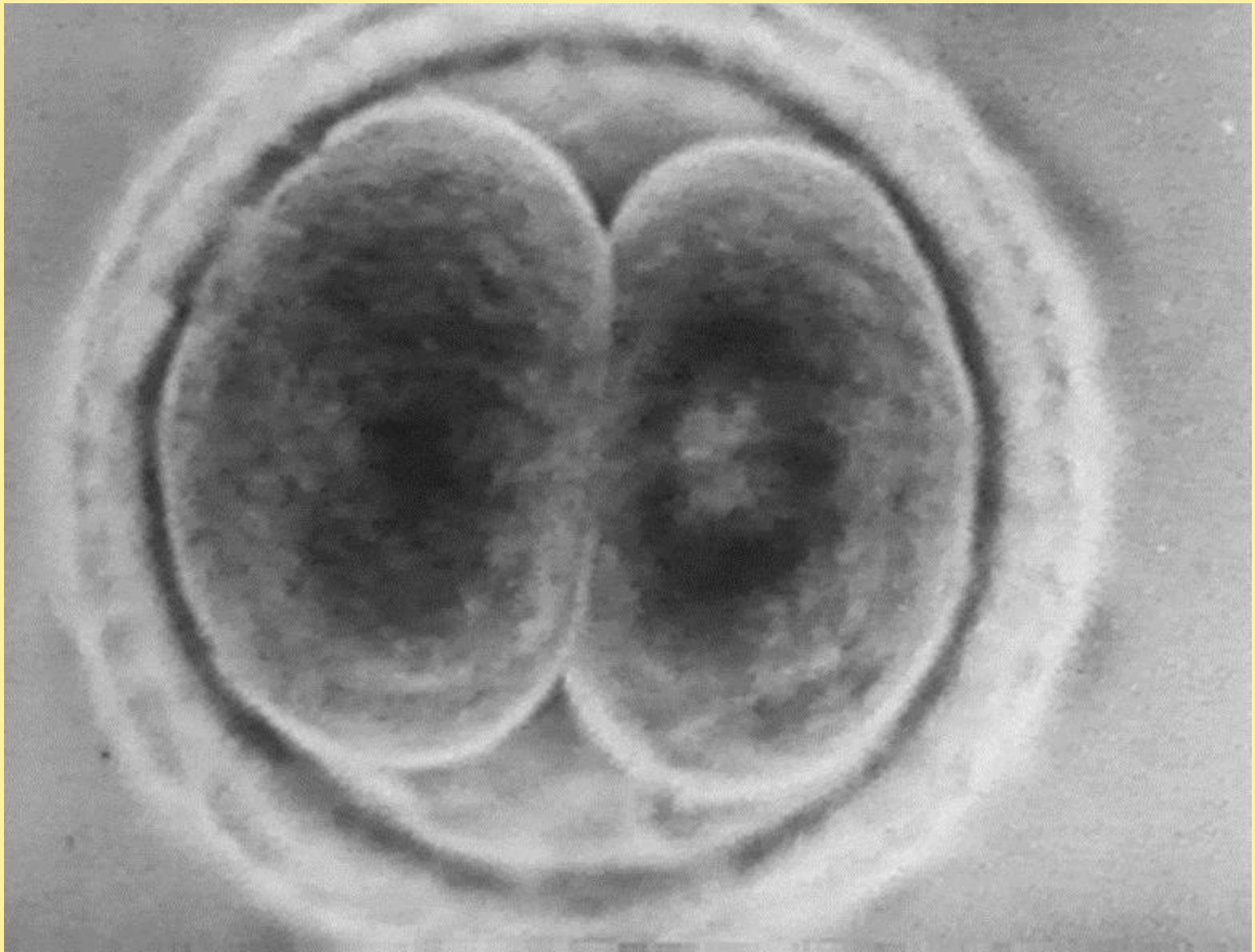
The Nucleus: Control Centre of the Cell

The Zygote

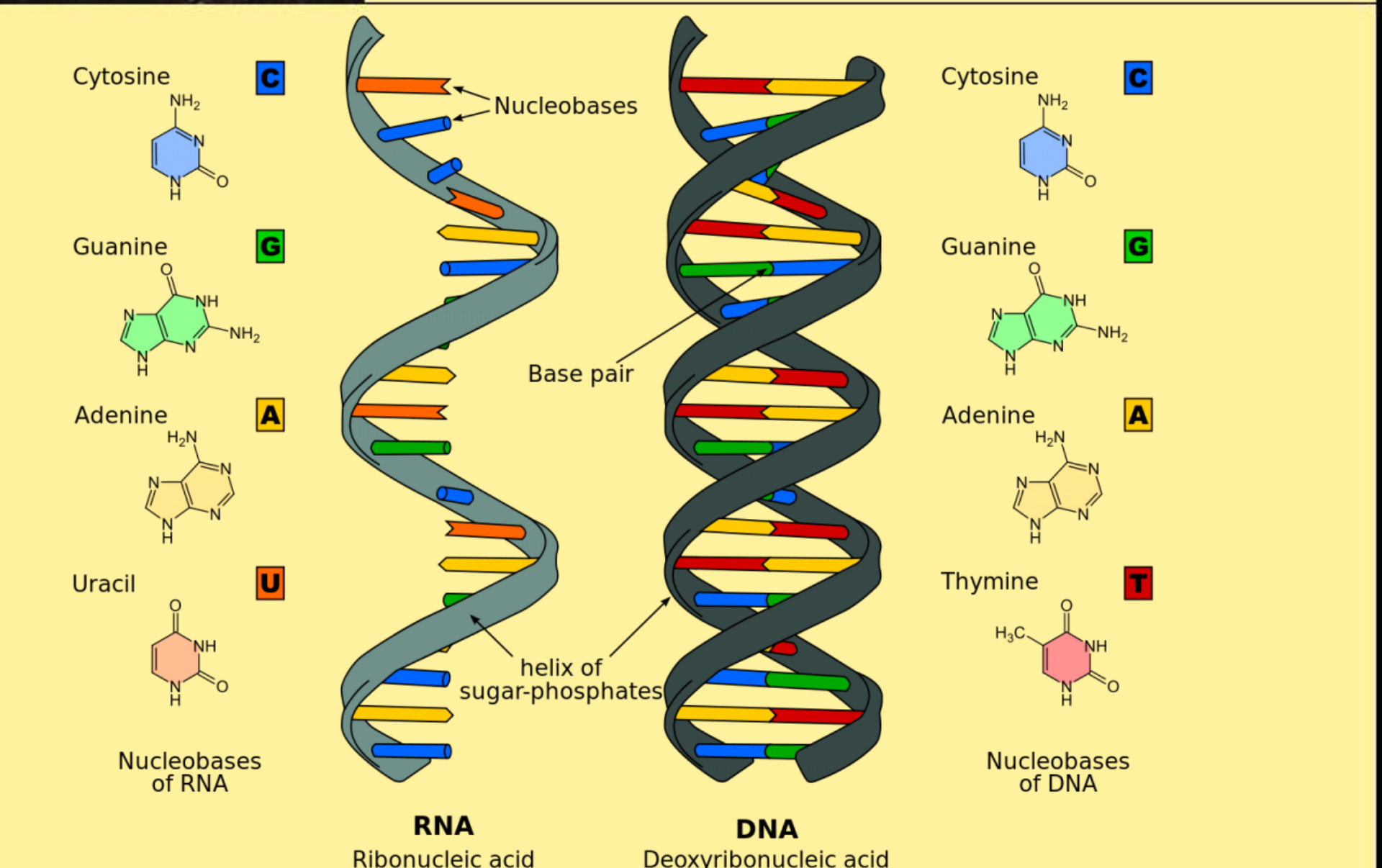


The Embryo

The Fetus

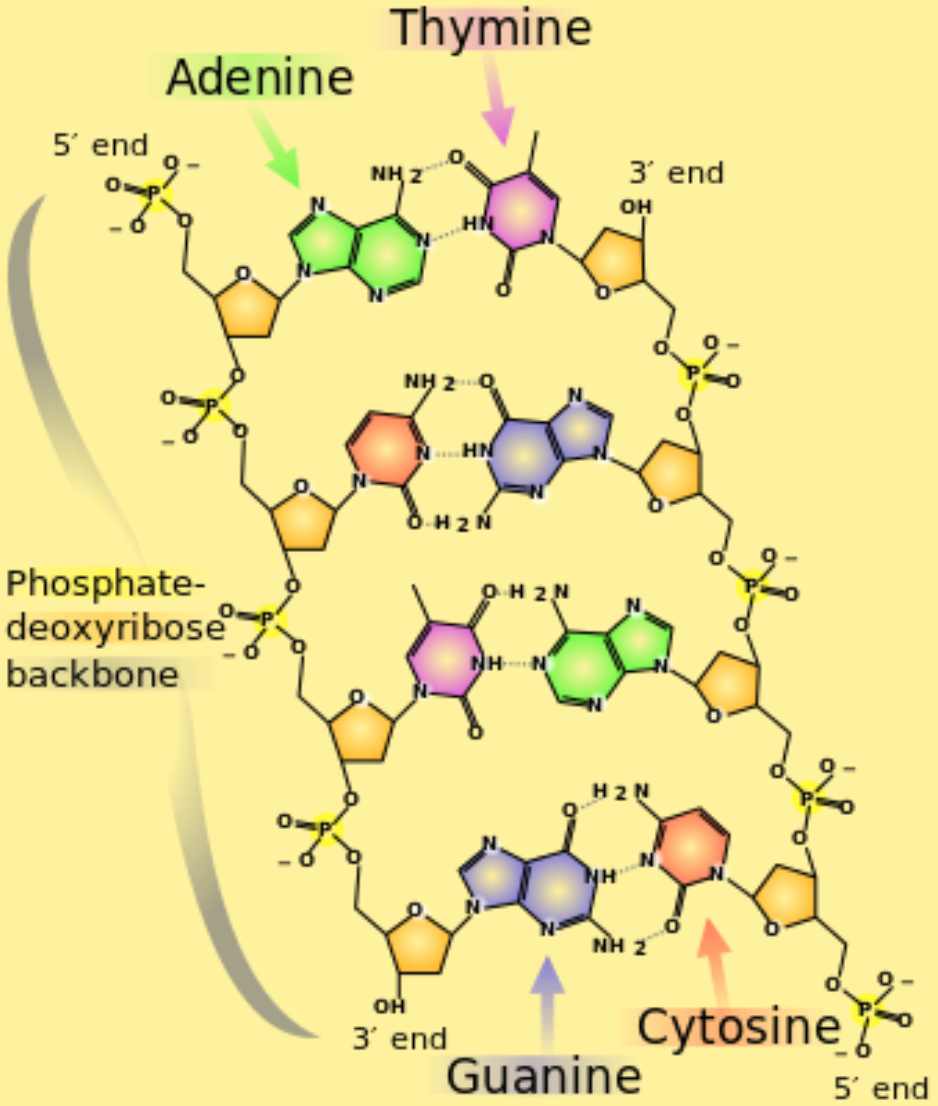
Deoxyribonucleique Acid (DNA)

- Molecule present in the nucleus which contains genetic information
- Composed of sugar, phosphate and four bases
  - Guanine
  - Cytosine
  - Adenine
  - Thymine
- The genetic message is transmitted from generation to generation during reproduction


Cytosine
C
Guanine
G
Adenine
A
Uracil
U
Nucleobases of RNA
Nucleobases
Base pair
helix of sugar-phosphates
RNA
Ribonucleic acid
DNA
Deoxyribonucleic acid
Cytosine
C
Guanine
G
Adenine
A
Thymine
T
Nucleobases of DNA

