kan Bağışçı Havuzu ve IT Çözümler

Kan Grupları



OLGU-LAR



Forward Grublama (Antiserum ile Donör Eritrositlerin reaksiyonu)		Reverse Grublama (Hücre Reaktifleri ile Donör Serum Reaksiyonu)			Kan Grubu Yorum
Anti-A	Anti-B	A1 hücre	B hücre	O hücre	ABO grup
0	0	+	+	0	0
+	0	0	+	0	A
0	+	+	0	0	B
+	+	0	0	0	AB
0	0	+	+	+	Bombay

Abstract

Send to:

See 1 citation found using an alternative search:

Indian J Hematol Blood Transfus. 2015 Sep;31(3):396-7. doi: 10.1007/s12288-014-0440-y. Epub 2014 Aug 6.

Bombay Blood Group in a Turkish Family: Serological and Molecular Analysis.

Çetinkaya RA¹, Yılmaz S¹, Gül D², Yılmaz S¹, Avcı İY³, Eviqün CP³.

Author information

PMID: 26085730 [PubMed] PMCID: PMC4465519 [Available on 2016-09-01]



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[Analysis of alpha-1,2-fucosyltransferase gene mutations i [Zhonghua Yi Xue Yi Chuan Xue Z...]

Review The Bombay blood group: are we out of risk? [Mymensingh Med J. 2011]

[Mutational analysis for FUT1 gene in two cases with para-B [Zhonghua Yi Xue Yi Chuan Xue Z...]

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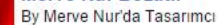
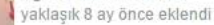
Related information

References for this PMC Article

İLGİ ALANLARI



Türk Silahlı Kuvvetlerinde askerler...



 Arkadaşı Ekle



TC Neslihan Demirdöken

26 Ağustos 2013

merhaba... ileri kan testi İstanbul da hangi hastanelerde yapılabiliyor?
bilgisi olan varsa lütfen aydınlatınız.



Beğen



Yorum Yap

✓ 89 kişi gördü



Ayhan Köksal Lütfen Üniversite Hastanelerine müracaat ediniz.

26 Ağustos 2013, 22:41 · Beğen



Ayhan Köksal Sebahattin YILMAZ (syilmaz@gata.edu.tr) Kişilere ekle 08:31

Kime: Ayhan Köksal

Sebahattin YILMAZ kişinin resmi... Daha Fazlasını Gör

26 Ağustos 2013, 22:42 · Beğen · 1



Aytaç Çetinkaya Neslihan hanımın. GATA KAN bankası müdürlüğü edik

ankara adresine Dr. Aytaç Çetinkaya adına 2 tam kan tüpünde (edtalı tüp)

gönderirseniz ben yardımcı olabilirim. 0312 3044910-4901 -4904

1 Ekim 2013, 19:39 · Beğen

ARKADAŞLIK İSTEKLERİ

Tümünü Gör



Nesrin Karavaizoğlu

3 ortak arkadaş

Arkadaşı Onayla



Kasım Yoldaş

Arkadaşı Onayla



Devrim Deniz

17 ortak arkadaş

Arkadaşı Onayla



Mehmet Müezzinoğlu

8 ortak arkadaş

Arkadaşı Onayla



İrfan Küçük

8 ortak arkadaş

Arkadaşı Onayla

TANIYOR OLABİLECEĞİN KİŞİ... Tümünü Gör

IT NEDİR ?

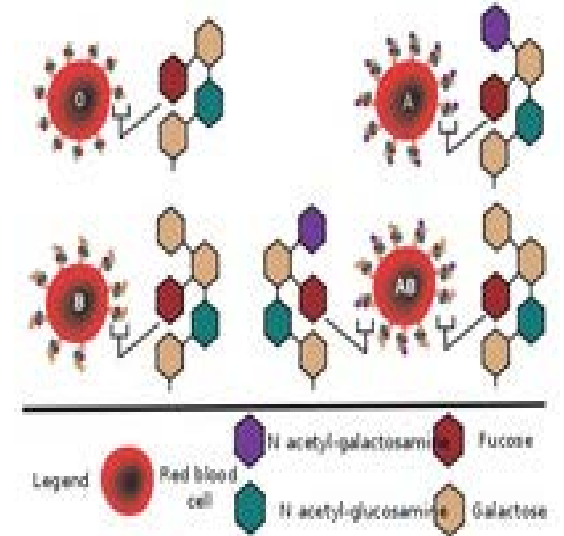


IT NEDİR ?

- IT (Information Technology): Enformasyon Teknolojileri
- Enformasyon;
 - Bilgi ve veri ile karıştırılmakta
 - Belirli, dar kapsamdaki bir konuyu ölçüm, deney, gözlem, araştırma ve sonuçlarının derlenmesi

Nadir Kan Grupları ?

- ABO ve D (Rh) eritrosit antijeni
- Bilinen en yaygın 8 kan grup Ag.
- Günümüzde 189 minör kan grubu , > 600 Ag.
- Duffy (Fy), Kidd (Jk), Diego (Di), Kell (K) vb.
- ISBT (International Society of Blood Transfusion)



Nadir Kan Grupları ?

