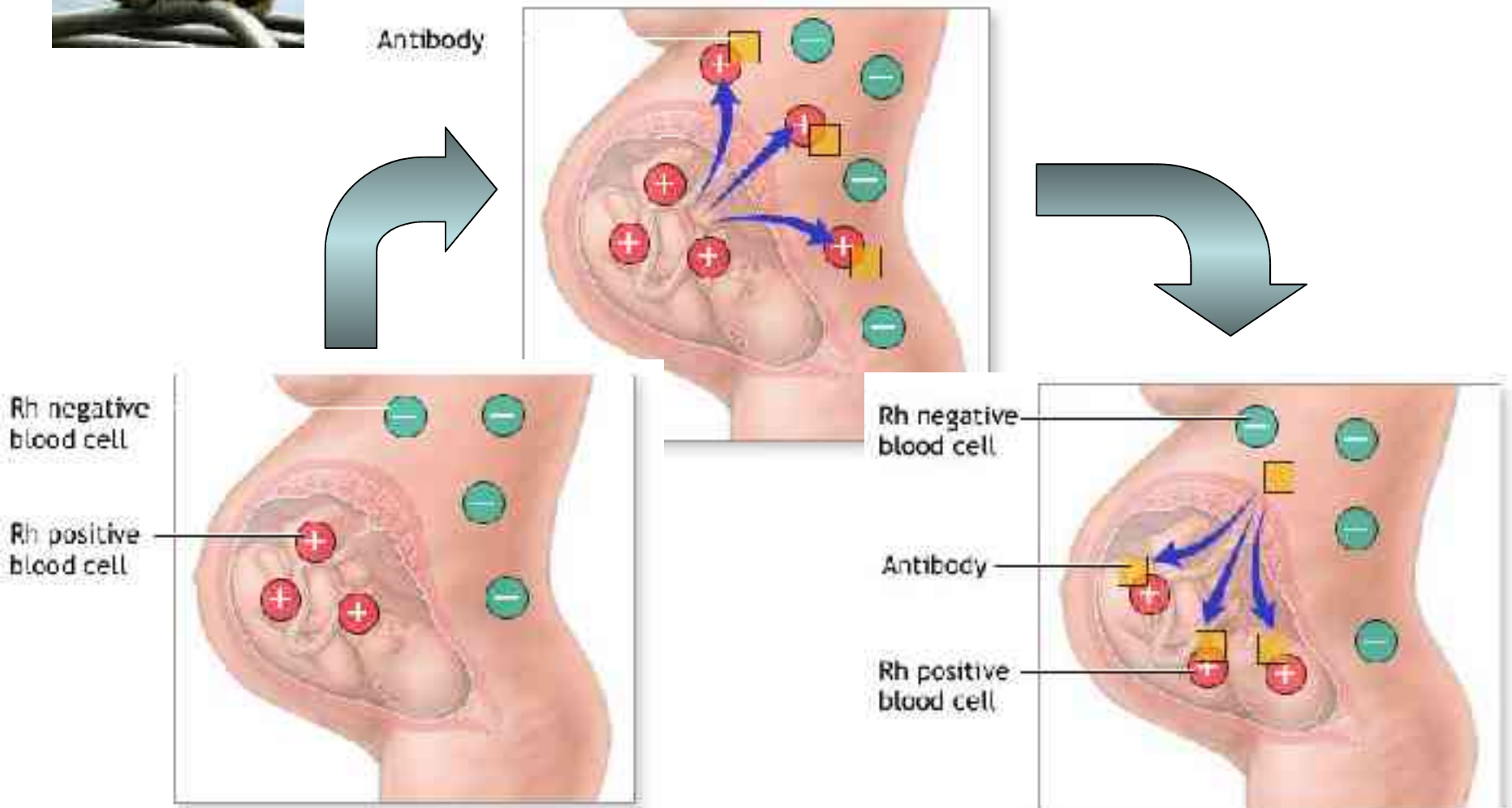


Immunogenetics II



Rhesus system incompatibility



Rh system incompatibility

TASK 4, p. 153

Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

FATHER's Rh genotype

MOTHER's Rh genotype

I.

cDe/cde 


cDe/Cde 


Possible Rh genotypes of the fetus

	D	d
D	Rh+	Rh+
d	Rh+	Rh-

SOLUTION:

no risk, mother is Rh+.

Rh system incompatibility

TASK 4, p. 153

Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

FATHER's Rh genotype

MOTHER's Rh genotype

II.

CDe/CDe

Rh+

Cde/cde

Rh-

Possible Rh genotypes of the fetus

	d	d
D	Rh+	Rh+
D	Rh+	Rh+

SOLUTION:

Mother is Rh- , fetus Rh+

Incompatibility in 100% cases.

Rh system incompatibility

TASK 4, p. 153

Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

FATHER's Rh genotype

MOTHER's Rh genotype

III.

cDe/cde

Rh+

cdE/Cde

Rh-

Possible Rh genotypes of the fetus

	d	d
D	Rh+	Rh+
d	Rh-	Rh-

SOLUTION:

Mother is Rh- , fetus either Rh+ (50%) or Rh- (50%).

Incompatibility in 50% cases.

Rh system incompatibility

TASK 4, p. 153

Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

FATHER's Rh genotype

MOTHER's Rh genotype

IV.

cde/cde

(Rh-)

cDE/cDe

(Rh+)

Possible Rh genotypes of the fetus

	D	D
d	Rh+	Rh+
d	Rh+	Rh+

SOLUTION:

no risk, mother is Rh+.

Rh system incompatibility

TASK 4, p. 153

Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

7

FATHER's Rh genotype

MOTHER's Rh genotype

I.

cDe/cde

cDe/Cde

II.

CDe/CDe

Cde/cde

III.

cDe/cde

cdE/Cde

IV.

cde/cde

cDE/cDe

Fetal erythroblastosis occurs in less than 10% incompatible pregnancies.

