

Difference Between Pseudomonas Aeruginosa and Enterobacteriaceae

www.differencebetween.com

Key Difference - Pseudomonas Aeruginosa vs Enterobacteriaceae

Bacteria are microorganisms that cause diseases in animals and plants. They are ubiquitous organisms, meaning they are present everywhere.

Enterobacteriaceae is a large family of gram-negative bacteria. It includes rod-shaped, flagellated motile bacteria. This family consists of most common pathogenic bacteria such as *E. coli*, *Shigella*, *Salmonella*, *Klebsiella*, etc.

Pseudomonas aeruginosa is a gram-negative, rod-shaped motile bacterium of the family Pseudomonadaceae and order Pseudomonadales. *P. aeruginosa* is an aerobic bacterium that is known as a common nosocomial pathogen.

The **key difference** between *P. aeruginosa* and Enterobacteriaceae is that ***P. aeruginosa* is a bacterial species while Enterobacteriaceae is a family of gram-negative bacteria.**

What is Pseudomonas Aeruginosa?

Pseudomonas aeruginosa is a bacterial species that is gram negative and rod-shaped. It causes diseases in plants and animals including humans. *P. aeruginosa* is an obligate aerobic bacterium. It is common as an opportunistic pathogen. *P. aeruginosa* belongs to family Pseudomonadaceae and order Pseudomonadales. *P. aeruginosa* produces exotoxins and endotoxins that are powerful infectious agents.



Figure 01: *P. aeruginosa*

Aeruginosa is a very ubiquitous bacterium that is found in all most all the habitats including soil, water, humans, animals, plants, sewage, and hospitals. *P. aeruginosa* is popular as a nosocomial pathogen. *P. aeruginosa* is a multidrug-resistant bacterial species. Hence it is caused by hospital-acquired infections such as [pneumonia](#), sepsis etc.

What is Enterobacteriaceae?

Enterobacteriaceae is a large family of gram negative bacteria. It consists of nonpathogenic and pathogenic bacteria. They are found in soil and plants and are colonizers of the gastrointestinal tract of humans and animals. A well known pathogenic bacteria, *Shigella*, *E. coli*, *Salmonella*, *Klebsiella* belong to this family. And also this family consists of disease-causing bacteria such as *Proteus*, *Enterobacter*, *Serratia*, and *Citrobacter* etc.

Enterobacteriaceae belongs to the order Enterobacteriales. This family contains rod-shaped bacteria. Since they are gram-negative, they stain in pink colour during the gram staining procedure. Enterobacteriaceae bacteria are mostly facultative [anaerobic or aerobes](#). They possess flagella and this family contains many motile bacteria. Some bacteria are non-motile. Bacteria in the Enterobacteriaceae are non-spore forming. Many of the Enterobacteriaceae bacteria produce endotoxins that are harmful and cause diseases. Endotoxins are responsible for [inflammatory](#) and

vasodilatory [immune responses](#) in humans when released into the bloodstream.