1. High Prevalance (HF) antijen negatifliği

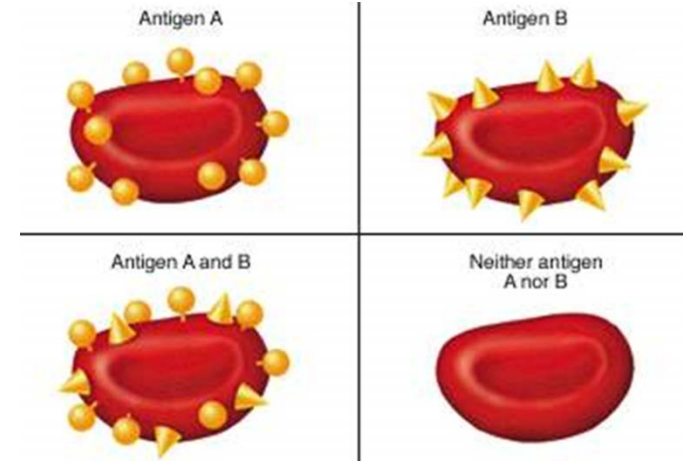
Eritrosit yüzeyinde yaygın olarak bulunan antijenin yokluğu

Bu antijenlere karşı gelişen antikor

Uygun donör bulunamaması

1:1000 kişi veya daha az

Örn. U negatif , Jk3 negatif antijen



2. Multiple Common Antigen Negative

Bazı hastalarda 1 eritrosit hücrelerine karşı birden fazla Ab

1 veya 2 yaygın gözüken antijene Ab.

Çoklu antikorların kombinasyonu uygun donör ???

Örn. Anti-K pozitif bir hastada %90 K Ag negatif

Anti-K ve Anti-D pozitif %14 K ve D Ag negatif

İlave Ab.....uygun donör %1 kişi veya daha az

Nadir Kan Grupları ?

O D- E- K- Fy (a- b-) Jk (a-) S-



Nadir Kan Grupları ?

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Anti-K ve Anti-D pozitif

%14 K ve D Ag negatif

İlave Ab.....uygun donör %1 kişi veya daha az

3. Ig A yetmezliği



Dünya Genelinde Nadir Kan Gruplarına Yaklaşım Nasıl ?

- Fransa
 - 1960 yılların hemen başı
 - 17.800 donör
- İngiltere
 - 1960
 - 9.000 donör
- İtalya 1984 ISBT , 2005

FINDING RARE DONORS

Blood centres may test blood donors for certain rare blood types in the following circumstances:

- A patient with a long-term illness like cancer of Sickle Cell Disease may require ongoing supply of a particular rare blood type.
- There is an overall shortage of a specific rare blood type.
- A community has a high percentage of African-American, Asians or other ethnic minorities among its population. It needs to be able to supply the rare blood types found more frequently among those groups.

WE'RE COUNTING ON YOU

Because blood types are inherited, a person with a rare blood type may have family members with that same rare type. In fact, the chances are one in four that the brothers or sisters of a person with a rare blood type will have the same rare blood type. In such cases, the family members may be approached by the blood centre to be typed and join the National registry, and the IDP.

Most blood donors can give blood as often as every eight weeks. We depend on rare donors to give blood regularly. Each precious bag of rare blood can be frozen in long term storage facilities for up to 10 years, so it will be available for patients as needed. Perhaps most important of all, please donate when you are contacted, if you are able. If we ask, it means that your blood is needed urgently.

FOR MORE INFORMATION

To learn more about rare donors and the International Rare Donor Program, please contact your local blood centre or access the internet.

http://www.isbt_web.org/

**You
are
one
in
a
million.
Maybe
your
blood
is
too!**



ISBT THE INTERNATIONAL
SOCIETY OF BLOOD
TRANSFUSION

(ISBT: International Society of Blood Transfusion)



Blood Transfus. 2014 Jan; 12(Suppl 1): s249–s255.
doi: [10.2450/2013.0182-12](https://doi.org/10.2450/2013.0182-12)

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İtalyan hükümeti tarafından 14.1 milyon euro

Lombardy Nadir Kan Grupları Donör Programı

2003 AABB akredite (American Association of Blood Banks)

15 kan transfüzyon merkezinin network bağlantısı



Advancing Transfusion and
Cellular Therapies Worldwide



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Give Blood



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Standards Setting

Accreditation Program
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add a new activity)

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Home > Standards & Accreditation > Standards and Accreditation FAQs

[Print](#)

Standards and Accreditation FAQs

What is the role of Standards & Accreditation?

AABB develops Standards that promote patient safety and quality in several different fields. AABB's Standards combine internationally accepted quality management system essentials with technical requirements appropriate for each discipline. These Standards then form the basis for AABB's Accreditation program. To become accredited, a facility must be in compliance with the current edition of Standards as well as the requirements in the [Accreditation Information Manual](#). The AABB Accreditation program is internationally recognized as a symbol of quality, and facilities that have achieved AABB accreditation are known to provide quality products and services.

Why should my facility be accredited by AABB?