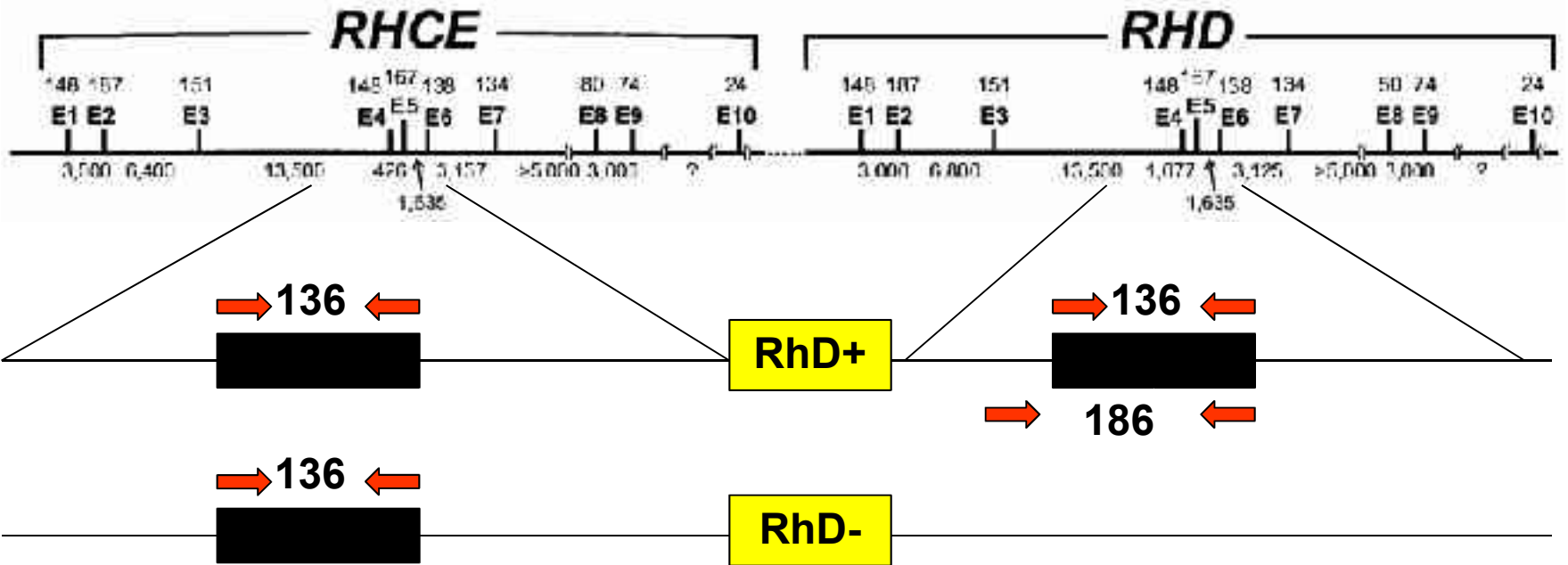
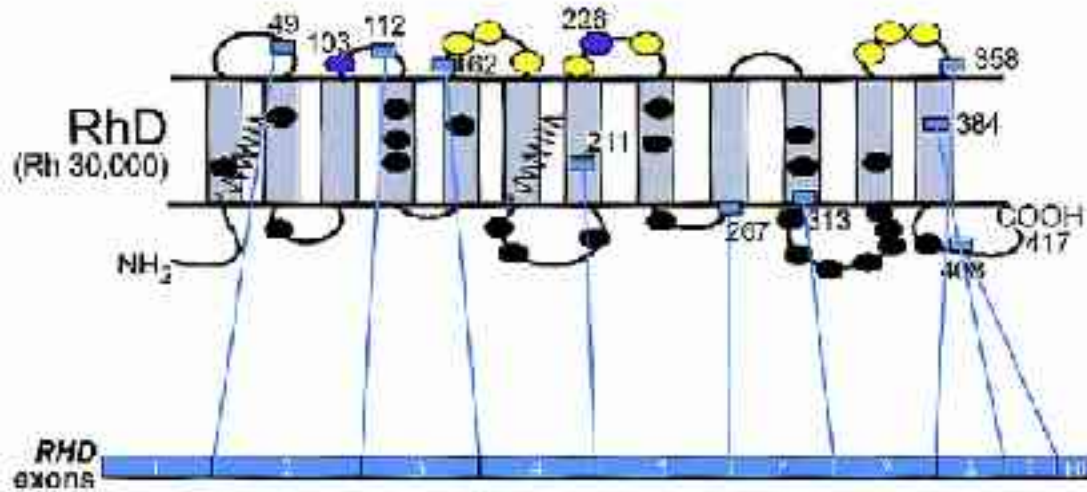
Rh system incompatibility

TASK 4, p. 153

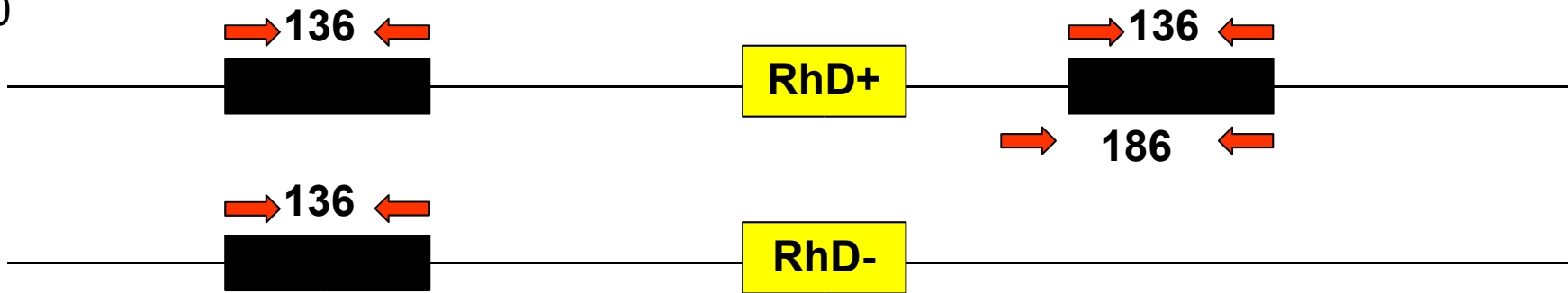
Does this parental Rh genotype combination pose a risk of mother-fetus incompatibility in any of the Cc, Dd or Ee antigens?

I.	ce/ce	ce/Ce
II.	Ce/Ce	Ce/ce
III.	ce/ce	cE/Ce
IV.	ce/ce	cE/ce

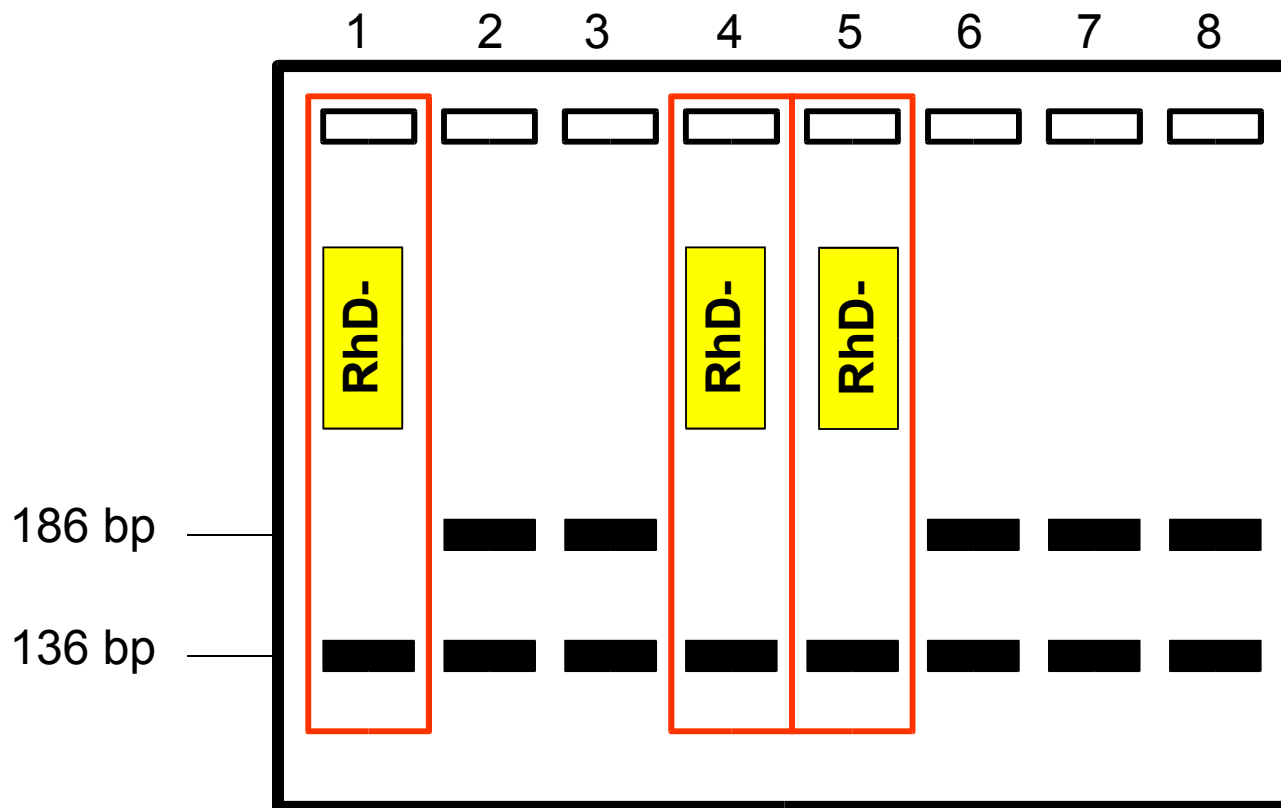
There is no risk of mother-fetus incompatibility in the antigens coded by the alleles C/c and E/e in any of the given parental combinations.



