

Deinococcus radiodurans

March 8, 2026 • vajiramandravi.com



Deinococcus radiodurans Latest News

Researchers recently found that the bacteria *Deinococcus radiodurans*, famous for being able to survive extreme radiation and dryness, can also survive the intense pressures of being blasted off of a planet's surface: 14,000-24,000 earth atmospheres.

About *Deinococcus radiodurans*

- It is a **bacterium** best known for its **extreme resistance to the lethal effects of ionizing radiation**.
- This bacterium is **gram-positive** (which means it has a certain kind of cell wall), doesn't move on its own (**it's nonmotile**), and has a **reddish color**.
- It was first found in 1956 in canned meat that had been treated with radiation to kill germs.
- **Dubbed "Conan the Bacterium"** for its extraordinary **ability to tolerate the harshest of conditions**, *D. radiodurans* can withstand radiation doses thousands of times higher than what would kill a human.
- It is known as the **most radiation-resistant organism on Earth**.

- The secret behind this impressive resistance is the **presence of a collection of simple metabolites**, which **combine with manganese** to **form a powerful antioxidant** that is **more resistant to radiation**.
- D. radiodurans has special ways to **fix its own DNA if it gets damaged**. An **enzyme** called **thioredoxin reductase** **helps its cells fix broken DNA strands**.
 - It can **also get rid of damaged DNA parts** and **has extra copies of its important genes**.
 - This **helps it recover from being very dry** (called desiccation) **or from not having enough food** (called starvation).
- It can **live through extreme cold, dehydration, vacuum, and even acid**.

Source: TH

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