There are many reasons to be AABB accredited. By assessing the operational systems in place within a facility, the program strives to improve the safety of collecting, processing, testing, distributing and administering products. Facilities that have achieved AABB accreditation have demonstrated the highest level of quality and have systems in place to make continual improvements.

What is the process of getting accredited and how long does it take?

For more information on the process of getting accredited, [click here](#) for details. While the process typically takes 6-9 months, the estimated time to achieve accreditation depends upon the state of preparedness and adherence to Quality System requirements.

What are the different activities for which you can get accredited?

A list of activities is located [here](#).

How much does it cost to become accredited?

The cost of Accreditation depends on several factors, including the activities for which your facility is being accredited and the volume/size of the facility. For more information on the specific costs of accreditation [click here](#).

I know that I want to be accredited. but I have a lot of questions about the accreditation

H....p...



ISBT_Rare_Don....doc



Outcome_of_I....docx



Rare Donor Pro....pdf



The American R....p...

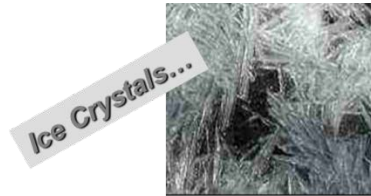
Uluslararası Akredite İmmünohematoloji Referens

- Kompleks immünohematoloji vakaların çalışması
- Nadir kan grupların fenotiplerin çalışılması
- Reaktiflerin kalite kontrol
- Biyolojik standartların üretimi
- Hasta ve donör örneklerinin dondurulması

All Cells Positive

Panel Cells	A		B		C		D		
	IAT		IAT		IAT		IAT		18°C
	Unt	Pap	Unt	Pap	Unt	Pap	Unt	Pap	Unt
1	1	0	3	0	4	4	4	H	4
2	3	0	3	0	4	4	4	H	4
3	1	0	3	0	4	4	4	H	4
4	2	0	3	0	4	4	4	H	4
5	1	0	3	0	4	4	4	H	4
6	1	0	3	0	4	4	4	H	4
7	2	0	3	0	4	4	4	H	4
8	3	0	3	0	4	4	4	H	4
9	2	0	3	0	4	4	4	H	4
10	1	0	3	0	4	4	4	H	4
Auto	0	0	0	0	0	0	0	0	0

Rh, Kell, Jk, Scianna, Colton, Dombrock, Diego, Cromer



Uluslararası Akredite İmmünohematoloji Referens

- Kan grup antijenlerinin moleküler testleri
- Multiple tekniklerin standardizasyonu ve geliştirilmesi

Supplementary Tests					
Enzymes					
	Papain	Trypsin	Chymotrypsin	Pronase	AET
Knops	+/-	-	-	+	-
Ch/Rg	-	-	-	-	+
Cromer	+	+	-	+	(+)
Vel	+	+	+	+	+
Lan	+	+	+	+	+
Kell	+	+	+	+	-
JMH	-	-	-	-	-
LW	+	+	+	-	-

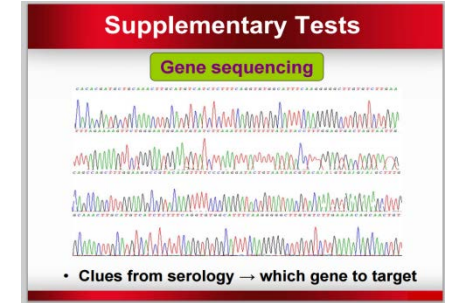
Examples of effect of enzyme treatment/chemical modification

Supplementary Tests		
C4 coated cells		
Panel Cells	A	
	Unt	Pop
1	1	0
2	3	0
3	1	0
4	2	0
5	1	0
6	1	0
7	2	0
8	3	0
9	2	0
10	1	0
Auto	0	0

Uncoated C4 coated

5

- Ch/Rg are plasma antigens, located on complement receptor C4
- C4 coat cells in vitro → increased amounts of Ch/Rg
- Test in parallel with uncoated cells
- Strong reaction = instant indication of anti-Ch/Rg specificity



- Bölgesel veya Uluslararası hasta / donör örnek veya ES / **TS** karşılıklı değişimi



Outcome of Incompatible Transfusion: Case Study Report* (Rare blood not available)

Reason for incompatible transfusion	Choose an item..
Blood group system	Click here to enter text.
Antibody specificity	Click here to enter text.
Allo/Auto antibody	Click here to enter text.
Antibody identification method	Choose an item.
Strength of reaction	Choose an item.
Antibody Titer	Choose an item.
Antibody subtype	Choose an item.
RBC survival studies	Choose an item.
Phenotype transfused	Click here to enter text.
Genotype transfused	Click here to enter text.
Number of units transfused	Click here to enter text.
Category of transfusion outcome	<input type="checkbox"/> Acute Hemolytic <input type="checkbox"/> Delayed Hemolytic <input type="checkbox"/> Serologic Only <input type="checkbox"/> No Reaction <input type="checkbox"/> Other, explain _____ _____

Patient Information	
Age	Click here to enter text.
Gender	Choose an item..
Diagnosis	Click here to enter text.
Hematocrit	Pre-transfusion _____ Post-transfusion _____
Hemoglobin	Pre-transfusion _____ Post-transfusion _____
Direct Antigen Test Strength	Pre-transfusion Anti-IgG Choose an item., Anti-C3 Choose an item., Method: Choose an item. Post-transfusion Anti-IgG Choose an item., Anti-C3 Choose an item., Method: Choose an item.
Pre Transfusion Medication	Click here to enter text.
Describe transfusion outcome	Click here to enter text. Click here to enter text. Click here to enter text. Click here to enter text. Click here to enter text. Click here to enter text. Click here to enter text.

