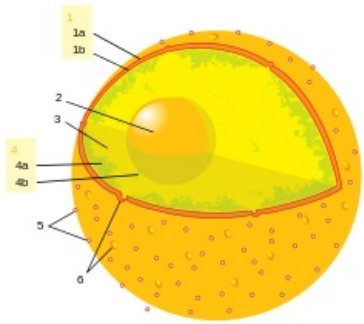
Nuclear envelope

The nuclear envelope separates the contents of the nucleus (ie, karyoplasm, chromatin fibrils, nucleolus) from the cytoplasm.

Structure



nucleus diagram

- **Inner membrane** - towards the inside contains a reticular network of protein molecules of 3 types (condensed parts of chromatin fibrils adhere to them, this enables the spatial separation of individual chromosomes in the preparation for their replication.
- **Outer Membrane** - transitions smoothly into the endoplasmic reticulum, ribosomes are often visible on it.
- Between them is the **perinuclear space'** (connected to the reticular cistern system).

Nuclear pore

- Octagonal openings, connecting the outer and inner membrane;
- 80 nm in diameter;
- the nucleus of a mammalian cell has 3000-4000;
- lined with a complex of 24 protein molecules with a closing granule;
- transports small protein molecules + large particles from the nucleus (ribosomal subunits, processed molecules mRNA);
- transport in the nuclear pores is massive, therefore regulation is necessary, but it has not yet been fully elucidated.

Links

Related Articles

- Chromosome
- Cell
- Core

References

- ŠTARK, Otakar – KAPRAS, Ján. *Lékařská biologie a genetika 1.* 1987. edition. Státní pedagogické nakladatelství, 1987. vol. 1.