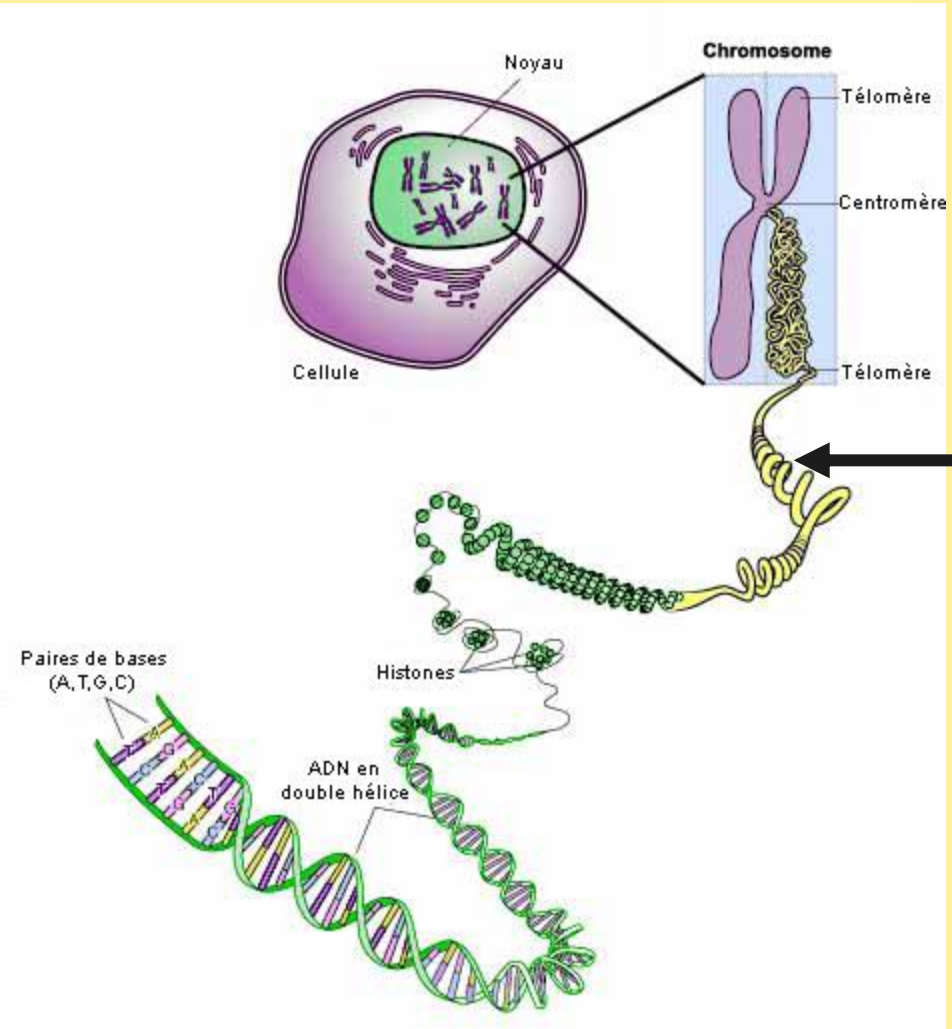
The Way Bases Connect

- A joint with T
- G joins with C



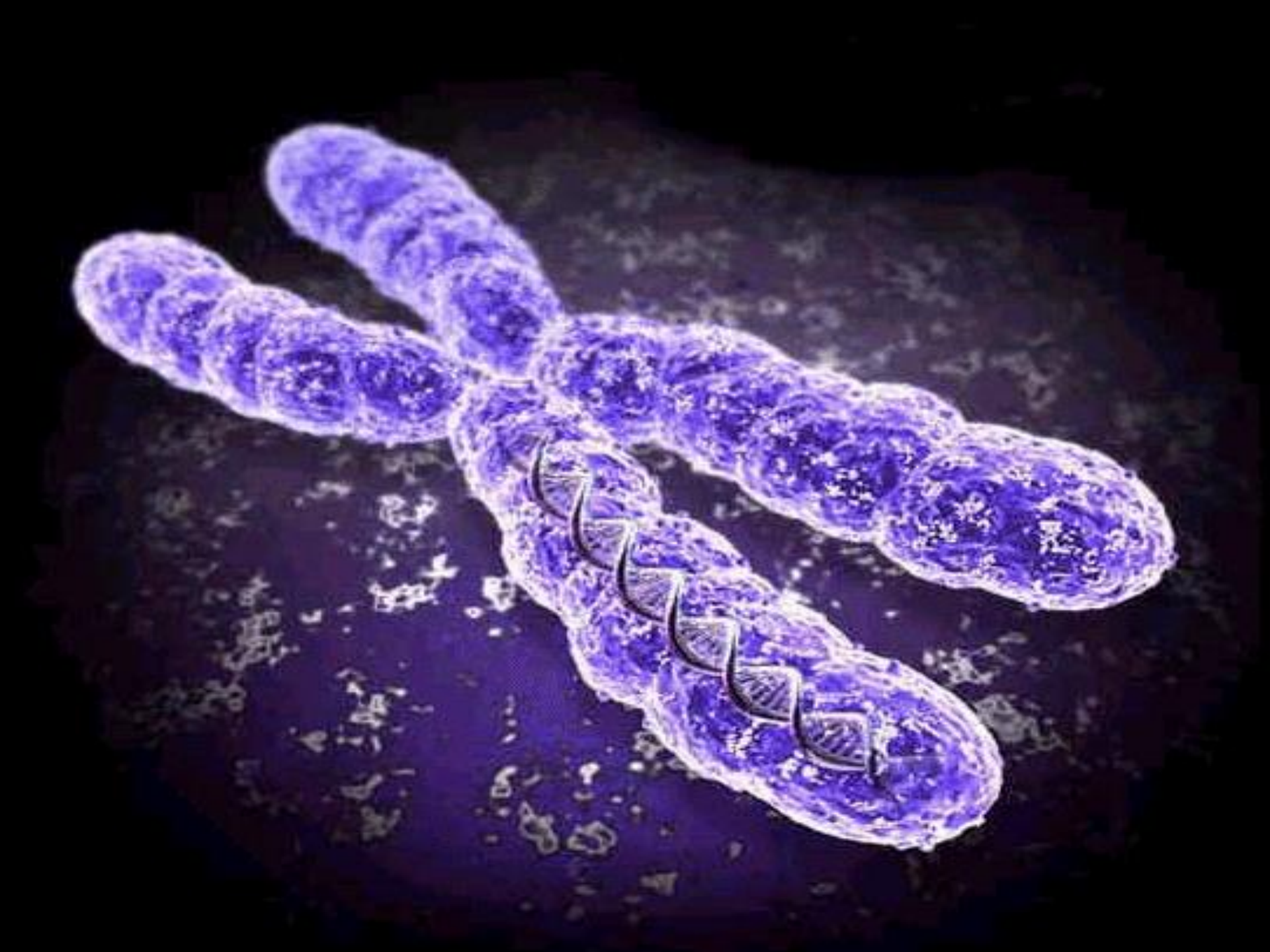
Chromatin

- When cells devide, the DNA coils up into a substance called “chromatin”