Submitting Country	Click here to enter text.
Reviewed by WP Member	Click here to enter text.
Final Review	Click here to enter text.
Date	Click here to enter a date.

* An incomplete form is acceptable – yet please report all available information

ISBT W/P RARE DONORS Ver. 1.2.2015



Blood Transfus. 2014 Jan; 12(Suppl 1): s249–s255.
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İtalyan hükümeti tarafından 14.1 milyon euro

Lombardy Nadir Kan Grupları Donör Programı

15 kan transfüzyon merkezinin network bağlantısı

2005 -2012 yılları arasında

250.000 donör ...18-55 yaş...2 veya daha fazla



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59,738 grup O - A

Rh, CCDee, ccdee, ccDEE, ccDee, K– veya k–

2005 -2009 solid faz otomatize seroloji sistem

Fya, Fyb; Jka, Jkb; S, s; Coa; Js; Ge2; Lub; Kpb; PP1Pk; U; Vel ve Yta

2006-2010 Manuel tüp

2007 Luminex teknoloji veya PCR-SSP (sequence-specific primers)

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33 nadir Rh fenotipi , 538 nadir kan grubu

IgA yetmezliği 1:250.000

1 IgA yetmezliği, öncesinden bilinen 4 IgA yetmezliği

2010-2012 yılları arası nadir kan grup 1157 / 315 ES. Dondurulması



1. High Prevalance (HF) Antijen Negatifliği

Eritrosit yüzeyinde yaygın olarak bulunan antijenin yokluğu

Bu antijenlere karşı gelişen antikor

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1:1000 kişi veya daha az

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Anti-K ve Anti-D pozitif

%14 K ve D Ag negatif

ilave Ab.....uygun donör %1 kişi veya daha az

3. Ig A yetmezliği

N. of RRH units	105
CDE/CDE	22
Cde/Cde	61
cdE/cdE	13
-D-/-D-	9
N. of NHF units	910
Co ^a -	69
Co(a-b-)	0
Di ^b -	0
Do(a+b-)	0
Fy(a-b-)	148
Ge:-2	30
Jk(a-b-)	0
Jr ^a -	1
Js(a+b-)	7
k-	158
K:-11	0
Ko	0
Kp(a+b-)	3
Kp(a-b-)	0
Lan-	0
Lu(a+b-)	142
Lu(a-b-)	53
LW(a-b-)	0
LW(a-b+)	0
Oh	19
PP ₁ P ^k -	20
Rh:-51	0
Rh _{null}	0
Sc:-1	0
S-s-U-	2
S-s-U+	0
Vel-	30
Yt ^a -	228
N. of RCA units	142
Total	1,157

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Revelli N et al

Table III - Inventory of rare autologous RBC units cryopreserved at the LORD-P coordinating transfusion department (June 2012). RRH: rare for Rh phenotype; NHF: negative for high frequency antigens.

RRH units	N. of patients	N. of units
CDE/CDE	1	1
-D-/-D-	3	10
NHF units		
Fy(a-b-)	3	19
Ge:-2	1	4
Jr ^a -	5	15
Ko	2	8
Lan-	1	2
Lu ^b -	1	3
PP ₁ P ^k -	5	27
Sc:-1	1	1
Vel-	3	16
Total	26	106

Table IV - Number of RRH and NHF RBC units distributed during 2005-June 2012 for homologous and autologous transfusion. RRH: rare for Rh phenotype; NHF: negative for high frequency antigens.

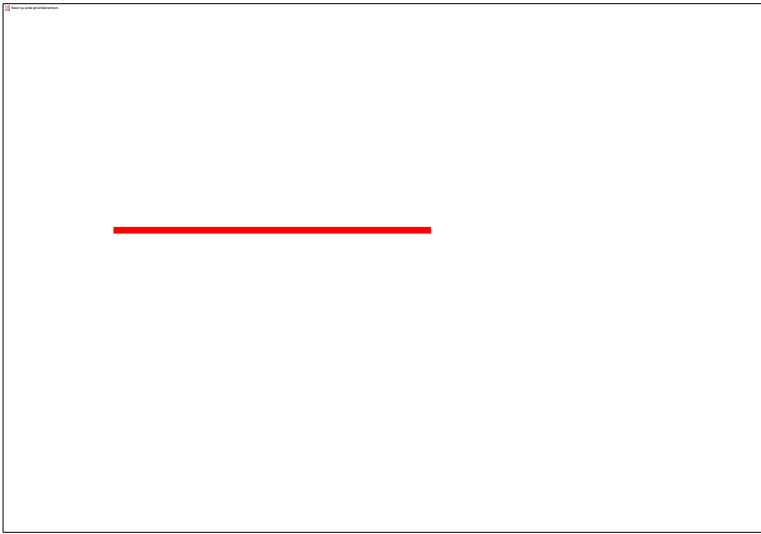
Specificities	Homologous	Autologous	Total
CCdee	8	0	8
ccdEE	15	0	15
CCDEE	1	0	1
Co ^a -	6	0	6
Fy(a-b-)	77	0	77
k-	34	2	36
Ku-	0	9	9
Lu ^b -	17	0	17
PP ₁ P ^k -	14	18	32
Vel-	6	5	11
Yt ^a -	7	0	7
Total	185	34	219

