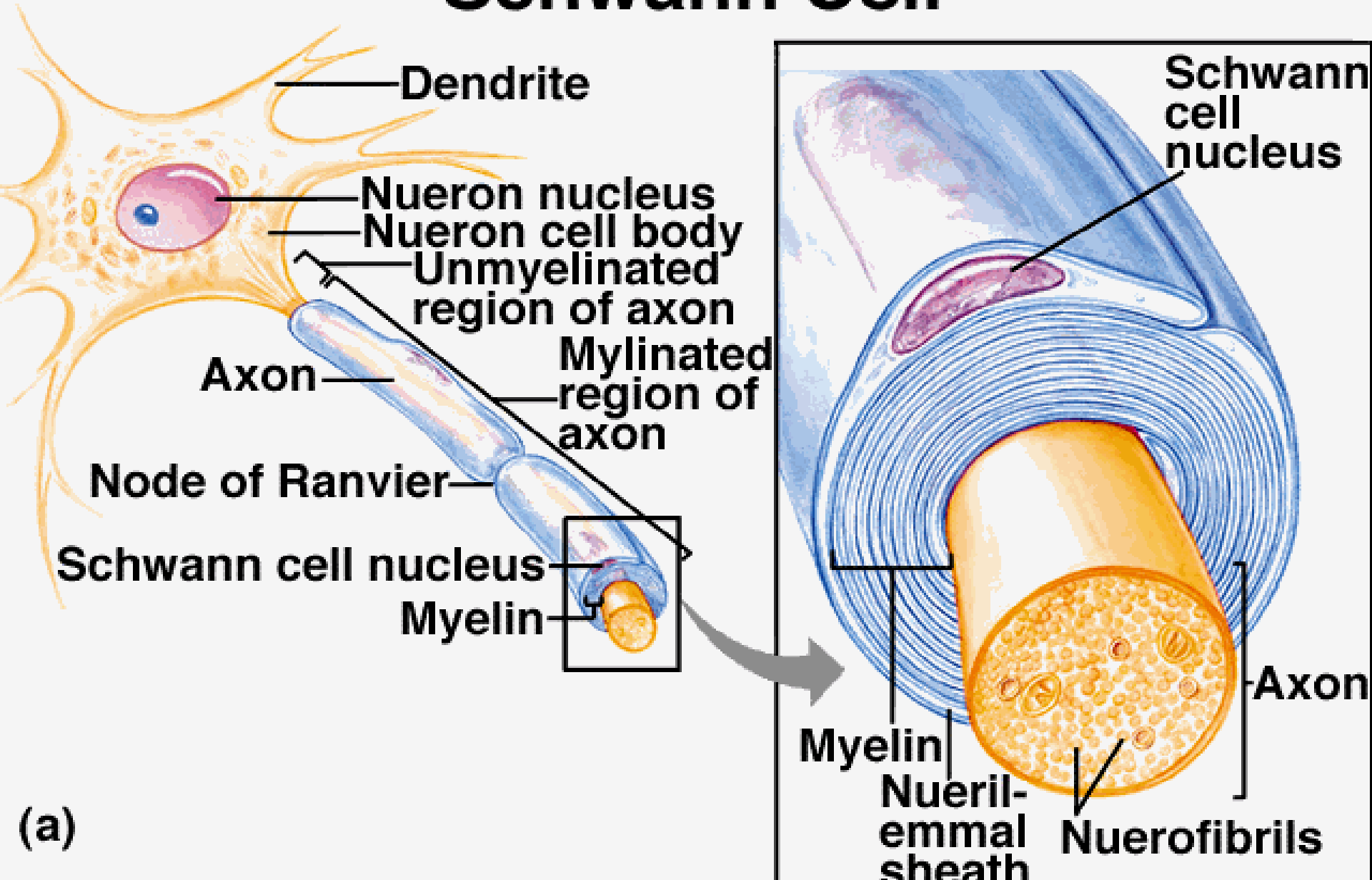




CHARCOT-MARIE-TOOTH (CMT)

- 1 in 2,500 people in the US
- Motor and Sensory Neurons
- Affect structure and function of either the peripheral nerve axon or the myelin sheath
- Large number of known mutations (>100) that affect myelination or axon/myelin interaction
- The degeneration of motor nerves results in muscle weakness and atrophy in the extremities
- CMT1, CMT2, CMT3, CMT4, and CMTX general categories
- No cure, physical therapies etc no drug treatments

Schwann Cell



Action potentials jump down axon.