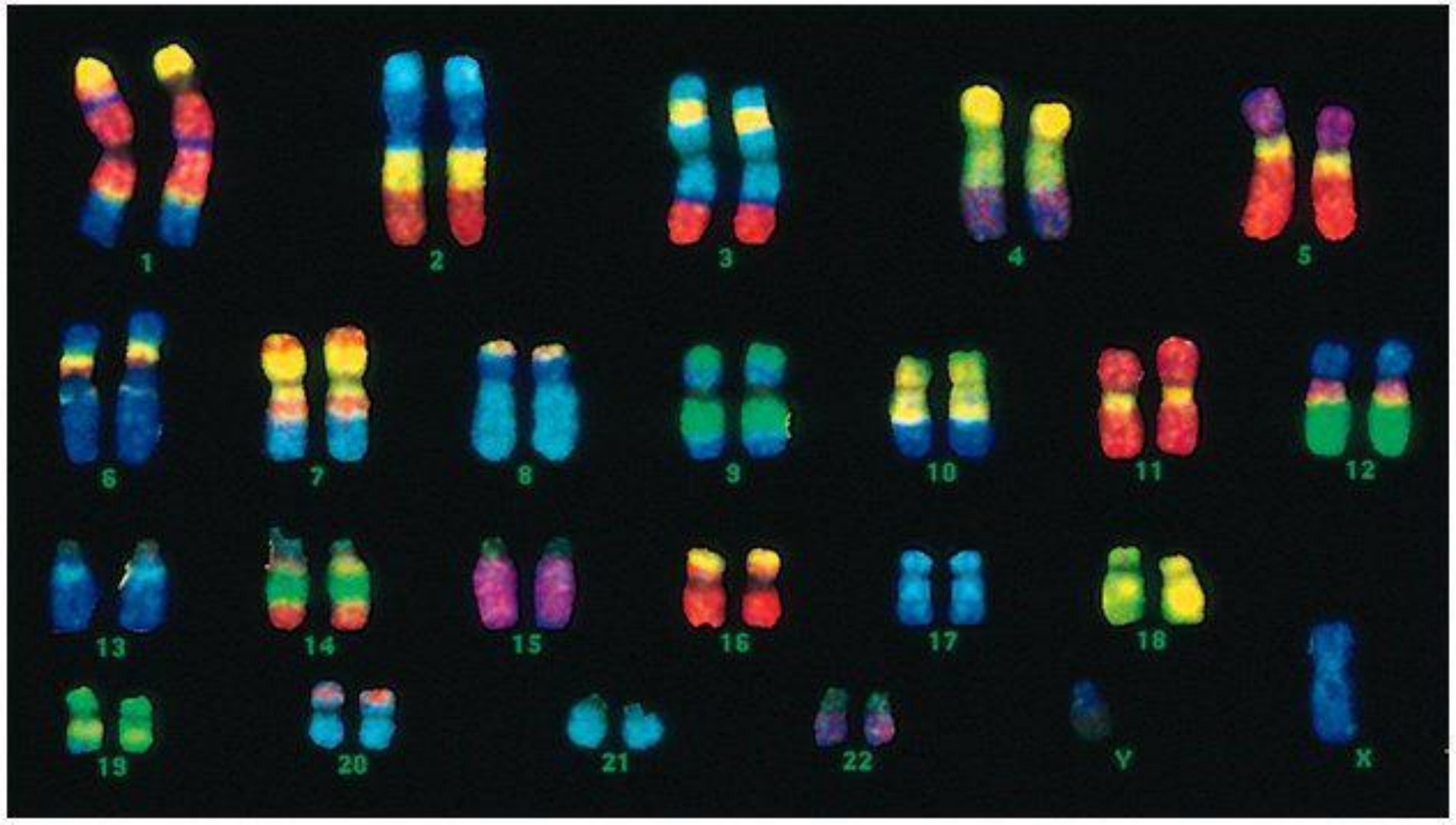


Chromosomes

- a threadlike structure in the nucleus of most living cells that forms during mitosis
- carries genetic information in the form of genes