- Hemoglobinopatisi olan hastalarda
- Sık transfüzyon olma ihtimali olan vakalar
- Transfüzyon öncesi
- Genotipik çalışmalar
- **TAM (full)** fenotip eşleşmeli
- Transfüzyon komplikasyonları minimize
- Alloimmünizasyonu azaltmak

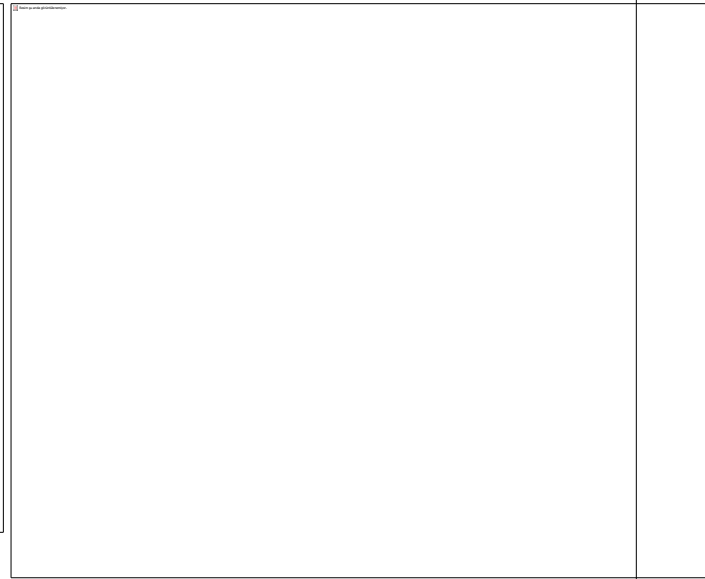


Dünya Geneline Nadir Kan Gruplarına Yaklaşım Nasıl ?

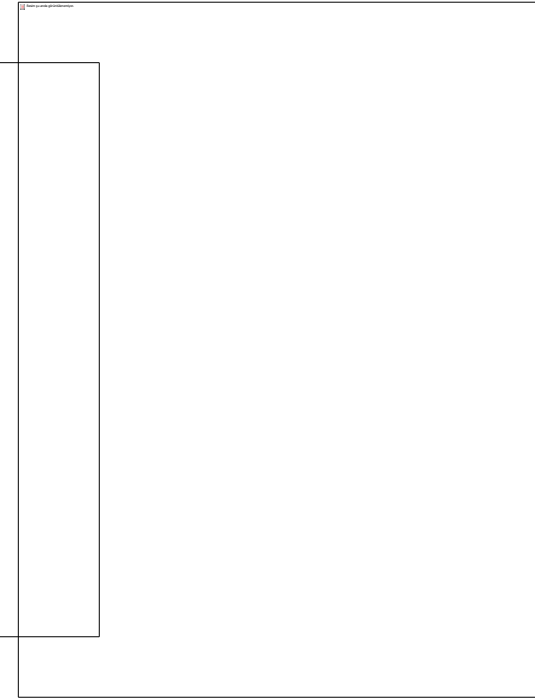
- Amerika ARDP



1959



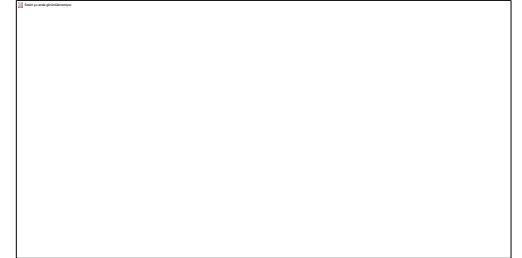
82 merkez



ISBT 16 ülke entegre

2

- ARC (American Red Cross)
- AABB (American Association of Blood Banks)
- ARDP (American Rare Donor Program)
- 1998 yılında 2 kurum veri tabanı
- 51.000 nadir kan grubu donör
- 1800 ünite/yıl nadir ES, ülke içi