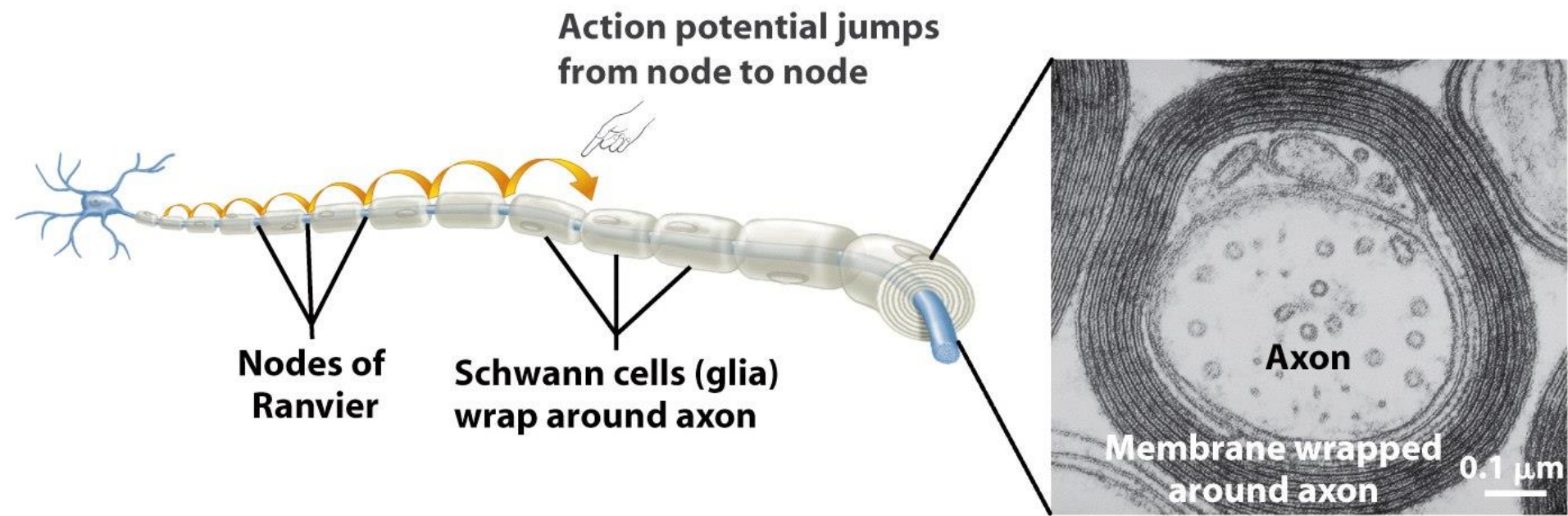