- Humans possess 23 paires of chromosomes in their somatic cells
- One pair biologically determines gender: XX for females and XY for males



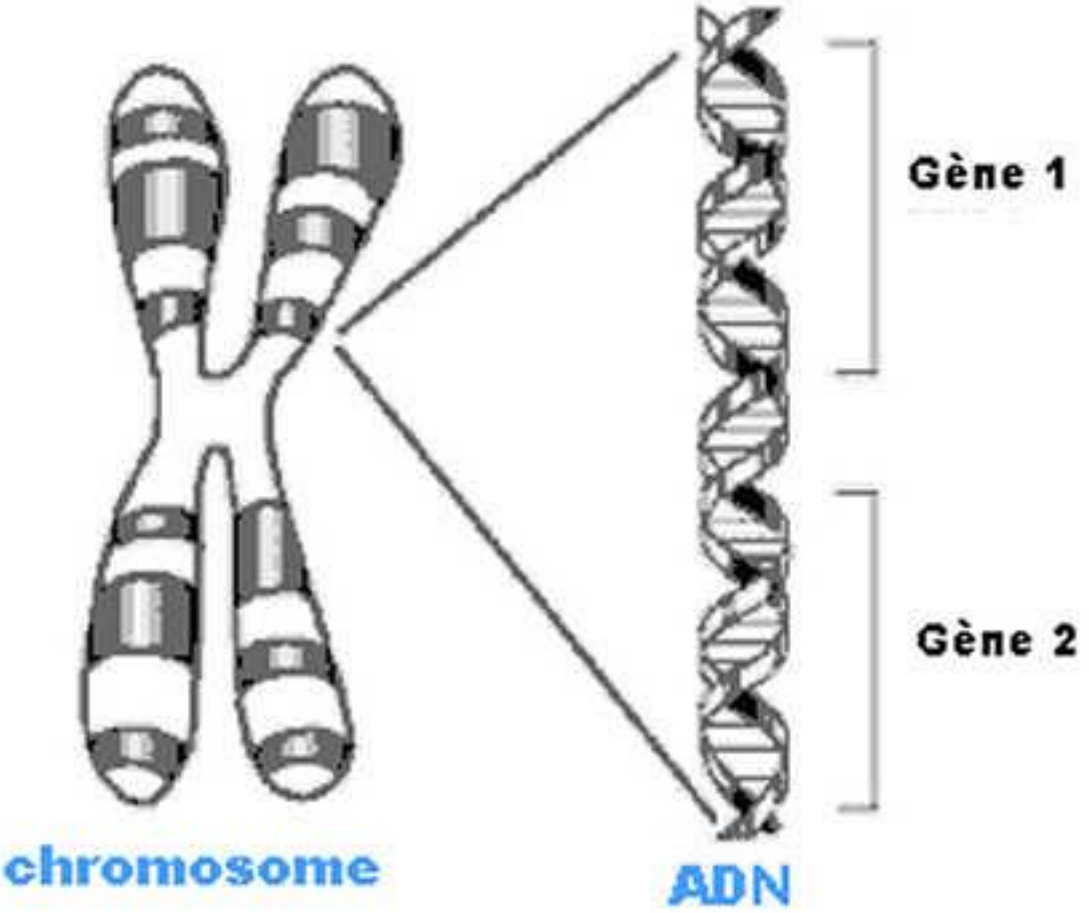
The Caryotype: Mapping of 23 Pairs of Chromosomes



