



Bacterial Communities in Microwave Ovens

[Source: Nature](#)

Microorganisms thriving in extreme environments like microwave ovens have been studied to understand their **evolutionary adaptations**.

▪ Key Findings:

- The **dominant** ones belonged to the *Bacillus*, *Micrococcus* and *Staphylococcus genera*, which commonly live on **human skin** and surfaces that people frequently touch.
- A few bacteria types associated with **food-borne illnesses**, including *Klebsiella* and *Brevundimonas*, also grew in household microwaves.
- **Laboratory** microwave ovens contained the **greatest genetic diversity** (variation in **genes** within a species) of bacteria.

- Microwave heating uses **electromagnetic waves (300 MHz to 300 GHz)** to generate **heat** and **inactivate** most microorganisms in food.

▪ Bacteria:

- **Bacteria** are **microscopic** living organisms that have only one cell. It has various shapes like **spheres, rods, and spirals**. They can be good or bad.
 - **Good Bacteria:** Some are **found in the intestines and help break down food** and prevent constipation and diarrhoea like *Bifidobacteria*.
 - **Bad Bacteria:** Some of them cause diseases like **Typhoid fever** by *Salmonella Typhi*.
- **Extremophiles** are organisms that can **survive** and even **thrive**, in the **harshest** of environments, including inside scorching **hydrothermal vents**, **sub-zero Antarctic ice** and the **crushing pressures** of Earth's crust.

Read More: [Metagenomics](#)

PDF Refernece URL: <https://www.drishtiias.com/printpdf/bacterial-communities-in-microwave-ovens>