10

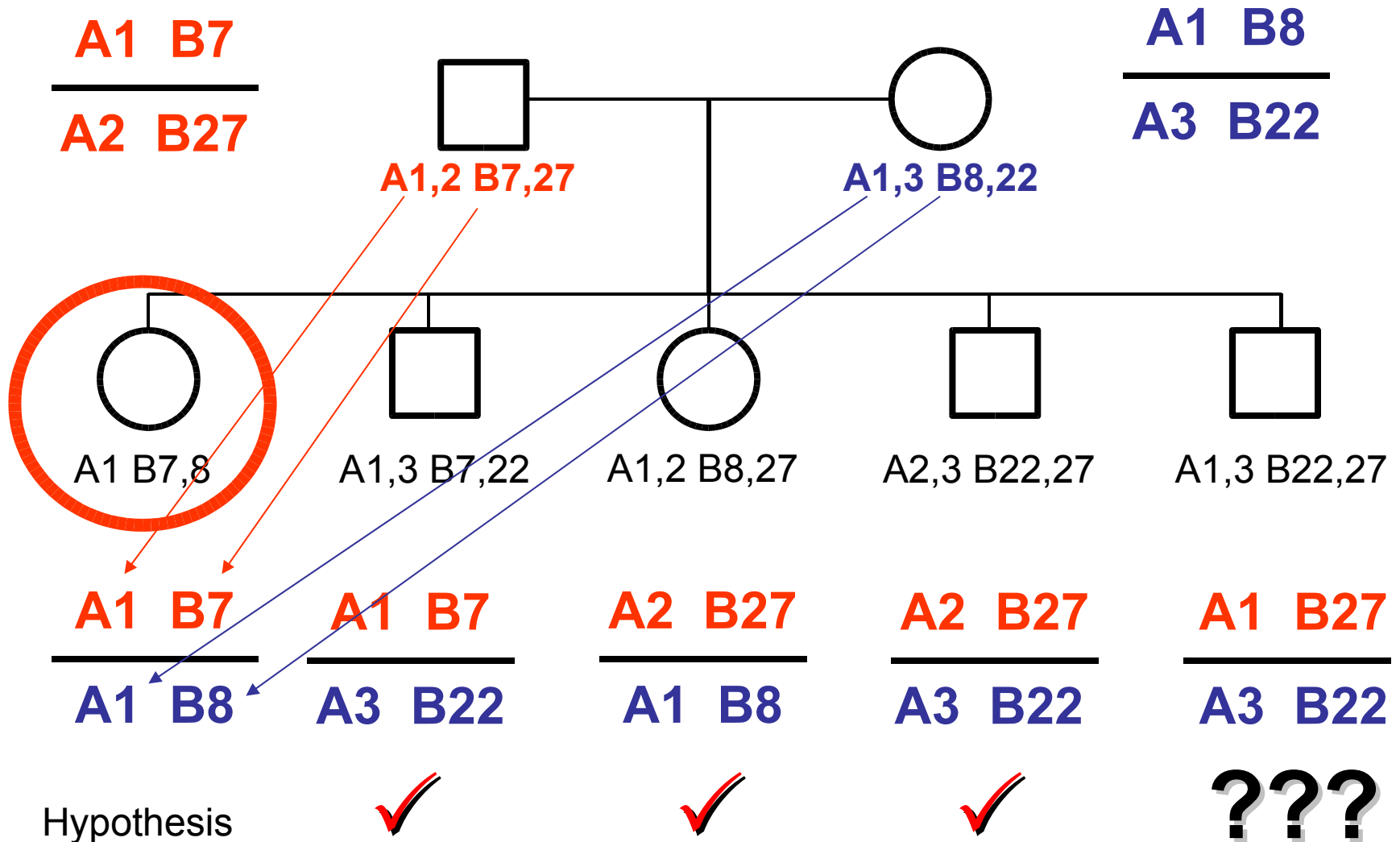


Identify the samples from Rh- people!