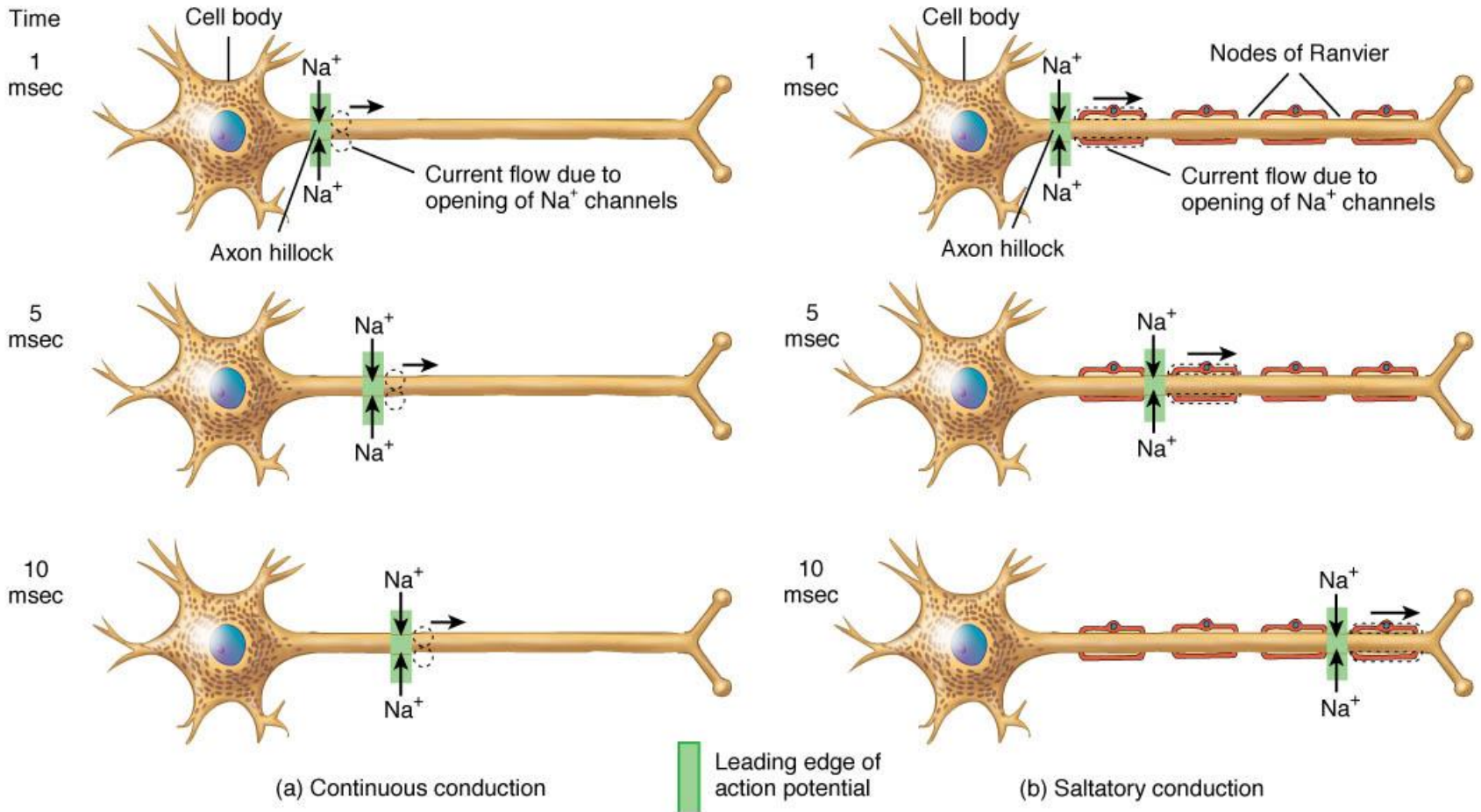