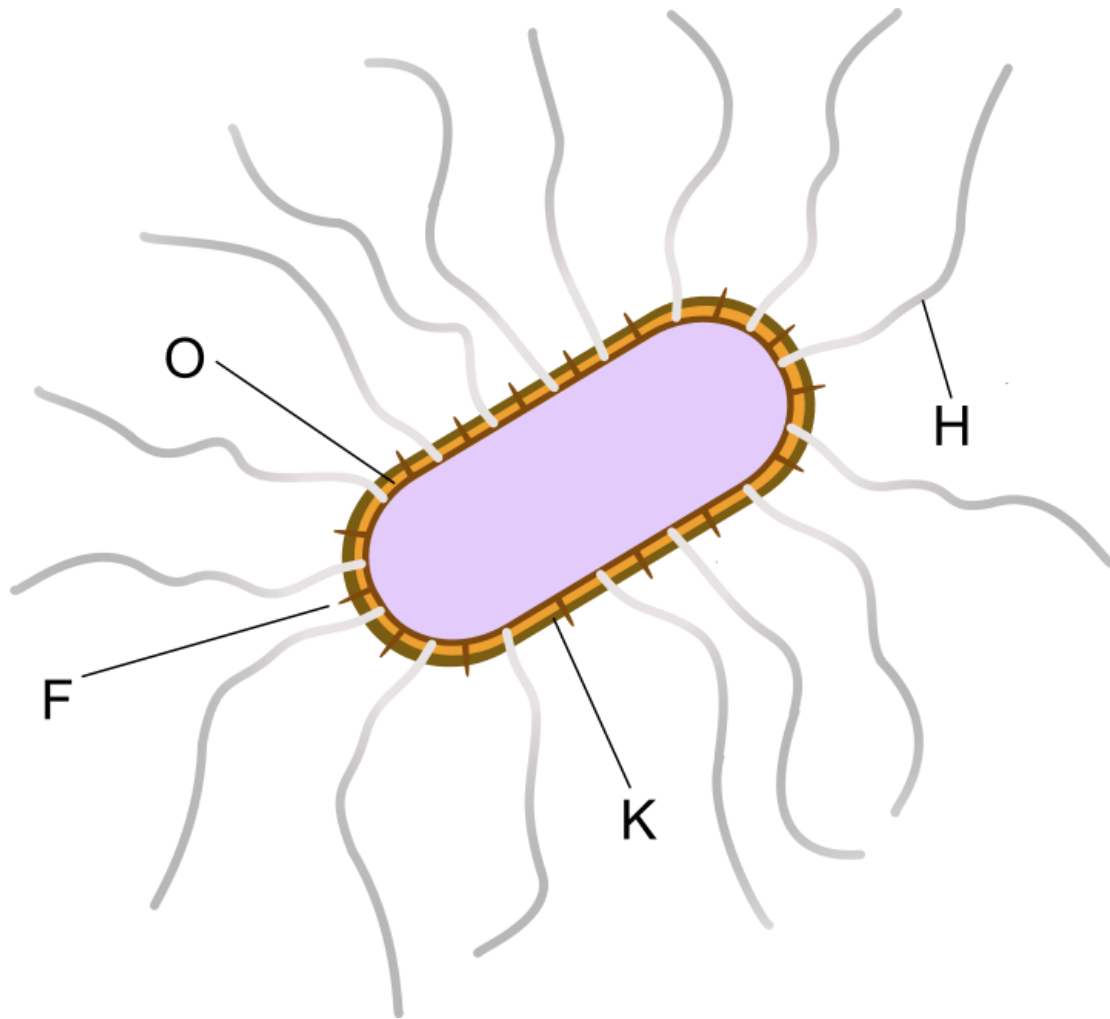


Figure 02: Enterobacteriaceae

One of the most popular Enterobacteriaceae bacterium *E. coli* is a free-living bacterium that causes urinary tract infection and traveler's diarrhea and is the most common cause of nosocomial bacteremia.

What are the Similarities Between *Pseudomonas Aeruginosa* and Enterobacteriaceae?

- Both *aeruginosa* and family Enterobacteriaceae are gram negative.
- Both *aeruginosa* and family Enterobacteriaceae are rod-shaped bacteria.

- Both types of bacteria stain in pink colour during the grams staining.
- Both types cause pneumonia and diarrhea.
- *aeruginosa* and Enterobacteriaceae bacteria produce toxins.
- *aeruginosa* and Enterobacteriaceae are non-spore forming.

What is the Difference Between *Pseudomonas Aeruginosa* and Enterobacteriaceae?

Pseudomonas Aeruginosa vs Enterobacteriaceae	
<i>Pseudomonas aeruginosa</i> is a common gram-negative rod shaped bacterium.	Enterobacteriaceae is a large family of gram-negative bacteria.
Bacterium or Group of Bacteria	
Pseudomonas Aeruginosa is a bacterial species.	Enterobacteriaceae is a family of bacteria.
Motility	
Pseudomonas Aeruginosa is a motile bacterium.	Enterobacteriaceae bacteria mostly motile. But it contains nonmotile bacteria as well.
Type	
Pseudomonas Aeruginosa is an obligate aerobic bacterium.	Enterobacteriaceae bacteria are aerobic or facultative anaerobic.

Summary - *Pseudomonas Aeruginosa* vs Enterobacteriaceae

Enterobacteriaceae is a large family of gram-negative bacteria that are non-spore forming, rod-shaped, motile and flagellated. This family includes most common disease-causing pathogenic bacteria such as *E. coli*, *Shigella*, *Salmonella* and *klebsiella*. Bacteria that belong to this family are aerobic or facultatively anaerobic. *Pseudomonas aeruginosa* is a gram-negative, rod-shaped flagellated bacterium family Pseudomonadaceae. It is a ubiquitous bacterium present in everywhere. It is known as an opportunistic

pathogen that causes nosocomial diseases in immune-compromised people. *P. aeruginosa* is an obligate aerobic bacterium. And it is not forming spores. It produces exotoxins and endotoxins. This is the difference between *P. aeruginosa* and Enterobacteriaceae.

Reference:

1. "Enterobacteriaceae." Enterobacteriaceae - an overview | ScienceDirect Topics. [Available here](#)
2. "Pseudomonas aeruginosa." Wikipedia, Wikimedia Foundation, 16 Jan. 2018. [Available here](#)

Image Courtesy:

1. 'Pseudomonas aeruginosa culture' By Sun14916 - Own work, [\(CC BY-SA 3.0\)](#) via [Commons Wikimedia](#)
2. 'Enterobacteriaceae Antigen' By JrPolderivative work: Matthias M. [\(CC BY-SA 3.0\)](#) via [Commons Wikimedia](#)

How to Cite this Article?

APA: Difference Between Pseudomonas Aeruginosa and Enterobacteriaceae. (2018 January 18). Retrieved (date), from <http://differencebetween.com/difference-between-pseudomonas-aeruginosa-and-vs-enterobacteriaceae/>

MLA: "Difference Between Pseudomonas Aeruginosa and Enterobacteriaceae" Difference Between.Com. 18' January 2018. Web.

Chicago: "Difference Between Pseudomonas Aeruginosa and Enterobacteriaceae". Difference Between.Com. <http://differencebetween.com/difference-between-pseudomonas-aeruginosa-and-vs-enterobacteriaceae/> accessed (accessed [date]).



Copyright © 2010-2017 Difference Between. All rights reserved