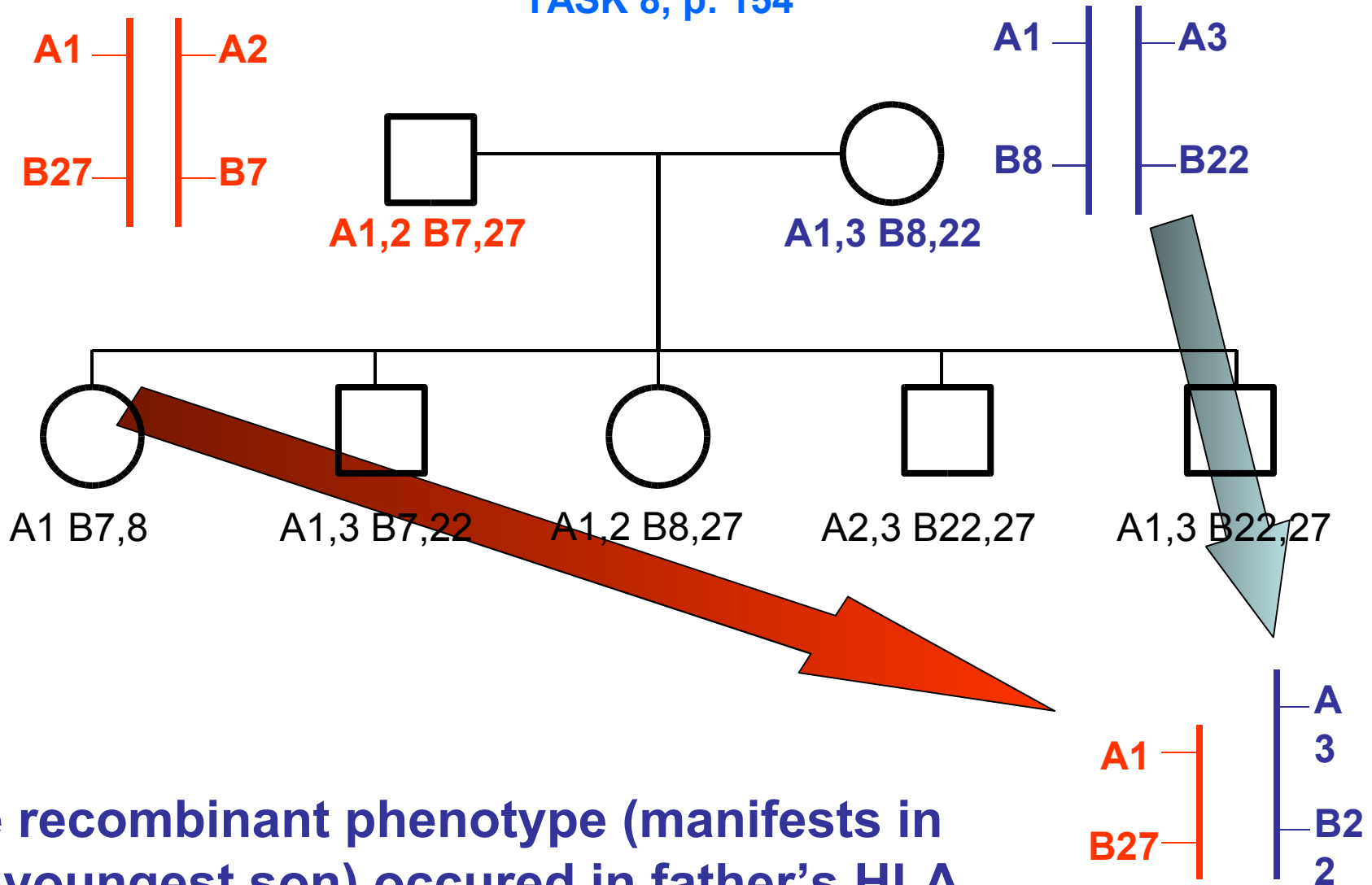
Inheritance of HLA haplotypes

TASK 8, p. 154



Inheritance of HLA haplotypes

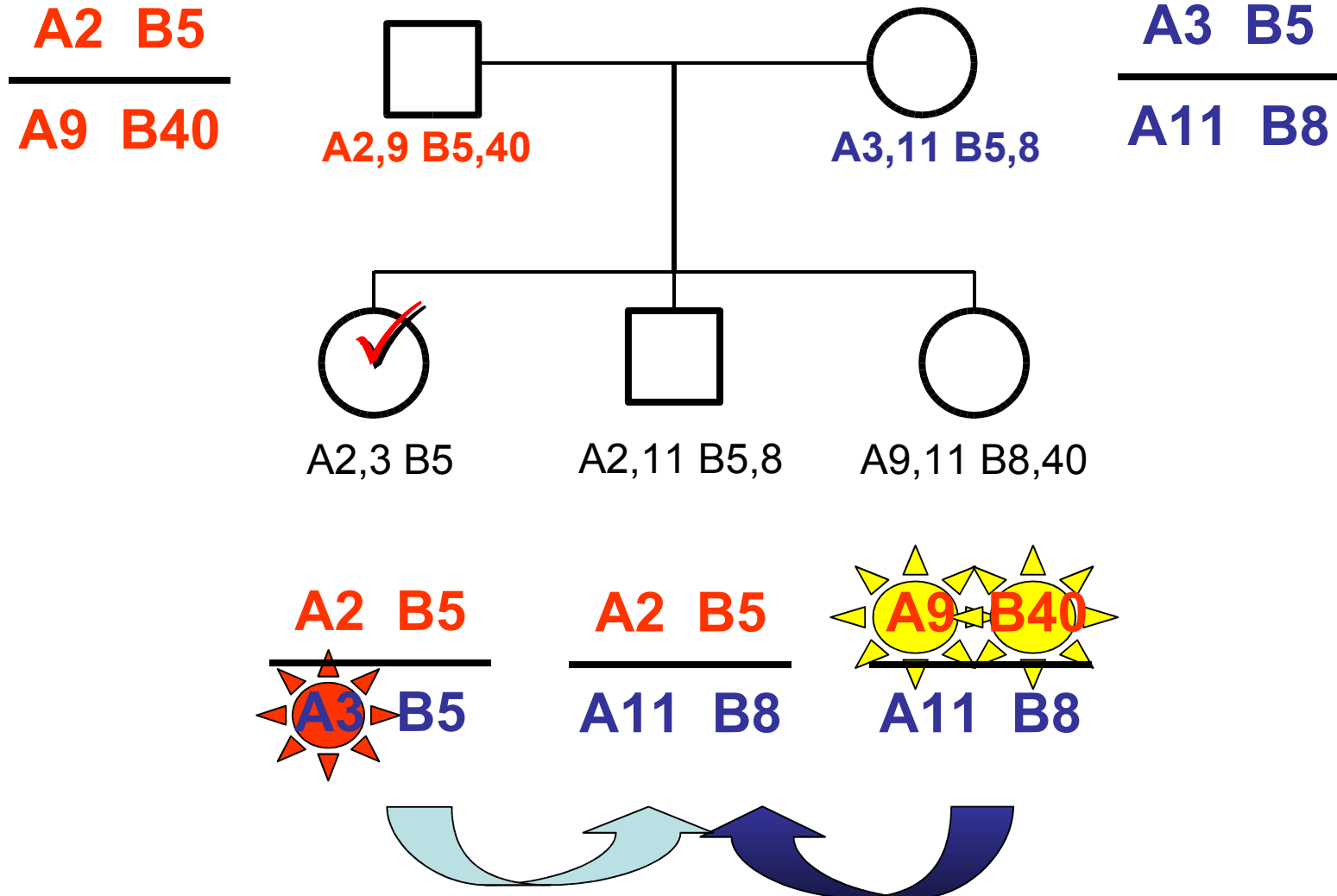
TASK 8, p. 154



The recombinant phenotype (manifests in the youngest son) occurred in father's HLA.

