



**1. Decide whether the statements are true (T) or false (F). Explain your answer in both cases. (4 points)**

The GFP gene is present in all mammalian cells in a silent manner, but can be activated in either phenotype of cells through its promoter region. F

Why? \_\_\_\_\_

Exiting an organic fluorophore molecule with a given wavelength light, the fluorophore molecule will emit higher energy light. F

Why? \_\_\_\_\_

The acetylcholin esterase enables the acetylcholine molecules to bind to the muscle's nicotinic receptor. F


Why? \_\_\_\_\_

An activated microglia (compared to non-activated) significantly changes its morphology. T

Why? the activated microglia operates as a macrophage

**2. Fill in the missing words! (6 points)**

12.diasor 24.oldal

The information transfer through the electrical synapse is a special mode of intercellular communication via cells can interact with each other very fast. Among the different muscle types this connection type occurs in cardiac\_ and smooth muscles, but never in striated muscles (?).  It is made from six monomers of connexin molecules forming a cylinderlike channel. It is regulated by calcium; thus at high levels of this ion, the channel closes. (connexon=6 connexin molekula+köztük lévő pórus)  
(ahogy a kalcium szint nő a pórus bezárul)



**1. Skin receptors. Fill in the missing words! (6 points)**

The mechanoreceptors are numerous in the superficial and deeper layers of the skin. There are several types, like Merkel disk, Meissner corpuscle or Ruffini bodies.

The thermoreceptors are coding the absolute and relative changes in the temperature. They are free nerve endings of the unmyelinated and (thin) myelinated nerve fibers (*type of fibers*).

**2. Decide whether the statements are true (T) or false (F). Explain your answer in both cases. (4 points)**

The biotin-avidin system contributes to the amplification of the signal in immunohistochemistry. T

Why? # ??? hogy magyarázol meg egy igaz kijelentést??? wtf #

The two most common methods for amplifying the target antigen signal in IHC are called the Avidin–Biotin Complex (ABC) and the Labeled Streptavidin–Biotin (LSAB) staining methods.

The radial glia is a precursor oligopotent cell of the neuron cells.



F

Why? Radial glial cells, or radial glial progenitor cells (RGPs) are bipolar-shaped progenitor cells that are responsible for producing all of the neurons in the cerebral cortex.

One of the role of the microglia to form the blood-brain barrier in the CNS.

T

Why? Az agy “immunprivilegizált” terület: csak mikroglia jelenti a belső immunvédelmet.

The baroreceptors of the skin signal pressure stimuli towards the brain.

F

Why? A baroreceptorok mechanikai, feszülést érzékelő receptorok, az erek falában találhatók.

Ha a vérnyomás emelkedik, ingerületi állapotuk fokozódik, és az előbbi mechanizmuson keresztül, csökkentik a vérnyomást.