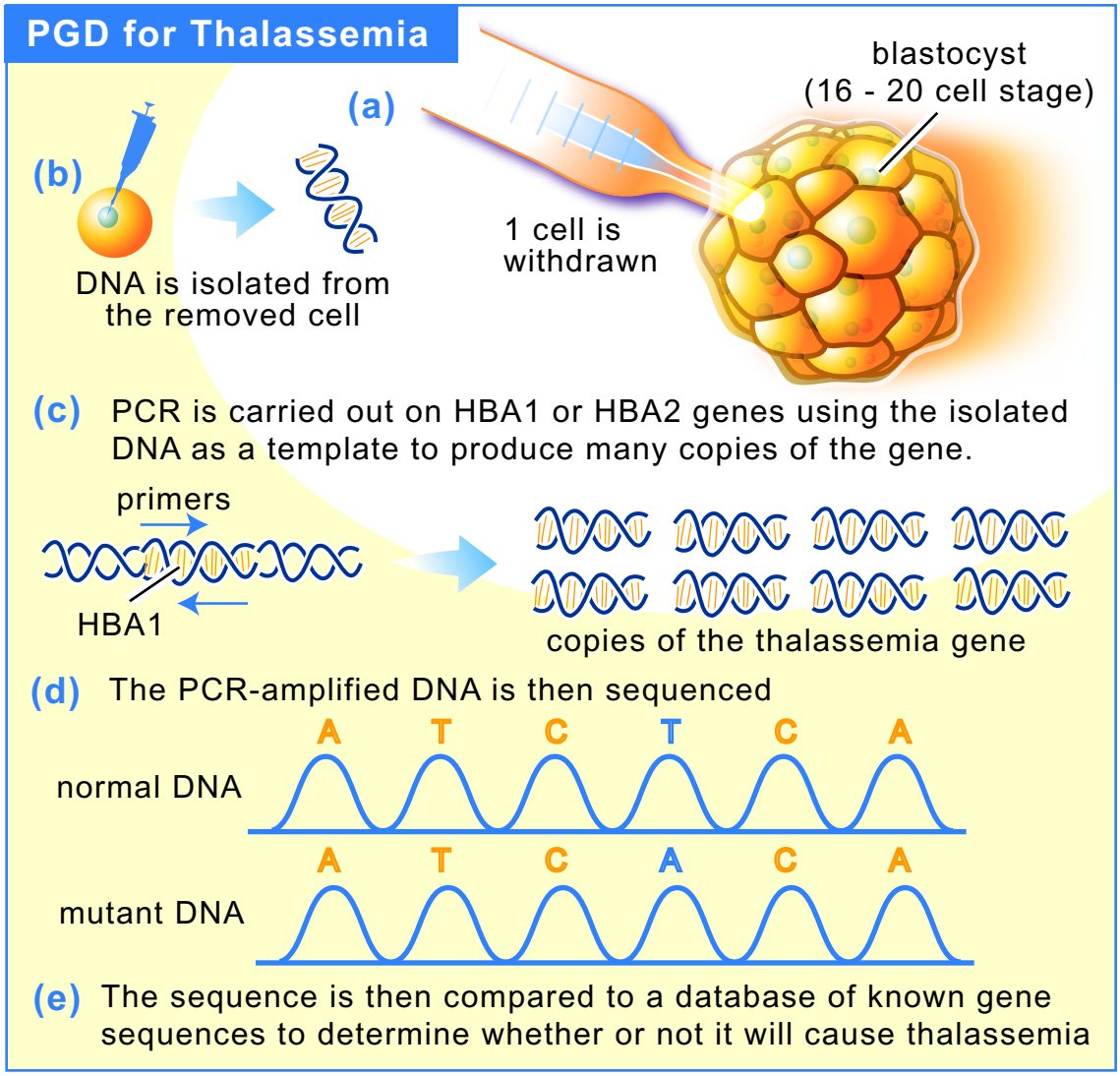
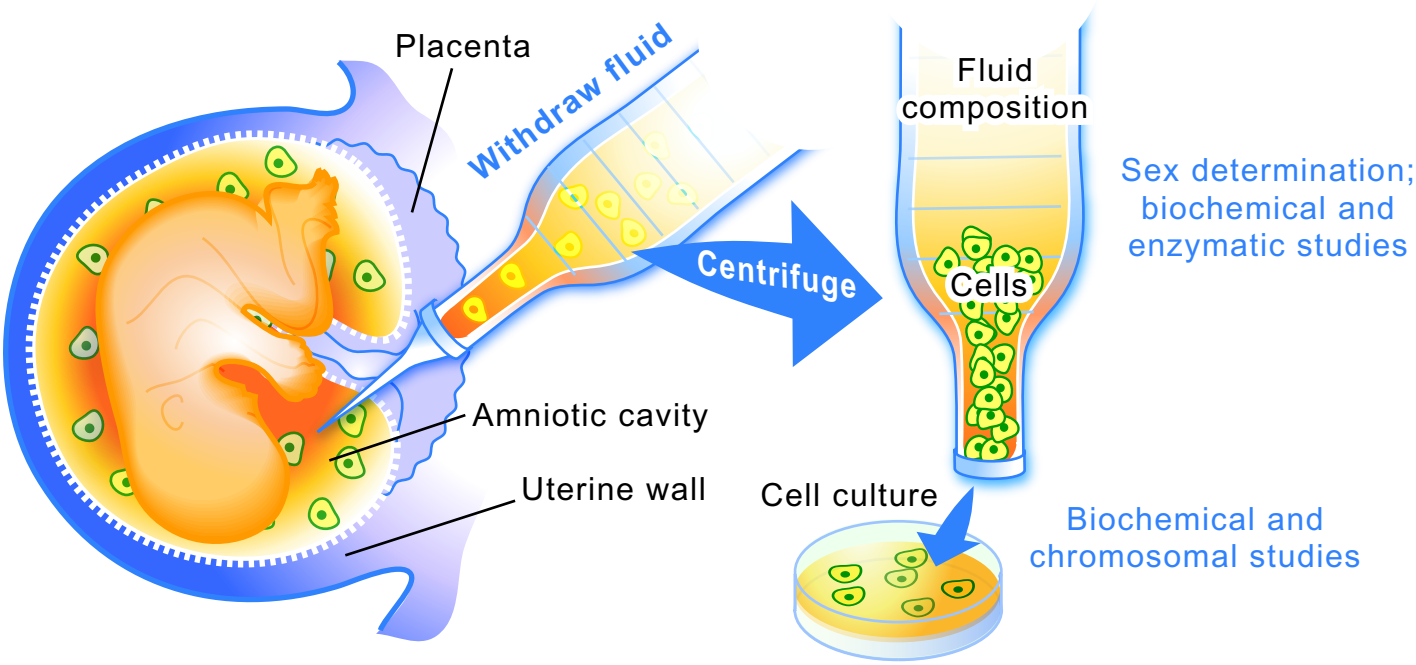

PGD for Thalassemia
(a)
blastocyst
(16 - 20 cell stage)
1 cell is
withdrawn
(b)
DNA is isolated from
the removed cell
(c) PCR is carried out on HBA1 or HBA2 genes using the isolated DNA as a template to produce many copies of the gene.
primers
HBA1
copies of the thalassemia gene
(d) The PCR-amplified DNA is then sequenced
normal DNA
A T C T C A
mutant DNA
A T C A C A
(e) The sequence is then compared to a database of known gene sequences to determine whether or not it will cause thalassemia


Placenta
Withdraw fluid
Centrifuge
Fluid
composition
Cells
Sex determination;
biochemical and
enzymatic studies
Amniotic cavity
Uterine wall
Cell culture
Biochemical and
chromosomal studies