

Females can carry sex-linked genetic disorders.

- Males (XY) express all of their sex linked genes.
- Expression of the disorder depends on which parent carries the allele and the sex of the child.

Chromosome X


Examples of known genes

- DMD
Duchenne's muscular dystrophy
- RP2
Retinitis pigmentosa
- DFN2
X-linked deafness
- FMR1
Fragile X syndrome
- OPN1MW
Deuteranopia (red-green colorblindness)
- F8
Hemophilia A

Chromosome Y

Examples of known genes

- SRY
Testes-determining factor
- TTTY5
Testes-specific transcript



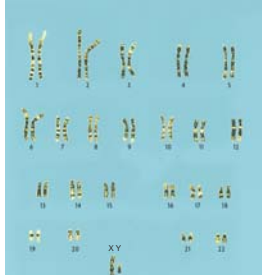
A pedigree is a chart for tracing genes in a family.

- Phenotypes are used to infer genotypes on a pedigree.
- Autosomal genes show different patterns on a pedigree than sex-linked genes.

- If the phenotype is more common in males, the gene is likely sex-linked.

Several methods help map human chromosomes.

- A karyotype is a picture of all chromosomes in a cell.



- Karyotypes can show changes in chromosomes.
 - deletion of part of a chromosome or loss of a chromosome
 - large changes in chromosomes
 - extra chromosomes or duplication of part of a chromosome

