Lec 9 \ Genetic Mutation

Genetic Mutation

Mutation is defined as a change occurring in the genetic material and occurs at the gene or chromosome level
At the gene level, a mutation is defined as any change in the nitrogenous bases of DNA, which in turn leads to harmful results

Natural
Induced

Chromosome Mutations

- Changes in number and structure of entire chromosomes

Original Chromosome	ABC * DEF
Deletion	AC * DEF
Duplication	ABBC * DEF
Inversion	AED * CBF
Translocation	ABC * JKL GHI * DEF

Type of Mutations

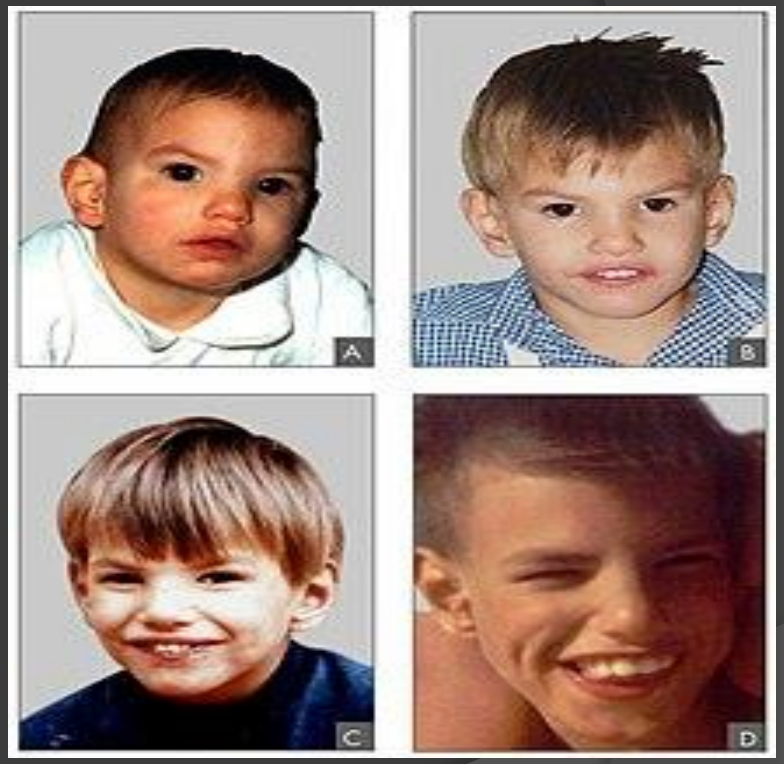
- **Most are neutral**
  - **Eye color**
  - **Birth marks**
- **Some are harmful**
  - **Sickle Cell Anemia**
  - **Down Syndrome**
- **Some are useful**
  - **Sickle Cell Anemia to Malaria**
  - **Immunity to HIV**

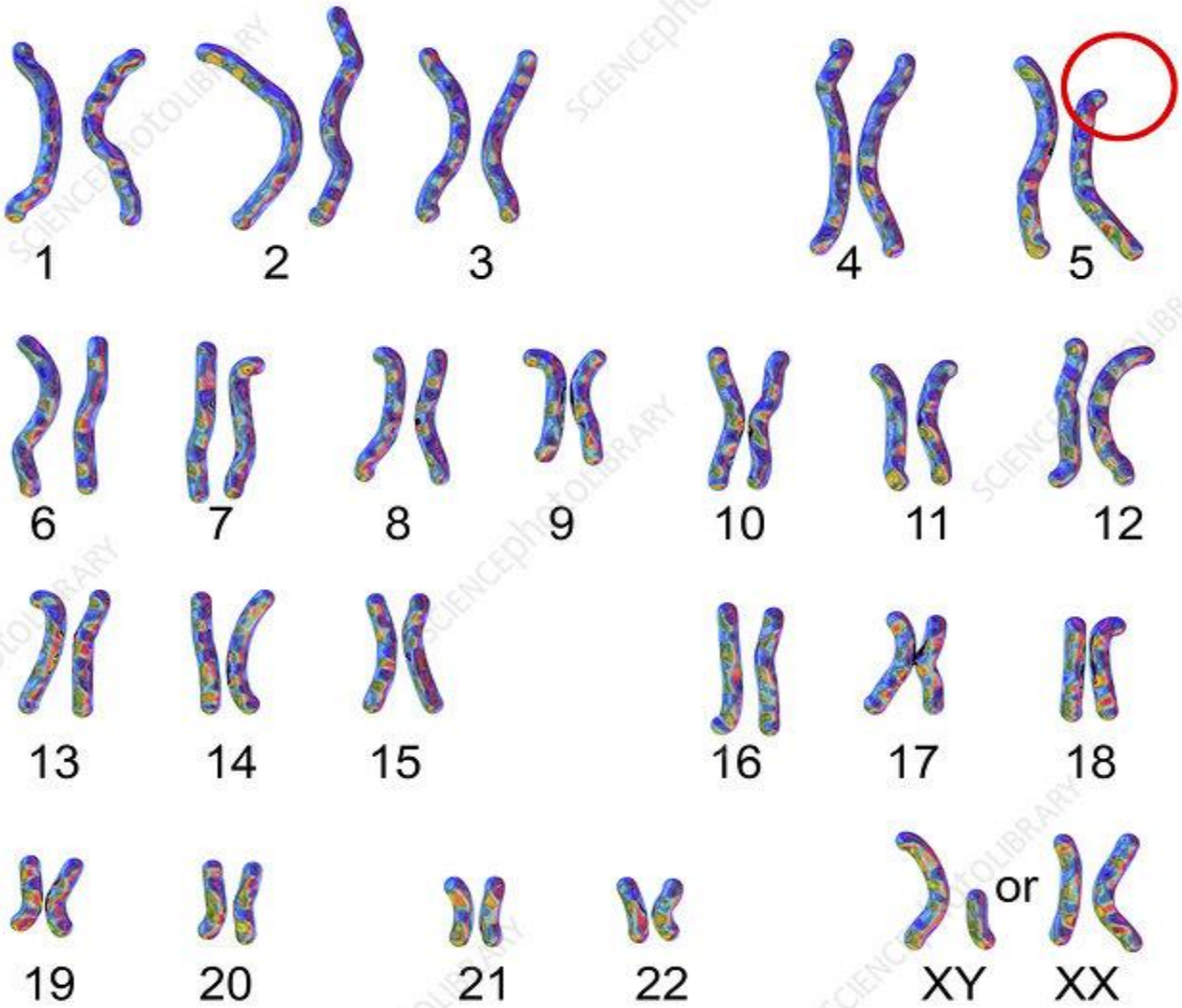
What Causes Mutations?

- **There are two ways in which DNA can become mutated:**
  - **Mutations can be inherited.**
    - **Parent to child**
  - **Mutations can be acquired.**
    - **Environmental damage**
    - **Mistakes when DNA is copied**

Mutations

- **Cri-du-chat**
  - Deletion of material on **5** chromosome
  - Characterized by the cat-like cry made by cri-du-chat babies

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