

Ideonella Sakaiensis

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Ideonella Sakaiensis Latest news

Research has identified promising microbes like *Ideonella sakaiensis*, which can degrade PET plastic.

About *Ideonella Sakaiensis*

- It is a **bacterium from the genus *Ideonella*** and family Comamonadaceae.
- It is capable of breaking down and consuming the **plastic polyethylene terephthalate (PET)** using it as both a carbon and energy source.
- It was discovered by a **group of researchers in Japan**.
- It breaks **PET into its (environmentally benign) building blocks**. These can then be used as food by *I. sakaiensis* and other organisms.

Characteristics of *Ideonella Sakaiensis*

- It is a **Gram-negative, rod-shaped, motile**, non-sporing, non-pigment-producing, monotrichous bacterium.

- They typically **measure about 1.2 to 1.5 µm in length** and 0.6 to 0.8 µm in width, giving the appearance of a bacillus under the microscope.
- It was initially discovered from PET-contaminated soil, suggesting its main habitat to be the environment, mainly soil with enriched plastic wastes.
- They are found to live in oxygen-rich moist soil and sewage sludge.

What is Polyethylene Terephthalate?

- It is a condensation **polymer of ethylene glycol and terephthalic acid**.
- The by-product of the reaction is water so it is an example of condensation or step-growth polymerization.
- PET Plastic is a **thermoplastic synthetic substance** which is malleable under heat and can be placed into nearly any shape.

Source: DTE

Source: <https://vajiramandravi.com/current-affairs/ideonella-sakaiensis/>

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