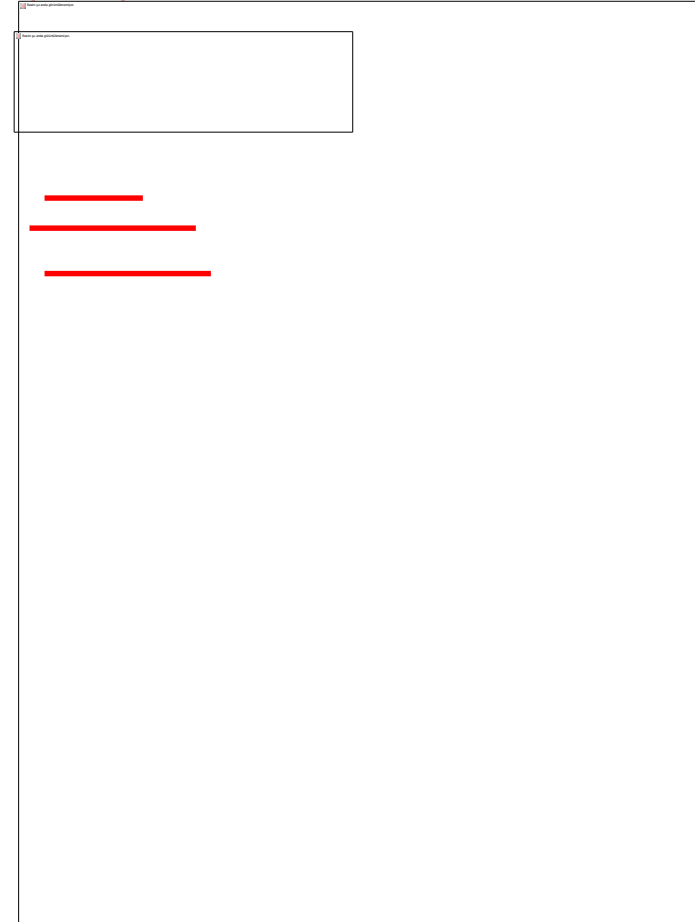
2

- İmmunohematoloji Referans Laboratuvarı (IRL)

- Kompleks hasta
- Donör

- ARDP

- Multiple tek. eritrosit Ag karşı gelişen Ab
- Moleküler genetik metod kullanarak Ag tipleri
- 7/24
- Konsültasyon
- Taze, Dondurulmuş ES
- ISBT FDA onayıDonör sorgu....
- NAT/PCR testleri
- Aile bireyleri Ag analizi
- Otolog / Homolog stok





Dünya Genelinde Nadir Kan Grupları Maaliyet Nasıl ?

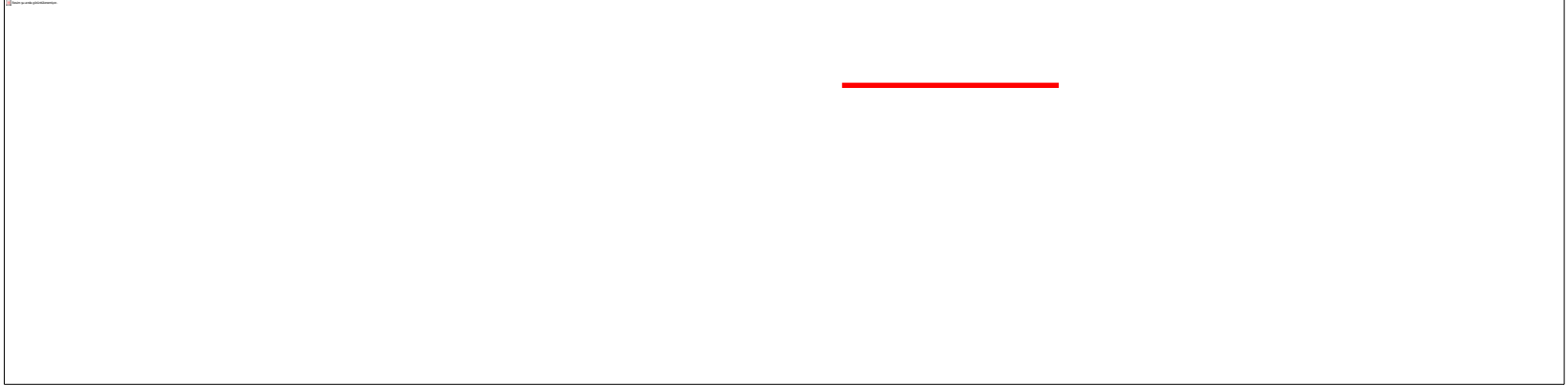
- IRL
- Amerika ARDP 82 merkez
 - İmmonohematoloji lab. yıllık ücret
 - Veritabanı donöre ulaşma
 - 7/24 konsültasyon
 - Ünite başı
 - Ab Tarama
 - Antijen testleri
 - Torba
 - Test
 - Depolama
 - Nakil

500\$ - 1200\$

925\$ - 1150\$



Nadir Kan Grupları Etkinliği ?



