Scientists Identify Popular Food That May Reduce Microplastics

Description

Scientists in South Korea have discovered that a bacterium from kimchi can help remove tiny plastic particles from the human body. This finding is important because plastic pollution is a growing health concern. Researchers at the World Institute of Kimchi report that this bacterium attaches to nanoplastics and microplastics in the gut, which may help carry them out of the body.

Nanoplastics are very small plastic particles, less than 1 micrometer in size. Microplastics are slightly larger, measuring less than 5 millimeters. These particles come from larger plastics that break down in the environment. They are now found in food and drinking water, and they can enter the body and settle in organs like the brain and kidneys.

The research team, led by Dr. Se Hee Lee, tested a kimchi-derived bacterium called Leuconostoc mesenteroides CBA3656. This strain was very effective in binding to polystyrene nanoplastics. In lab tests, it had an adsorption rate of 87%. When tested in mice, those given this bacterium excreted more than double the amount of nanoplastics compared to those without it.

The study suggests that kimchi bacteria may provide a new way to address plastic pollution in the body.

Comprehension Questions

Multiple Choice

1. What is the name of the bacterium discovered in kimchi by scientists in South Korea?
   - Option: Leuconostoc mesenteroides CBA3656
   - Option: Bacillus subtilis
   - Option: Lactobacillus plantarum
   - Option: Streptococcus thermophilus

2. What is the smallest size of nanoplastics?
   - Option: 1 millimeter
   - Option: 1 micrometer
   - Option: 5 millimeters
   - Option: 10 micrometers

3. Who led the research team that studied the bacterium from kimchi?

Option: Dr. Se Hee Lee
Option: Dr. Kim Jong Un
Option: Dr. Park Min Soo
Option: Dr. Lee Sun Kyung

4. What is the adsorption rate of the kimchi-derived bacterium to polystyrene nanoplastics?

Option: 50%
Option: 67%
Option: 75%
Option: 87%

5. What health concern does plastic pollution represent?

Option: A growing health concern
Option: A minor issue
Option: Nothing to worry about
Option: Only a concern for animals

6. What organ did the plastic particles settle in as mentioned in the text?

Option: Liver
Option: Heart
Option: Brain
Option: Lungs

True-False

7. The research shows that kimchi bacteria can reduce plastic particles in the human body.

8. Microplastics are smaller than nanoplastics.

9. The bacterium tested in mice had an ADSORPTION rate of 87%.

10. Kimchi-derived bacteria have no effect on polystyrene nanoplastics.

11. Plastic pollution is not considered a health concern according to the study.

12. The bacterium from kimchi can help carry plastic particles out of the body.

Gap-Fill

13. The study focused on a bacterium called _____ mesenteroides CBA3656.
14. Nanoplastics are very small plastic particles, less than _____ micrometer in size.

14. Nanoplastics are very small plastic particles, less than _____ micrometer in size.

15. Microplastics are slightly larger, measuring less than _____ millimeters.

16. The research suggests that kimchi bacteria may provide a new way to address plastic _____ in the body.

17. The research team reported that the bacterium attaches to _____ in the gut.

18. In lab tests, the bacterium had an adsorption rate of _____ percent.

Answer

Multiple Choice: 1. Leuconostoc mesenteroides CBA3656 2. 1 micrometer 3. Dr. Se Hee Lee 4. 87% 5. A growing health concern 6. Brain
True-False: 7. True 8. False 9. True 10. False 11. False 12. True 14. True
Gap-Fill: 13. Leuconostoc 14. 1 15. 5 16. pollution 17. nanoplastics 18. 87

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Date Created
2026/04/01
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