Genes

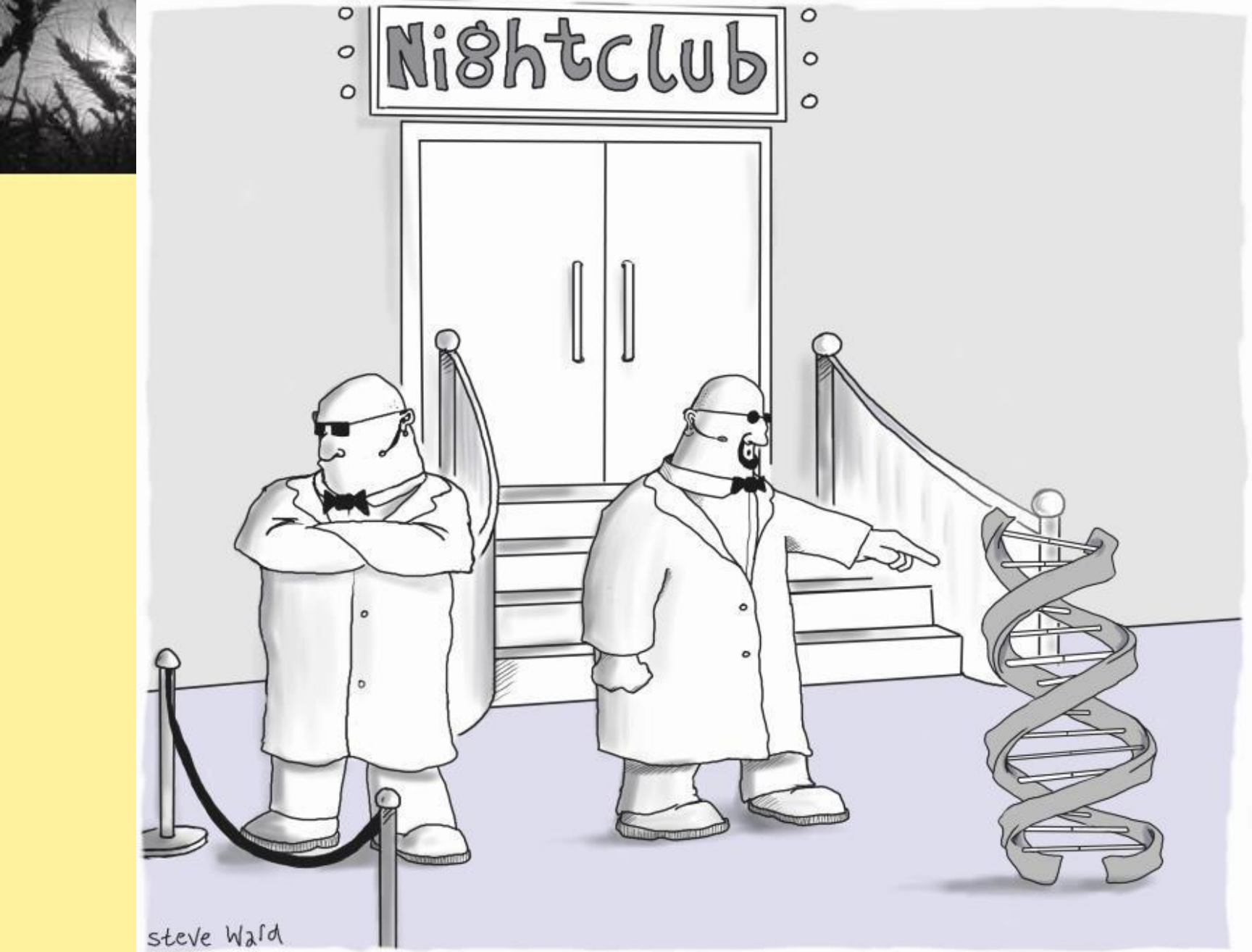
- Small segments of DNA on specific sections
- Possesses the information to fabricate 90 000 to 100 000 different proteins in a cell
- Each chromosome has thousands of genes

Gènes



Embarrassing moments at gene parties


"Now, just relax your back-bone & let yourself unwind..."
TOPO
HELICA



"Sorry mate ...no Genes"