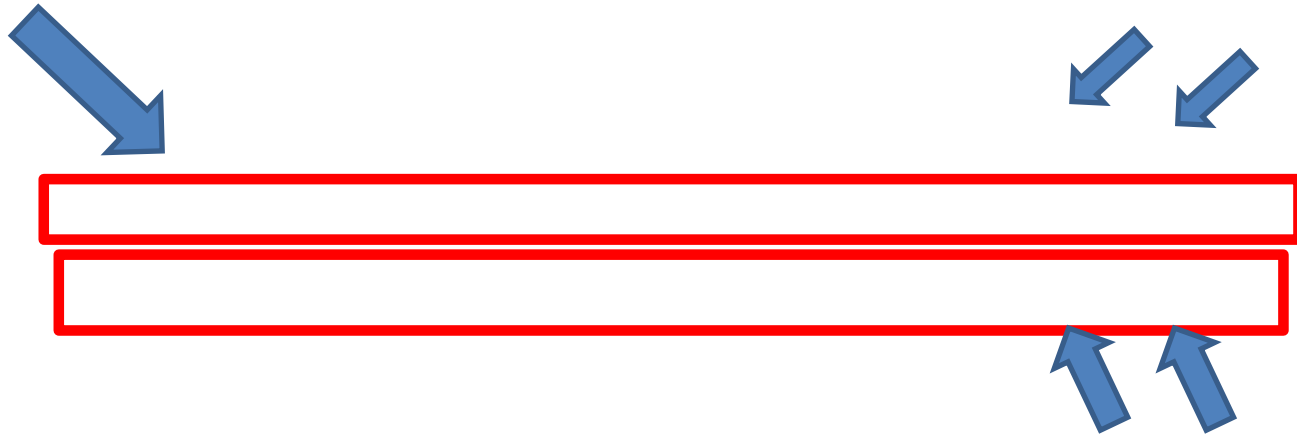
- ✓ ARDP kayıtlı 51 000 aktive donör
- ✓ Her zaman tüm ihtiyaçlar karşılanamamakta
- ✓ High Incidence (HI) antijen negatif
- ✓ U-D+, Js(b-), ve U-D-
- ✓ 88% 141 vakada
- ✓ %92 karşılanabilmekte

Nadir Kan Grupları Etkinliđi ?



The diagram consists of two horizontal red rectangular boxes stacked vertically. A blue arrow points down to the top box, and another blue arrow points up to the bottom box.

Nadir Kan Grupları Etkinliđi ?



Abstract ▼

Send to: ▼

Turk J Med Sci. 2015;45(3):638-43.

In vitro efficacy of frozen erythrocytes: implementation of new strategic blood stores to alleviate resource shortage (issue revisited).

Cetinkaya RA, Yilmaz S, Eker I, Ünlü A, Uyanik M, Tapan S, Pekoğlu A, Pekel AA, Ertaş Z, Gürsel O, Muşabak UH, Yilmaz S, Avcı İY, Çetin AT, Eyiğün CP.

Abstract

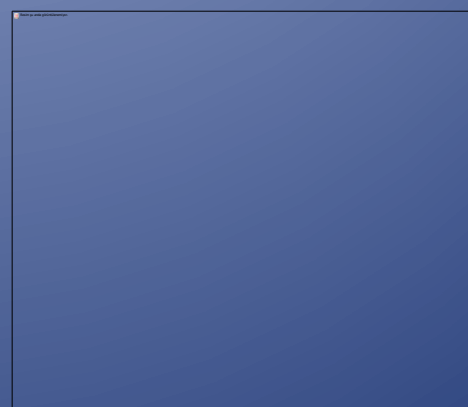
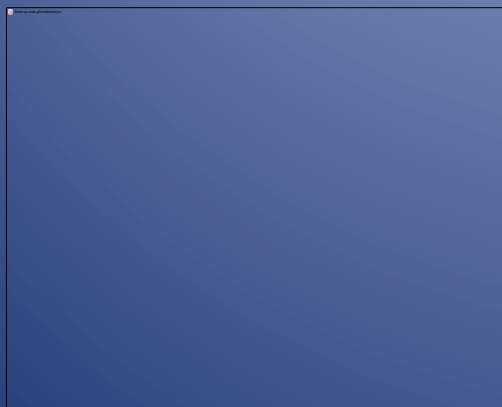
BACKGROUND/AIM: Currently, the provision of blood products largely depends on walking blood banks and limited amounts of stored blood with short shelf lives. We aimed to compare the efficacy of erythrocyte concentrate (ECs) by pre- and postfreezing in vitro tests.

