بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

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في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

ANTENATAL SCREENING FOR SOME ALLOANTIBODIES: EVALUATION OF THE AUTOMATED MICROTYPING GEL SYSTEM

Thesis
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HDN	Haemolytic disease of the newborn.
IAT	Indirect antiglobulin test.
AHG	Anti human globulin test.
DAT	Direct antiglobulin test.
PNH	Paroxysmal nocturnal haemoglobinurea.
CAT	Column agglutination technology.
HLA	Human leucocytic antigen.
HEMPAS	Hereditary erythroblastic multinuclearity with positive acidified serum
RT	Room temperature.
HTR	Haemolytic transfusion reaction.
LISS	Low ionic strength saline.
PCR	Polymerase chain reaction.

INTRODUCTION

Blood Group Systems and Blood Groups

Since Landsteiner's discovery in 1901 that human blood groups existed, a vast body of serological, genetic and more recently biochemical data in red cell blood-group antigens has been accumulated.[1]

About 600 red cell antigens have been described, most of which have been assigned to well defined blood-group system. Almost all blood-group antigens are expressed as co-dominant antigens i.e. both genes are expressed in the heterozygote. Some blood-group genes have been assigned to specific chromosomes e.g. ABO system on chromosome 9 and Rh system on chromosome 1.[1]

The clinical importance of a blood-group antigen depends on the frequency of occurrence of the corresponding antibody and its ability to haemolyse red cells in vivo. On these criteria the ABO and the Rh systems are of major importance. Anti A and anti B occur regularly and are capable of causing severe intravascular haemolysis after an incompatible transfusion. The Rh D antigen is the most immunogenic red cell antigen after A and B antigens, being capable of stimulating anti D production after transfusion or pregnancy in the majority of Rh D-negative individuals.[1]

ABO System:

There are four main blood groups: A, B, AB and O. The presence of A or B antigens on red cells is determined by the

inheritance of the allelic genes A, B and O on chromosome 9, which are inherited in pairs as Mendilian dominants.[2] The relation between ABO phenotypes and genotypes is shown in table 1.

Phenotype	Genotype
A	AA AO
B	BB BO
AB	AB
O	OO

Table 1 : Different phenotypes and genotypes for ABO system.

The cellular expression of A and B is determined by a further gene (the H gene) which is inherited independently and it codes for an enzyme that converts a carbohydrate precursor into H substance on which the A and B gene products act. The A and B genes code for specific enzyme (glycosyl transferase) which converts H substance into A and B antigens by the terminal addition of N-acetyl-D-galactosamine and D galactose respectively. The O gene is a silent allele which doesn't produce an active transferase, so that H substance persists unchanged in group O. In the extremely rare Oh Bombay phenotype, the H genotype is silent (hh) and no H-transferase is produced; consequently no H substance is made and therefore A and B genes if present cannot be expressed.[1]