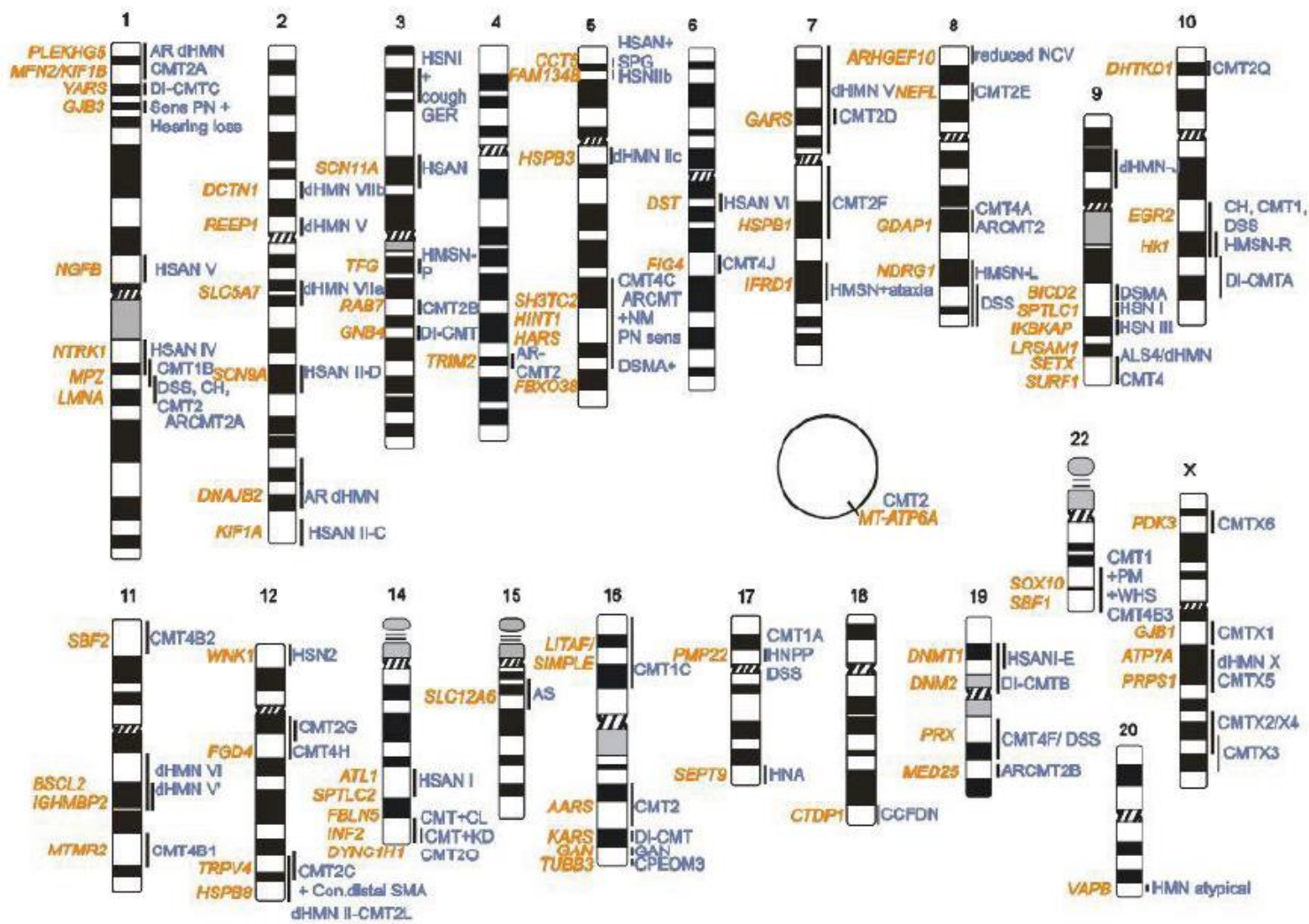


