

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

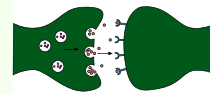


Past paper MID

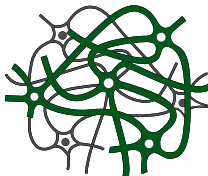
Lecture 1-2

﴿ إِنِّي تَوَكَّلْتُ عَلَى اللَّهِ رَبِّي وَرَبِّكُمْ مَا مِنْ دَابَّةٍ إِلَّا هُوَ آخِذٌ بِنَاصِيَتِهَا إِنَّ رَبِّي عَلَى صِرَاطٍ مُسْتَقِيمٍ ﴾

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Past paper (1-2)

Visual transduction involves the following molecular feature:

- A) Ca^{2+} ions bind to rhodopsin kinase and inhibit it**
- B) Retinal plasma membrane is very fluidic easing molecular interactions**
- C) Amplification involves activation of cGMP phosphodiesterase by G proteins**
- D) Arrestin binding to rhodopsin activates its phosphorylation**
- E) During adaptation to the dark, recoverin is mainly localized to the inner segment**

Which of the following is TRUE about arrestin:

- A) Works by phosphorylation of target protein**
- B) In Dark it is existed at high levels at the outer segments of photoreceptors**
- C) It causes the release of all cis retinal rhodopsin**

All of the following are mechanisms to amplify visual signal except:

- A) Each photon excites many rhodopsin**
- B) Each rhodopsin excites many transducin**
- C) Each transducin excites many PDE**
- D) Each PDE converts many CGMP**
- E) All in the same compartment**

Activation of transducin by light activates an enzyme which:

- A) Hydrolyzes cGMP
- B) Increases the dark current
- C) Activates adenylyl cyclase
- D) Releases calcium from intracellular stores
- E) Depolarizes the membrane

SAM is used in all of the following except:

- 1.N-methyl trans**
- 2.Deamination**
- 3.Methylation of phosphodylether**
- 4.COMT**

The 'retrograde' mechanism of NO (nitric oxide) means:

- 1.It is produced in the post-synaptic neuron.**
- 2.It regulates the pre-synaptic neuron.**
- 3.It activates guanylyl cyclase.**
- 4.It diffuses to nearby cells.**
- 5.It binds to post-synaptic receptors.**

Which is true about neuropeptides and small transmitters?

- 1. Both released by vesicular mechanism.**
- 2. Both synthesized in cell body of presynaptic cell.**
- 3. Both can be released from a site far away from the site of Ca entry.**
- 4. Both induce a signal that can be terminated by reuptake.**

An excitatory neurotransmitter that leaks to the cytosol to be converted to another neurotransmitter, can be recycled through a presynaptic neuron transporter and degraded by the liver or presynaptic enzymes is:

- 1. Gamma-aminobutyric acid**
- 2. Glycine**
- 3. Norepinephrine**
- 4. Serotonin**
- 5. Acetylcholine**

Deficiency of vitamin B6 (pyridoxal phosphate) will result in the impairment of all the following pathways EXCEPT:

- 1.1. DOPA to dopamine**
- 2. Norepinephrine to epinephrine**
- 3. Aspartate to glutamate**
- 4. Tryptophan to serotonin**
- 5. Histidine to histamine**

A neurotransmitter that is not deactivated by MAO:

1.GABA

2.Histamine

When light strikes the eye there is an increase:

- 1. The activity of the transducin**
- 2. The amount of transmitter released from the photoreceptors**
- 3. The concentration of all-trans retinal within the photoreceptors**
- 4. The concentration of calcium within the photoreceptors**
- 5. The activity of guanylyl cyclase**

Which one of the following is TRUE about vision:

Answer: cGMP decreases when transducin activated

Which statement is WRONG about signal termination in photoreceptor cells:

Answer: Inactivation of G cyclase due to decrease intracellular [Ca]

Can't cross BBB:

Answer: Glutamate

Which one of the following is WRONG about glutamate?

Answer: Cannot be synthesized inside neurons

The indicator of Parkinson's disease is:

Answer: Homovanillic acid

Which one of the following is WRONG about catecholamine synthesis:

Answer: Dopamine and norepinephrine have vesical synthesis

Which of the following is expected to happen if vesicular ATPase was inhibited?

Answer: neurotransmitters will not enter the vesicle.

Which of the following causes termination of the light signal?

Answer: Ca²⁺-Cal

For any feedback, scan the code or click on



Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			