

Why are there blood types? why did the antigens develop in the first place? what account for difference in blood types? What account for larger number of rarer non-abo blood types? what role blood types have in fighting disease?

Kunal Joon^{1*}¹MSc master's virology Jhajjar, Haryana, India***Corresponding Author**

Kunal Joon, MSc master's virology Jhajjar, Haryana, India.

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Abstract**DNA Analysis of human**

Gene on chromosome 22 and gene on chromosome 9 tells blood group formation

Types of Blood group

- 1) A
- 2) B
- 3) AB
- 4) O

Male Gene combination of chromosome 22 and female gene chromosome 22

Gene combination on chromosome 9 of male and female

EXPERIMENT 1**AIM:CHECKING BLOOD GROUP OF PEOPLE**

MATERIALS :TOOTHPICK,BLOOD SAMPLE ,ALCOHOL SOAP,LANAT,CLEAN GLASS SLIDE , STERILE COTTON BALLS , BIOHAZARD DISPOSAL CONTAINERS , MONOCLONAL ANTIBODIES

PROCEDURE

- 1) First take a glass slide and mark three circles on it after cleaning the slide
- 2) Unpack the monoclonal antibodies (mab) kit.Now with the help of dropper ,add the anti A,anti B And anti O in the first ,second and third circle .
- 3) You need to prick the ring finger tip with the lanat and cripe off the first drop of blood
- 4) As blood starts flowing out , allow it to fall on the three circle of glass slide by gently pressing the finger tips .
- 5) We must apply pressure on the pricked part in order to stop the blood
- 6) Mix the Blood sample gently with the help of toothpick

OBSERVATION

- 1) Blood will cogaluate
- 2) RARE BLOOD GROUP INCLUDED IN SUB CLASS CAN BE DISTINGUISHED.

ORIGIN OF BLOOD

GASTRULATION iland is the source of formation of bonemarow and from here blood cells arises .

On the basis of studies of fossils and yolk sac .

ON STUDYING BODIES OF APES THE BLOOD CELLS FOUND IN IT

WERE NUCLEATED AND SO ITS PROVE THAT BLOOD DEVELOP FROM APES AND DEVELOP TO ENUCLEATED IN HUMANS

(HUMAN GENOME PROJECT)**DNA ANALYSIS OF HUMAN GENOME FOR BLOOD GROUP****CHROMOSOME 9**

- 1) 138 MILLION BASE
- 2) ABO: ABO HISTO BLOOD GROUP GLYCOTRANSFER-ASE
- 3) RESPONSIBLE FOR ABO BLOOD GROUP

CHROMOSOME 22

49 MILLION BASE PAIR
RESPONSIBLE FOR RH BLOOD GROUPS

RARE BLOOD GROUP CASES

IT is due to deffect in genetic combination on chromosome 22(GULTA-1) and chromosome 9(abo histo)
It causes secretion of differnet protein which lead to formation of rare blood group .

TYPES OF BLOOD GROUPS

- 1) **RH(CHROMOSOME 22)**
- 2) **ABO(CHROMOSOME 9)**
- 3) **RARE BLOOD (CHROMOSOME 9 AND CHROMOSOME 22)**

DISEASE ANTICIPATION OF BLOOD GROUPS

IT can be decided by testing antigen and antibody of blood group

by opposite blood group fusion
(in case of dna forward rolling)

ANTIGEN DEVELOPMENT

Antigen are developed to develop a body's immune response towards foreign agent

To analysis body's component prevent autoimmune disorders

So therefore antigen failure in detection lead to autoimmune disorders

Can be prevented by DNA editing

By analysing defected gene or deactivating recessive gene activated due to stimulation in surrounding\

DNA DEFFECT THEORY

IN activation of dominant gene or activation of recessive gene lead to formation of rare blood group (DNA backward rolling)

ROLE OF BLOOD GROUP FIGHTING DISEASE

CASE OF AB BLOOD GROUP

PLASMA IS FREE FROM A AND B ANTIBODY

PLASMA CAN BE DONATED TO ANY BLOOD GROUP

SO ANTIBODIES WORK IN ANY VIRAL , BACTERIAL , OR ANY INFECTION

CASE OF B BLOOD GROUP

RESISTANCE TO ANY SECRETORY INFECTION LIKE INFECTION CAUSED HIV-1

,HAMEOPHILUS INFELUENZA ,NESSERIA MENEGITIOUS AND STREPTOCOCCUS PNEMOUNIAE

CASE OF A BLOOD GROUP

RESISTANCE TO VIRAL INFECTION

CASE OF O BLOOD GROUP

RESISTANCE TO BACTERIAL INFECTION LIKE MALARIA

WHY FREQUENCY OF RARE BLOOD GROUP INCREASE ?

FREQUENCY OF RARE BLOOD GROUP INCERASES DUE TO INCREASE IN THE SUSPECTIBILITY OF THEIR DISEASE .

WHY ANTIGEN WERE FORMED IN BLOOD GROUP?

BLOOD GROUP THEORY

ANTIGEN FORMATION TAKES PLACE FIRST AS IT LIKELY

TO ACT AS A BODY CELL ACCEPTOR

IT MAKES ALL ANIMALS UNIQUE IN BLOOD GROUP
ANTIGEN ACT AS A FACTOR OF RECOGNISING FACTOR OF BLOOD GROUP

THERE IS A ANTIGEN FOR RH

TYPES OF ANTIGEN

- 1) A ANTIGEN
- 2) B ANTIGEN
- 3) AB ANTIGEN
- 4) O ANTIGEN
- 5) RH ANTIGEN

A ANTIGEN

A ANTIGEN RECOGNISE ONLY A RED BLOOD CELLS AND O BLOOD CELLS .

TWO TYPES

- 1) A+ (DUE TO PRESENCE OF RH ANTIGEN)
- 2) A- (DUE TO ABSENCE OF RH ANTIGEN)

B ANTIGEN

ONLY RECOGNISE B RED BLOOD CELLS AND O RED BLOOD CELLS

TWO TYPES

- 1) B+(DUE TO PRESENCE RH ANTIGEN)
- 2) B- (DUE TO ABSENCE OF RH ANTIGEN)

AB ANTIGEN

RECOGNISE ANY BLOOD CELLS A,B,AB AND O

TWO TYPES OF AB ANTIGEN

- 1) AB + (DUE TO PRESENCE OF RH ANTIGEN)
- 2) AB- (DUE TO ABSENCE OF RH ANTIGEN)

O ANTIGEN

RECOGNISE ONLY O BLOOD CELLS

TWO TYPES O ANTIGEN

- O+ (DUE TO PRESENCE OF RH ANTIGEN)
- O- (DUE TO ABSENCE OF RH ANTIGEN)

RH ANTIGEN

IT IS KNOWN AS RHESUS MONKEY ANTIGEN RECOGNISE ONLY RHESOUS MONKEY FACTOR IN BLOOD CELLS

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