

Receptor adaptation

Adaptation of receptors is different according to the type of receptor. However, the principle of adaptation is the same. With longer exposure to a stimulus of the same intensity, the amplitude of the receptor potential decreases (how much depends on the type of receptor) as well as the frequency of individual action potential.

Tonically responding receptors

- These receptors adapt **slowly** and their excitatory activity may not disappear completely even after a long time.
- This type of receptors mainly registers the intensity of longer acting stimuli.
- We call this type of adaptation **incomplete adaptation**.

Phasically responding receptors

- These receptors adapt **quickly**.
- This type of receptors mainly registers an immediate change in the intensity of stimulation or its speed.
- We call this type of adaptation **complete adaptation**.

Central vs. receptor adaptation

The central neurons of the sensory pathways exhibit adaptation (central adaptation) which lasts longer than peripheral receptor adaptation, similar to the adaptation of a given sensation. ^[1]

Links

Related articles

- Receptors
- Receptor potential, adaptation
- Receptor potential
- Sensory receptors

References

1. TROJAN, Stanislav. *Lékařská fyziologie*. 4., revisited and edited release edition. Praha : Grada Publishing, a.s, 2003. 772 pp. ISBN 80-247-0512-5.