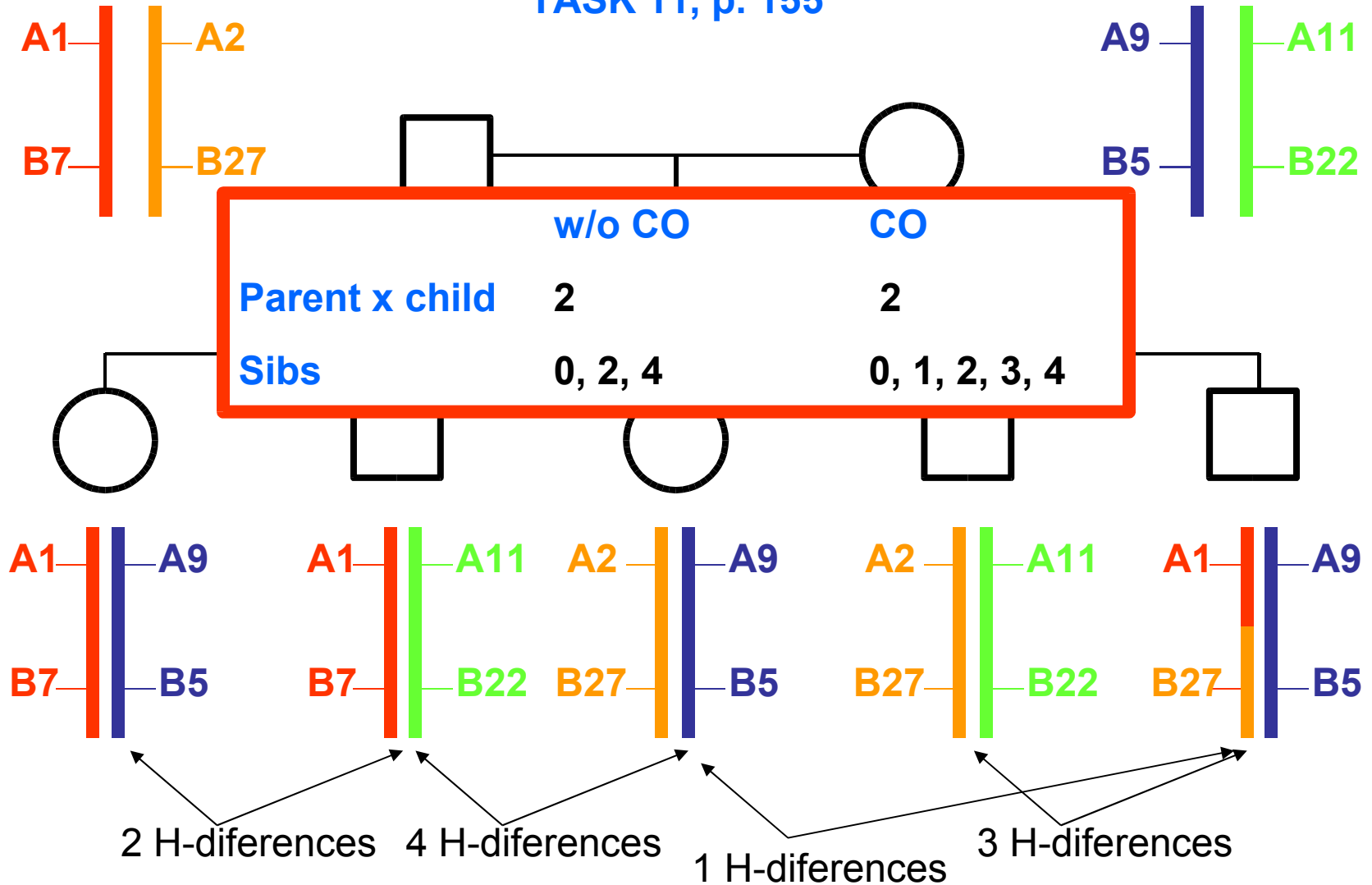
Inheritance of HLA haplotypes

TASK 9, p. 154

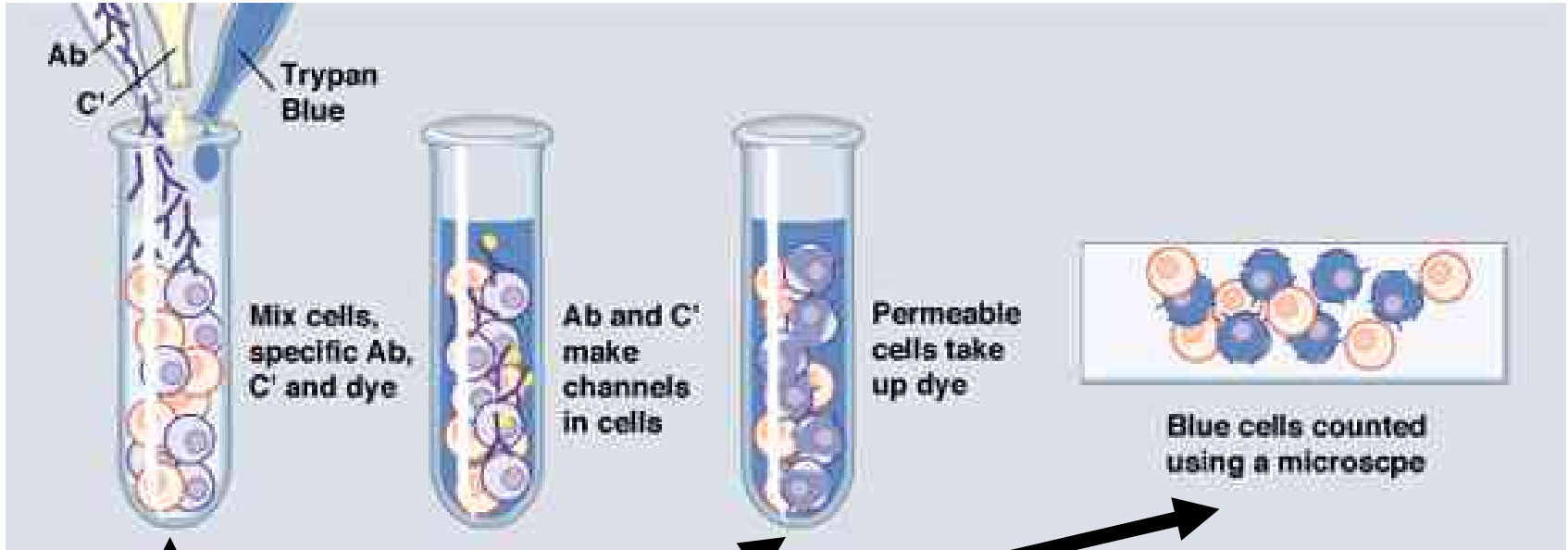


Inheritance of HLA haplotypes

TASK 11, p. 155



Microlymphocytotoxic test



Lymphocytes of peripheral blood

Specific antibody

Complement

Dye

37°C

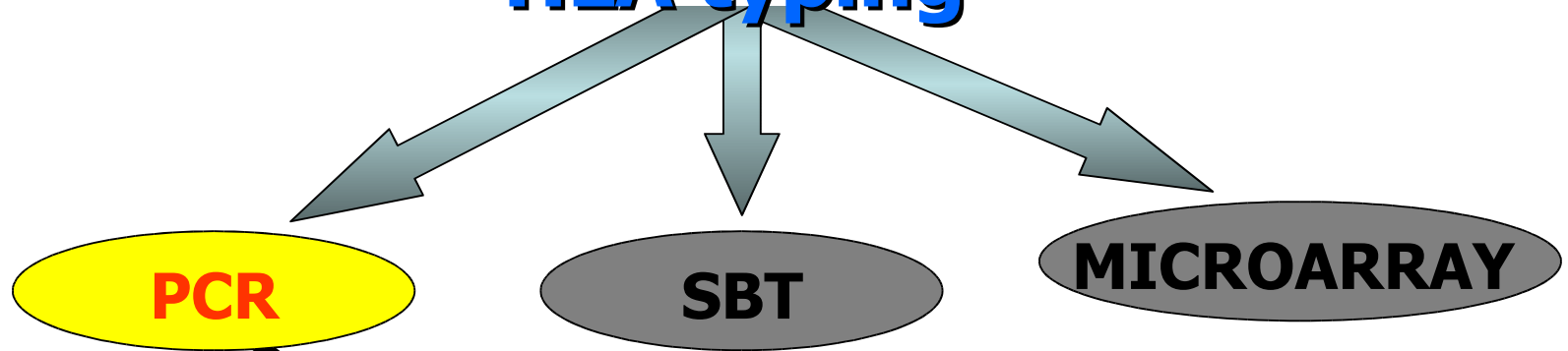
2hours

Positive reaction – part of cells dead - permeable for the dye

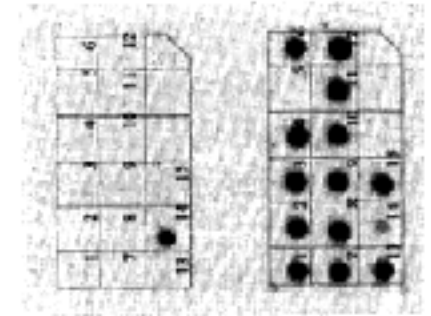
Negative reaction – live cells, not stained

Molecular genetic methods of

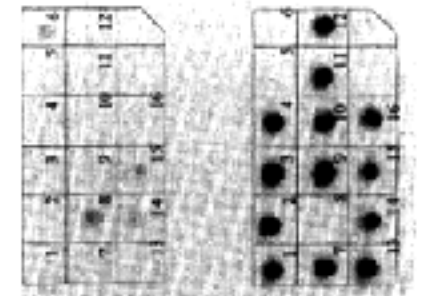
HLA typing



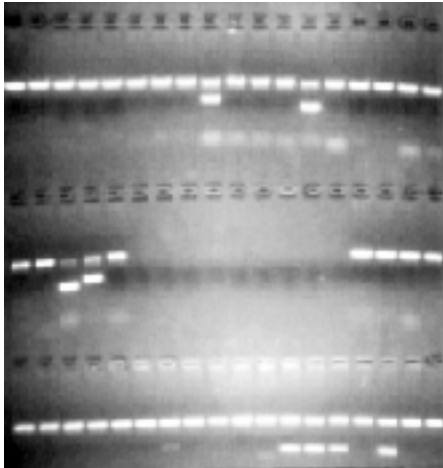
Polymerase **c**hain
reaction with
sequence-**s**pecific
oligonucleotides