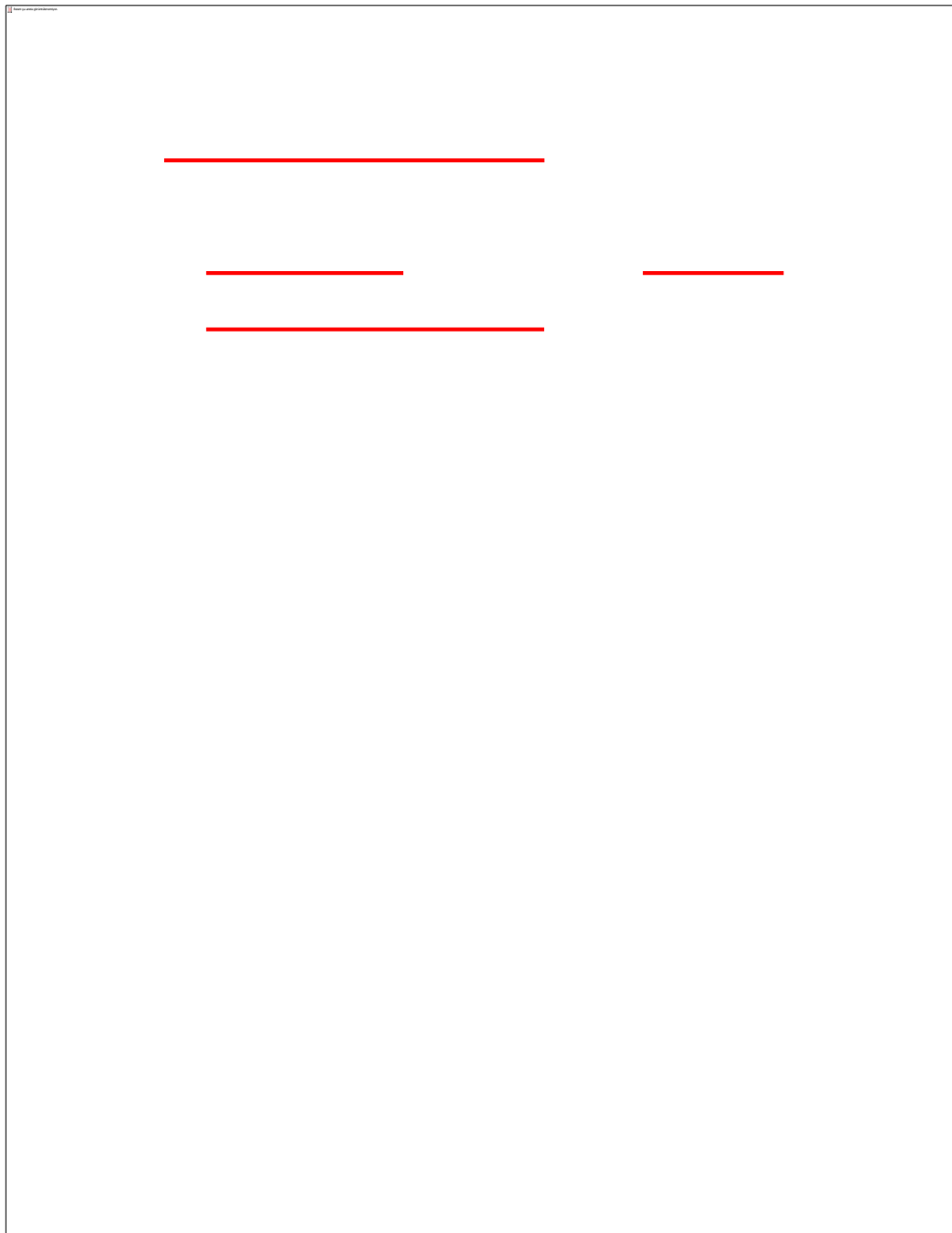
MATERIALS AND METHODS: In our study, 10 ECs were glycerolized, frozen, thawed, and then deglycerolized using the Naval Blood Research Laboratory method. In addition to using the standard tests, ATP and 2,3-DPG levels and the viability of erythrocytes were also determined.

RESULTS: The prefreezing mean viability rates of erythrocytes changed from $89.7 \pm 13.7\%$ to $98.6 \pm 1.8\%$ after thawing and deglycerolization. Prefreezing and day 0 ATP levels ($1.64 \pm 0.15 \mu\text{mol/g Hb}$ and $1.81 \pm 0.14 \mu\text{mol/g Hb}$, respectively) were similar. The 2,3-DPG levels decreased from $18.09 \pm 4.78 \mu\text{mol/g Hb}$ measured before the procedure to $10.41 \pm 4.58 \mu\text{mol/g Hb}$ on day 0. The mean hemolysis rates and supernatant Hb levels changed from $0.21 \pm 0.11\%$ to $0.36 \pm 0.12\%$ and $1 \pm 0.5 \text{ g/L}$ to $1.5 \pm 0.5 \text{ g/L}$, respectively.

CONCLUSION: The test results showed the efficacy of the frozen-thawed ECs to be used in humans for a broad spectrum of clinical indications. As a part of a contingency plan, national frozen blood reserves need to be established.

PMID: 26281332 [PubMed - indexed for MEDLINE]







Dondurulmuş Trombosit süsp. hemostatik fonksiyonunu, literatürde ilk kez olarak invitro ortamda da trombin jenerasyon testi ile göstermeyi başardık



Tartışma

- İmmünohematoloji referans laboratuvar (IRL)
 - Donör/Hasta
 - Multiple teknik kullanarak eritrosit antijenlerine karşı gelişen Ab
 - Moleküler genetik metod kullanarak Ag tipleri
- Uluslararası akreditasyon
- İtalya , ABD örneklerinde
- Kızılay bünyesinde yada bağımsız NADİR KAN GRUP PROĞRAMI
- Ülke içi merkezlerin KIZILAY sistemi entegresyonu
- ARDP, ISBT nadir kan grup entegre
- Dondurulmuş eritrosit ve trombosit süspansiyon stokları
- Yeni rehberin onayı