



Lesson 3 Problem Set: Oncogenes and Tumor Suppressor Genes
Teacher's Answers

Short answer:

1. Explain how a proto-oncogene can be compared to a gas pedal in a car. What would an oncogene be the equivalent to?
2. Explain how mutations in tumor suppressor genes can contribute to cancer.
3. What is an important difference between oncogenes and tumor suppressor genes when it comes to causing cancer?
4. How can a protein be considered an oncogene, when its function is to shut off a tumor suppressor? Give an example of one such oncogene.
5. Knowing what you know about the cell cycle, explain why Rb would be considered a tumor suppressor.

True/False: Determine whether the statements below are true or false. If you choose "false" please correct the part(s) of the statements that are incorrect.

1. A proto-oncogene can cause cancer.
2. Mutation in p53 alone can cause cancer in humans.



3. Mutations in genes will always contribute to cancer.

Vocabulary: Define the following terms.

1. proto-oncogene

2. oncogene

3. tumor suppressor gene