

WHALE MEAT ASSESSMENT

Every time New Zealand scientist Dr. Gina Lento enters Japan, her stomach knots up as she waits for a tap on the shoulder from a Customs officer. A close inspection of her luggage will reveal a mini-laboratory used to try to detect what is believed to be the illegal sale of whale meat on Asian markets.”

Meat advertised as kujira (whale) can be sold in Japan only if it comes from legally caught minke whales. Japanese whalers can catch minke whales legally for research purposes and then the meat can later be sold on the commercial market. Commercial whaling and the international commercial trade of whales have both been subject to a moratorium since 1986, due to worldwide concern about several species of endangered whales. The International Whaling Commission and CITES are responsible for monitoring and enforcing the moratorium around the world.

Dr. Lento buys several samples of kujira from markets in Japan. Her next task is to identify the samples and determine whether they are from species of endangered whales or not.

QUESTIONS

1. What does Dr. Lento need to know in order to identify if the whale meat is from an endangered species?
2. What are RFLPs, and how could they be used by Dr. Lento to identify the origin of the whale meat?
3. How could Dr. Lento use restriction enzymes in her work to identify the origin of the whale meat?
4. Design an experiment (the basic steps) that Dr. Lento could perform in order to identify the whale meat. Be sure to include an enzyme digest, and a lane for a ladder.
5. What are two bits of information that you can use to tell samples apart on a gel? How could you determine the size of each of the fragments in each lane?
6. What would you expect the results of your experiment to look like if two or more of the samples were not from a minke whale. Sketch what the gel would look like and be sure to label it clearly.
7. Name four stakeholders involved with the whale issue, and explain what each of their viewpoints might be.
8. Why should Dr. Lento, or anyone else care about saving endangered whales? Or any other species?

