What is the messenger RNA?

Our body is made of trillion of cells, and each cell performs thousands of tasks per minute.
One of those tasks is to **produce proteins**.

Proteins are essential components of our cells: they help organizing the internal cellular structure, cleaning up the waste produced by the cell, receiving and sending signals from and to other cells and much more...

The human cell produces the proteins it needs by executing the instructions stored in the DNA

The **DNA** is a double helix structure that contains all the instructions necessary to produce everything in our body, including the proteins our cells need.

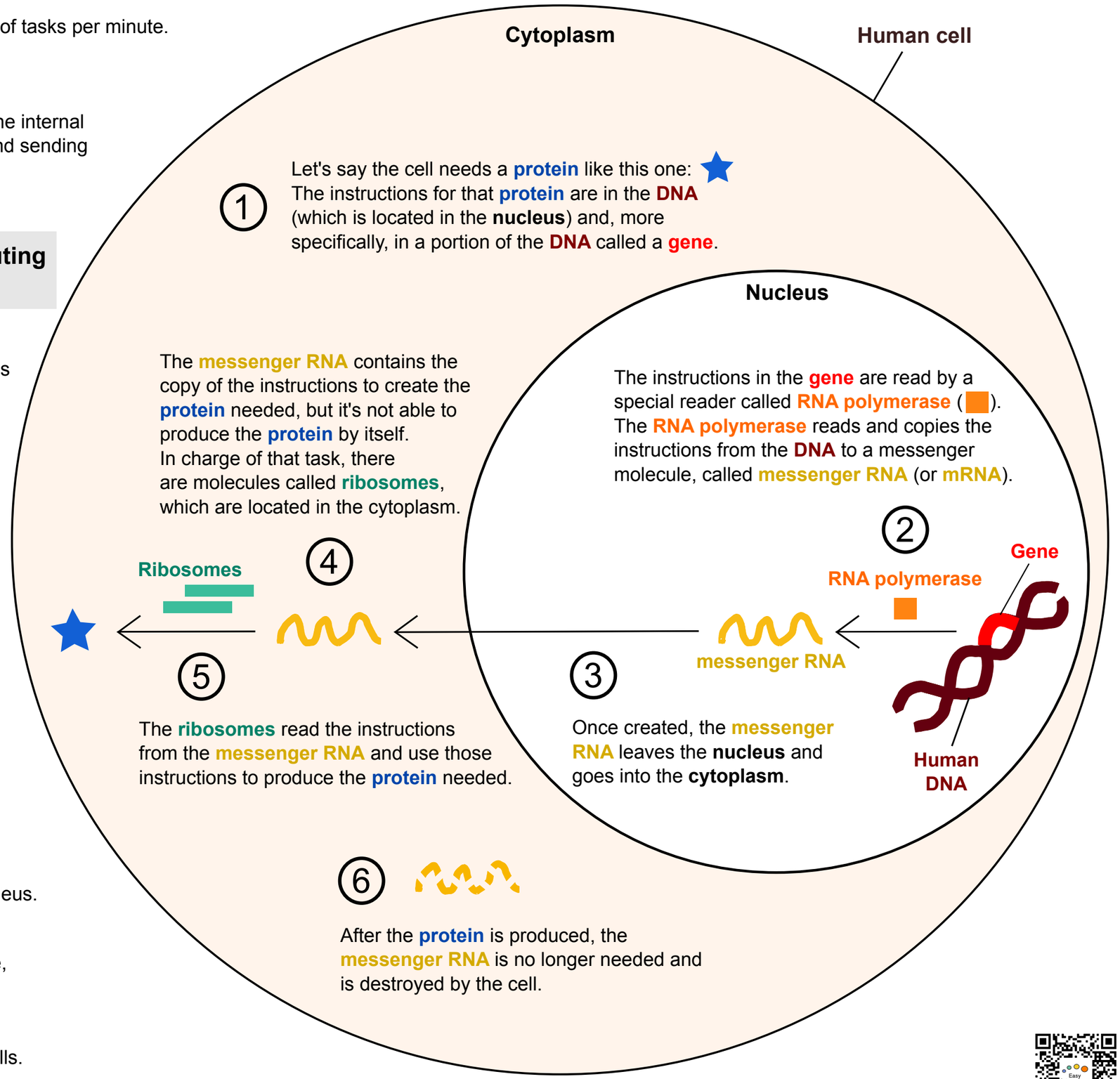
Since the **DNA** is so important, it's essential to keep it "safe" inside the **nucleus of the cell**.
But the protein production takes place in the **cytoplasm** (the portion of the cell that surrounds the nucleus).

The instructions stored in the DNA inside the nucleus reach the cytoplasm, where they are needed to produce the proteins, via a messenger molecule called messenger RNA.

The **messenger RNA** makes a copy of the instructions in the DNA and then carries it outside of the nucleus, into the **cytoplasm**, where those instructions can be converted into proteins.
Once in the cytoplasm, the **messenger RNA** does not return into the nucleus.

The instructions carried by the **messenger RNA** are not always the same, but they vary based on what the cell needs at any given time.

Messenger RNA is one of the many molecules naturally produced our cells.



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