PCR-SSO

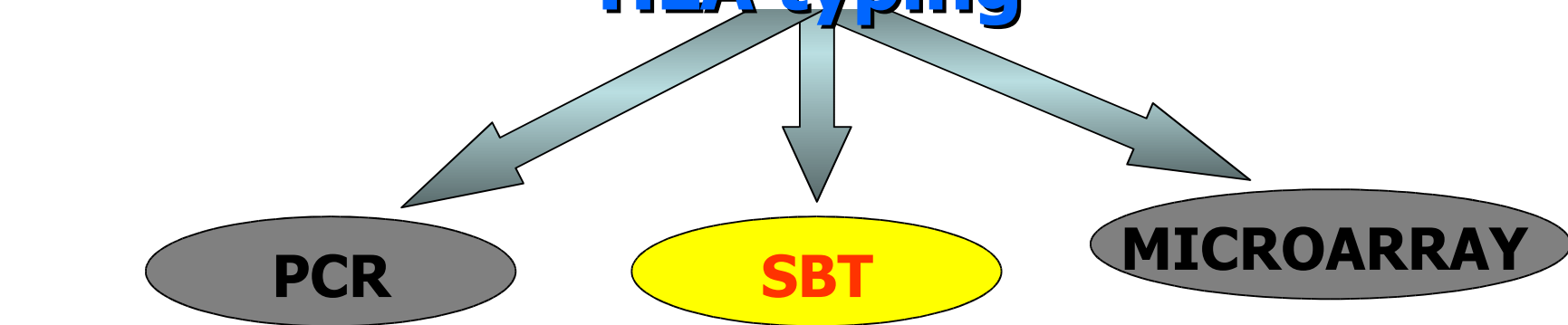


Polymerase **c**hain
reaction with
sequence-**s**pecific
primers

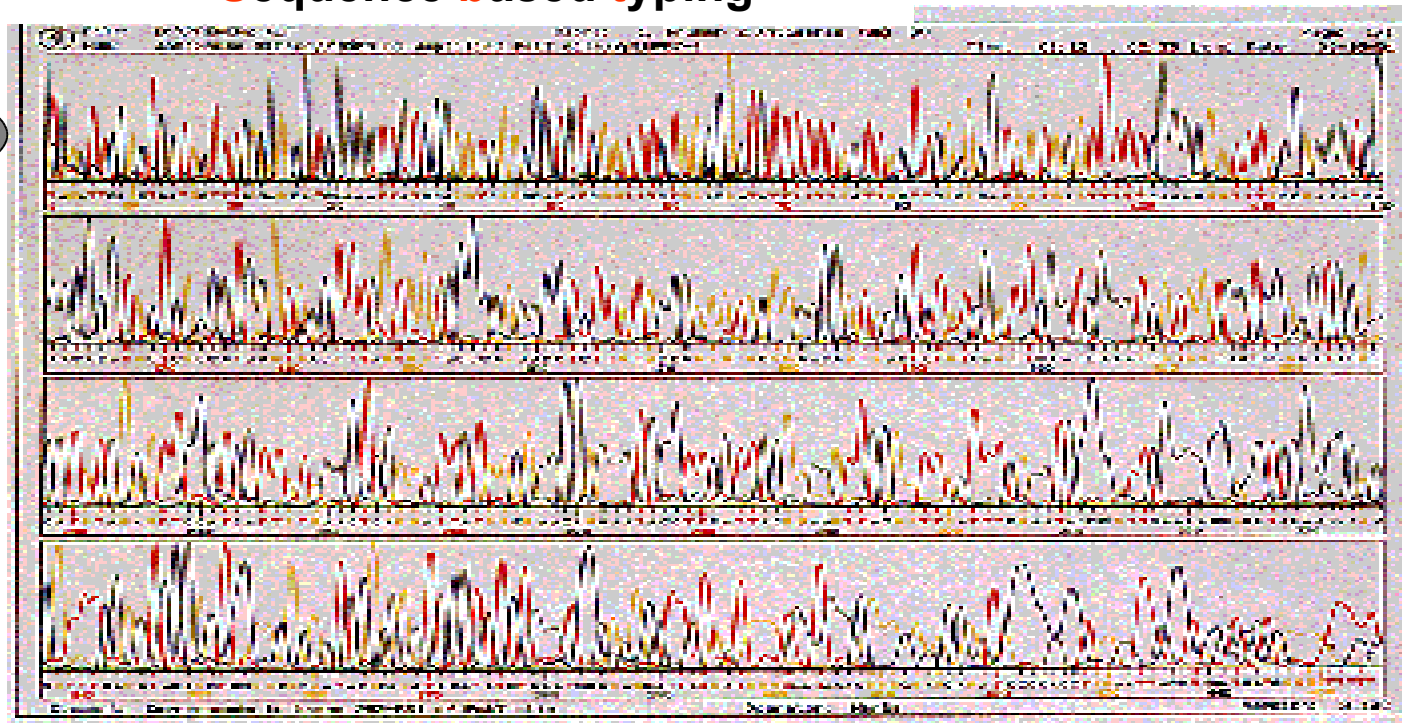


Molecular genetic methods of

HLA typing

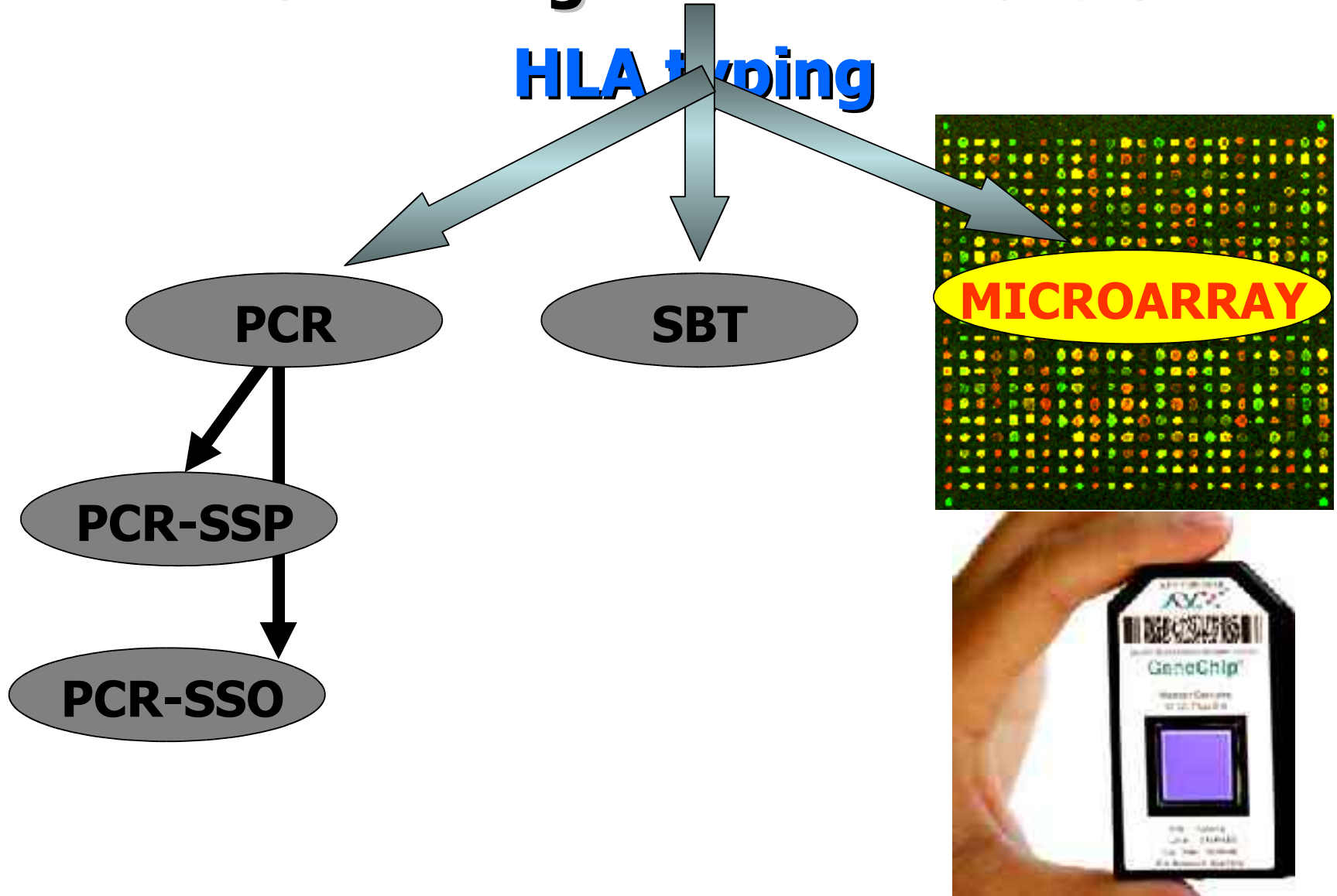


Sequence based typing



Molecular genetic methods of

