

MICROBES: FRIENDS AND FOES

Microorganisms, also called **microbes**, are tiny forms of life that surround us — invisible to the naked eye. They are found in water, in the soil, in the air, and even in the human body.¹

Some microbes are important for our health while some make us sick. The most common are bacteria, viruses and fungi.¹

Abbott’s scientists who study infectious diseases — sometimes called “virus hunters” — work to make sense of which microbes are friends and foes.

BACTERIA²

You encounter both “good” and “bad” bacteria daily. Some bacteria are used in the preparation of foods, chemicals, and antibiotics. Studies of the relationships between different groups of bacteria continue to yield new insights.

Examples of BENEFICIAL BACTERIA³⁻⁴



Gut bacteria help break down food for digestion.



Certain bacteria can help activate cells within the immune system.

Examples of illnesses caused by HARMFUL BACTERIA⁵⁻⁸



TUBERCULOSIS



STREP THROAT



FOOD POISONING
(E. Coli or Salmonella)

VIRUSES⁹⁻¹⁰

These microorganisms are much better known for causing disease but also play a role in vaccine development. Scientists are working to understand how viruses might be beneficial to health.

Example of a harmful virus used in a BENEFICIAL WAY¹¹

Influenza is a contagious disease that can be serious. A yearly flu vaccine can help prevent it.



The vaccine contains a small amount of influenza, which is either weakened or inactive. The vaccine helps your body fight off an infection from this virus.

Examples of HARMFUL VIRUSES



HEPATITIS C



HIV



WEST NILE
and ZIKA

HOW DO WE DETERMINE IF A VIRUS IS HARMFUL?

Virus hunters take a number of steps to figure out if a virus is causing harm.



Work in areas where a disease is prevalent



Interview sick people to figure out how they might have become ill and take samples



Conduct research on microbes in samples



Develop tests that can detect microbes in infected individuals

These are just some of the ways that virus hunters are helping you stay healthy.

📍 For more information: Visit abbott.com/virushunters. **👍 Like this graphic?** Share on social media using #VirusHunters.

1. What are microbes? Centers for Disease Control and Prevention (CDC): <https://www.cdc.gov/bam/diseases/immune/microbes.html>

2. Rogers, K and Kadner, RJ. Bacteria. Encyclopædia Britannica: <https://www.britannica.com/science/bacteria>

3. The digestive system and how it works. National Institute of Diabetes and Digestive and Kidney Diseases: <https://www.niddk.nih.gov/health-information/digestive-diseases/digestive-system-how-it-works>

4. How bacteria boost the immune system. ScienceDaily. Loyola University Health System. www.sciencedaily.com/releases/2010/06/100614171907.htm

5. Basic TB facts. CDC: <https://www.cdc.gov/tb/topic/basics/default.htm>

6. Strep throat. CDC: <https://www.cdc.gov/dotw/strepthroat/index.html>

7. E. coli (Escherichia coli). CDC: <https://www.cdc.gov/ecoli/index.html>

8. Salmonella: Questions and answers. CDC:

<https://www.cdc.gov/salmonella/general/index.html>

9. Virus or bacterium? American Society for Microbiology:

<http://www.microbeworld.org/what-is-a-microbe/virus-or-bacterium>

10. Roossinck, MJ. Move over, bacteria! viruses make their mark as mutualistic microbial symbionts. Journal of Virology. 2015; 89 (13): 6532-6535.

11. How influenza (flu) vaccines are made. CDC:

<https://www.cdc.gov/flu/protect/vaccine/how-fluvaccine-made.htm>