Figure 45-12a Biological Science, 2/e
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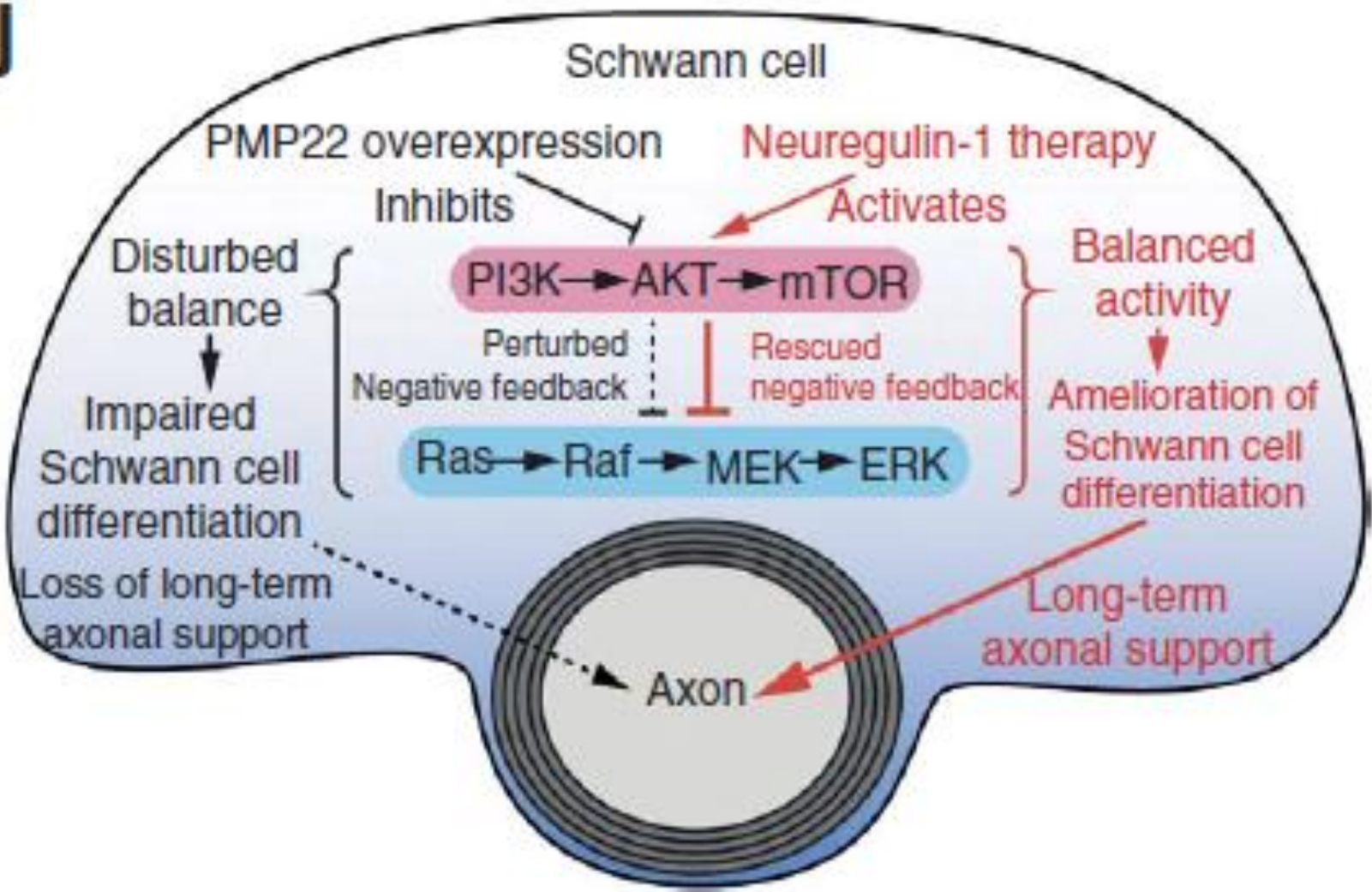


Team Workshop 1: Myelination increases propagation by a factor of at least 100. Discuss how myelination is important for larger organisms and propose an alternative biological mechanism that could theoretically achieve faster propagation. Discuss pros and cons.



Team Workshop 2: Use STRING to display the protein interaction network of 2 to 3 of the CMT associated genes. List any direct interacting proteins and explore STRING functionality.

j



Team Workshop 3: Draw the PMP22 first and second layer interaction network from STRING and list functions for the proteins. Propose a new treatment for CMT1A.



Remember

- Before 12 PM of the next class day:
 - go to b.socrative.com/student/login and complete the quiz