HLA typing



Transplantation

Haematoxyline-eosine

skin

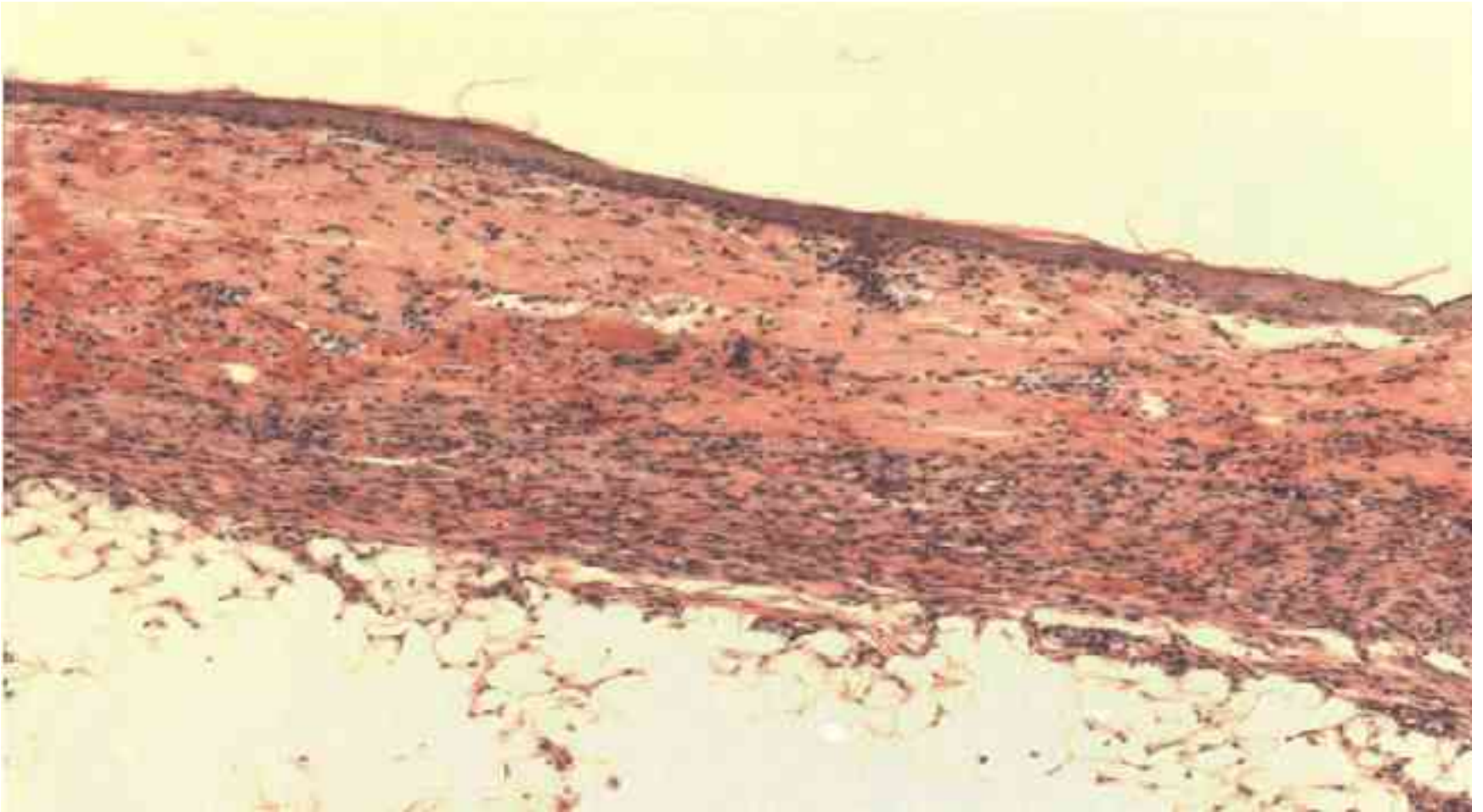
tumour

kidney

Syngeneic skin graft in the rat



Alogeneic skin graft in the rat



Alogeneic skin graft in the rat



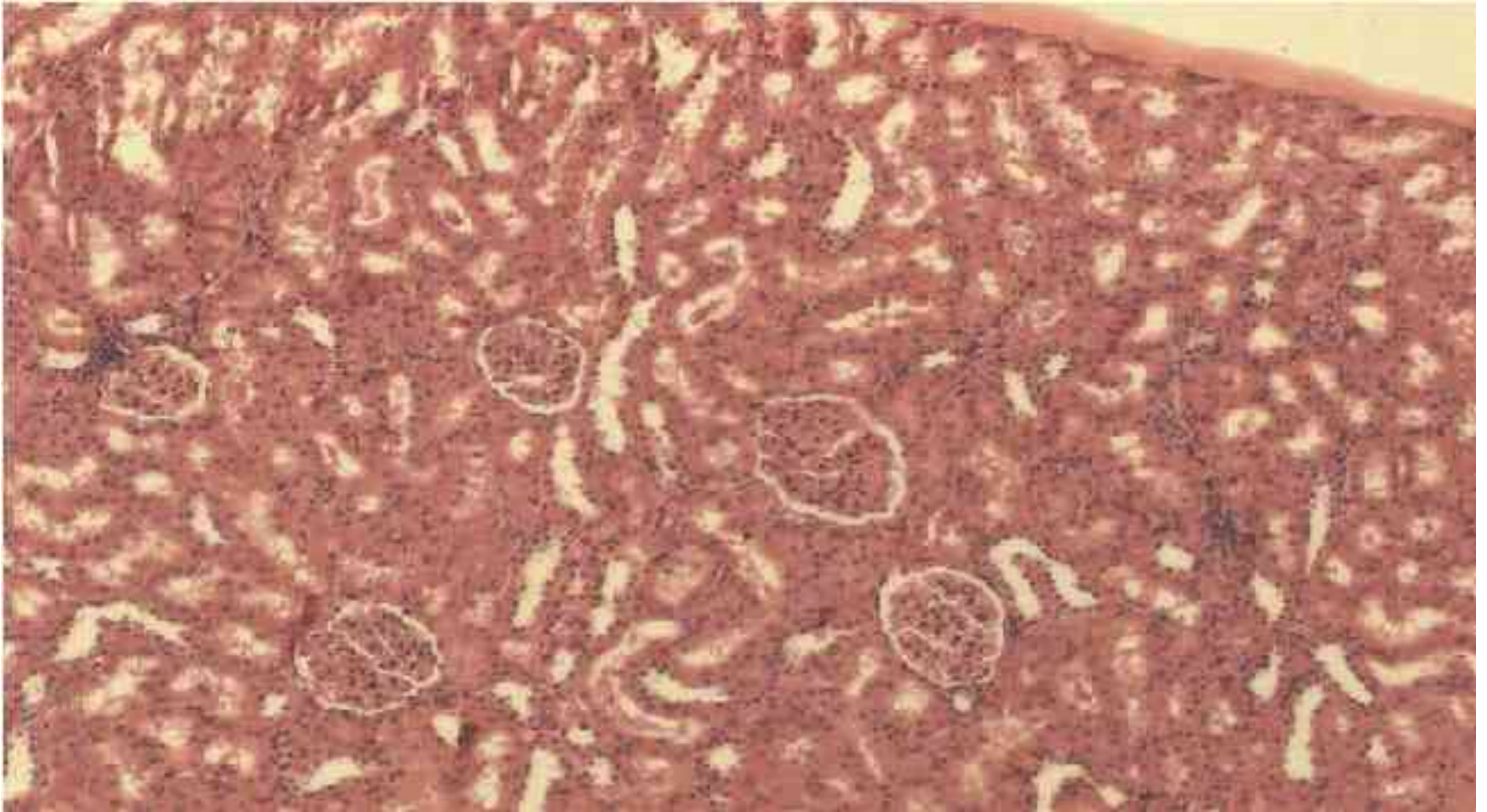
Syngeneic tumour transplant



