

問題①

Question①

Read the article and answer the following questions in English.

The text of the question has been omitted for copyright protection. Please refer to the following sources.

(From Devi, Sharmila. Proposed tariffs on pharmaceuticals cause concerns about increased drug prices and drug shortages in the USA. *The Lancet Oncology*, Volume 26, Issue 6, p 682, June 2025)

Questions①

1. What are the two main actions taken by the US government on April 14, 2025?

Write within 20 words for each action.

2. What is the primary concern experts have about imposing pharmaceutical tariffs in the USA? Write within 20 words.

3. According to the article, which countries are major sources of imported drugs to the USA that would be affected by tariffs?

- A. Germany and Brazil
- B. India and China
- C. Russia and South Korea
- D. Mexico and Japan

4. Pete Baker describes pharmaceutical tariffs as:

- A. A useful short-term strategy to secure drug supplies
- B. A tax that disproportionately impacts the healthy
- C. A tax on the sick, especially those with chronic illnesses
- D. A measure to support low-income countries

5. Which category of drugs is most vulnerable to the adverse effects of proposed tariffs according to the Association for Accessible Medicines (AAM)?

- A. Generic and biosimilar drugs
- B. Experimental treatments
- C. Patented brand-name drugs
- D. Over-the-counter medications

6. What contradiction does Michelle Mello point out in the administration's policies?

- A. The simultaneous expansion of Medicaid and tax increases
- B. Encouraging generic competition while protecting brand names
- C. Cutting healthcare costs while increasing subsidies
- D. Trying to reduce drug prices while proposing tariffs that raise them

- 7 Why are shortages of certain injectable drugs a concern under the tariff plan, according to Erin Fox?
- A. These drugs are illegal in some states
 - B. They are mostly produced domestically and unaffected
 - C. They have small profit margins and are cost-sensitive
 - D. They are not used often in hospitals
8. Under the law introduced by the Biden administration, when can Medicare start negotiating prices for small molecule drugs?
- A. After 9 years on the market
 - B. After 5 years on the market
 - C. After 13 years on the market
 - D. Immediately upon FDA approval
9. What potential consequence of rising drug prices is mentioned in the article?
- A. Decreased use of preventive services
 - B. Public opposition to cancer treatment
 - C. Taking smaller amounts or spacing out doses to make one's medicine last longer.
 - D. Increased hospital revenue

問題②

Question②

Read the article and answer the following questions in English.

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(From: Rudolph L, et al. Clearing the Smoke on Fossil Fuels — The Health Imperative for a Countermarketing Campaign. *New England Journal of Medicine*. 2025 Apr 24;392(16):1563–1565.)

Question②

1. Answer the questions 1)-2) within 20 words each.

- 1) Describe the definition of social license in this article.
- 2) Explain why developing new oil and gas fields is considered “incompatible” with the Paris Agreement target.

2. Fill in the blank with the most appropriate word provided below.

- a) isolates
- b) resists
- c) depends
- d) collapses

3. Fill in the blank with the most appropriate word provided below.

- a) encourage
- b) reduce
- c) justify
- d) commercialize

4. According to the article, which of the following statements are True or False? Circle "True" or "False" in the parenthesis on the answer sheet.

- 1) The health community has actively applied successful tobacco control strategies to fossil-fuel pollution for many years.
- 2) Fossil-fuel pollution contributes to both premature deaths and various serious health conditions, including heart and lung diseases.
- 3) The International Energy Agency insists that new fossil-fuel extraction is necessary to meet future global electricity demand.
- 4) Oil companies such as Exxon were aware of the impact of fossil fuels on global warming but misled the public.

問題③

Question③

Read the article and answer the following questions in English.

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(From Smriti Mallapaty, New antibiotic that kills drug-resistant bacteria discovered in technician's garden, *Nature*, News 26 March, 2025, 640, 19-20. The text has been partially modified.)

Question③

1. Answer the questions 1)-3) within 30 words each.
 - 1) What are the two favorable properties of lariocidin as an antibiotic revealed by cell studies?
 - 2) How does lariocidin cause a bacterium's death, according to its mechanism of action?
 - 3) What are the structural characteristic of lariocidin that make it robust?

2. According to the article, which following statements are True or False? Circle 'True' or 'False' in the parentheses on the answer sheet.
 - 1) The article states that lariocidin targets the bacterium's ribosome, an attractive target because bacteria do not easily develop resistance to drugs targeting this structure.
 - 2) Lariocidin is described as a small and simple molecule, making it an ideal candidate for immediate use in drug manufacturing.
 - 3) In the experiment with infected mice, the untreated control group survived the infection but had higher levels of bacteria in their blood.
 - 4) According to the researchers, lariocidin has already been optimized for potency and is ready for human clinical trials.

Answers to Question①

1. [1] an investigation into whether imports of medicines and active ingredients threaten national security (10 points)

[2] an action to lower the price of drugs (10 points)

2. Experts worry that tariffs might increase drug prices and cause shortages, especially for generic drug. (10 points)

3. Answer: B (10 points)

4 Answer: C (10 points)

5. Answer: A (10 points)

6. Answer: D (10 points)

7. Answer: C (10 points)

8. Answer: A (10 points)

9. Answer: C (10 points)

Answers to Question②

1. (20*2)

1) Public acceptance of an industry's practices, allowing it to operate without major opposition or regulatory pressure.

2) Because increasing fossil fuel development contradicts efforts to limit global warming to 1.5°C above preindustrial levels.

2. c) depends (10)

3. b) reduce (10)

4. (10*4)

1) (False)

2) (True)

3) (False)

4) (True)

Answers to Question③

1. (20*3)

1) It targets a broad range of bacteria, including drug-resistant strains, and is not toxic to human cells.

2) It binds to the ribosome and to transfer RNA, causing the ribosome to produce faulty peptides, some of which are toxic to the bacterium, ultimately killing the bacterium.

3) It is a peptide that forms a "lasso-shaped knot".

2. (10*4)

1) True

2) False

3) False

4) False