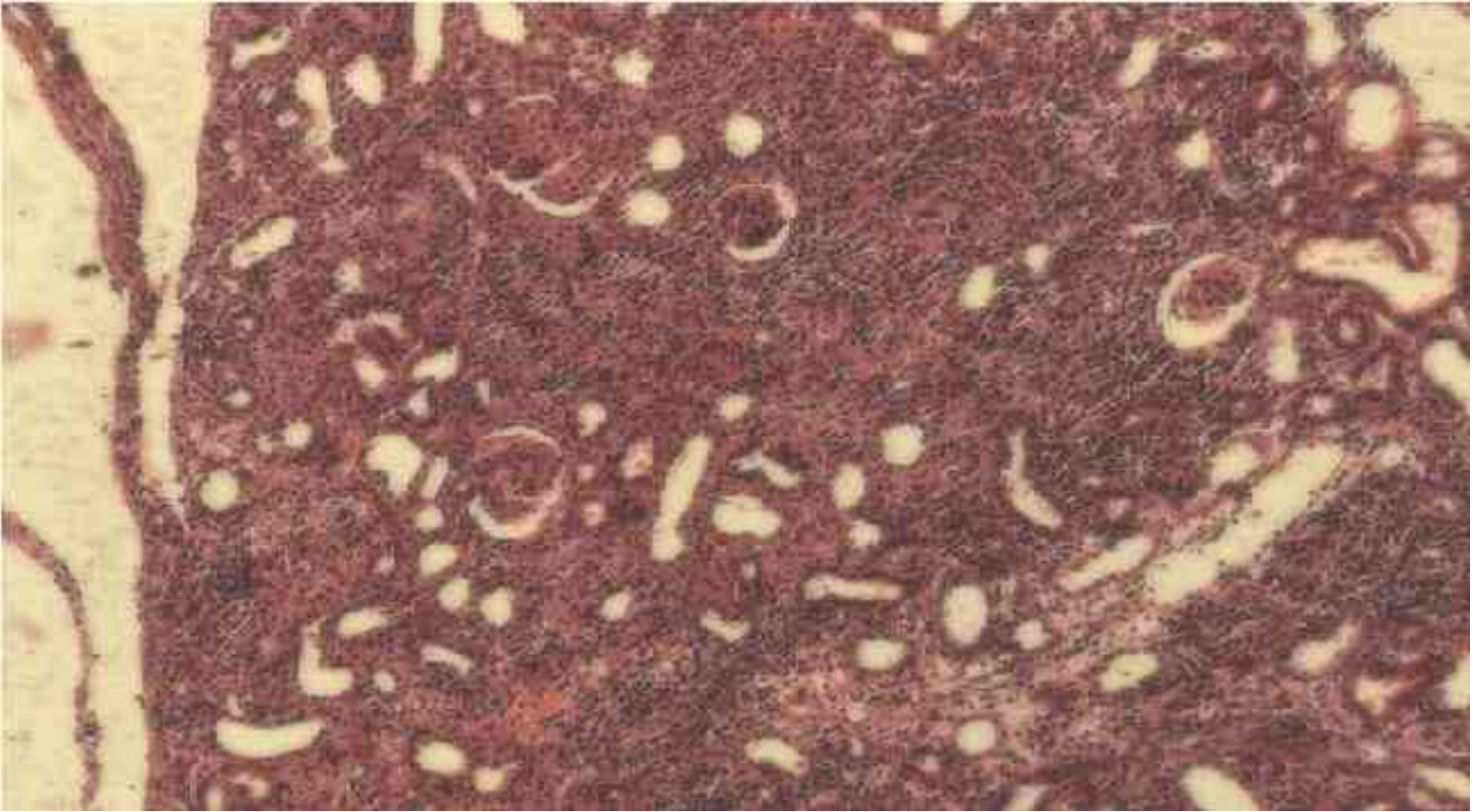
Tumour graft is being rejected by the allogeneic recipient



Syngeneic kidney transplant



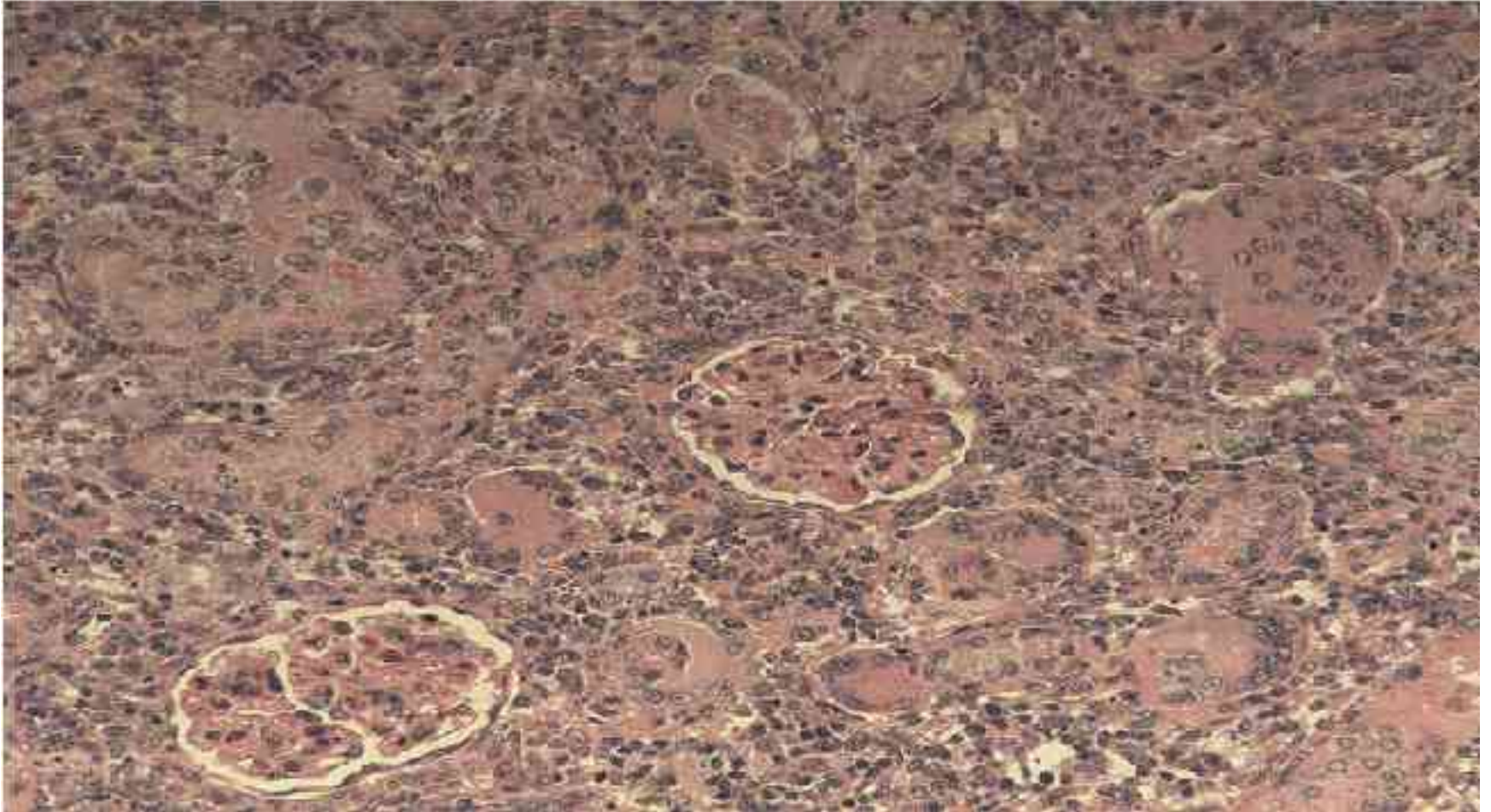
Allogeneic kidney transplant



Allogeneic kidney transplant



Allogeneic kidney transplant



Allogeneic kidney transplant

