

Difference Between *E. histolytica* and *E. coli*

www.differencebetween.com

Key Difference – *E. histolytica* vs *E. coli*

Entamoeba species are [eukaryotic](#) single celled [protozoans](#) which consist of both [pathogenic](#) and nonpathogenic forms. Most often they are the indicators of gastro intestinal disorders such as [food poisoning](#) caused by the consumption of contaminated food and beverages. *Entamoeba* species can be isolated from stool samples and would lead to fecal contamination of water ways; thus it acts as an indicator of fecal pollution. There are many species of *Entamoeba*; pathogenic forms, *Entamoeba histolytica* or *E. histolytica*, is the most studied species out of them since it is a common contaminant that causes Amoebiasis, a food borne illness. *Entamoeba coli* or *E. coli*, in contrast, is a nonpathogenic form of *Entamoeba* which is also isolated from stool samples and act as fecal contaminants and indicators of pollution, but not well studied as *E. histolytica*. This is the key difference between *E. histolytica* and *E. coli* is that ***E. histolytica* is a pathogenic form of *Entamoeba* whereas *E. coli* is a non pathogenic form.**

What is *E. histolytica*?

E. histolytica is a pathogenic protozoan responsible for Amoebiasis in humans, which is caused by ingesting *E. histolytica* contaminated foods or beverages. They are [anaerobic](#) in nature and do not require oxygen for their survival; thus [mitochondria](#) are not present. The [endoplasm](#) constitutes of a prominent nucleus which has a central karyosome and a lining of [chromatin](#) in the nuclear membrane. *E. histolytica* depends on other bacteria for its nutrient requirements; hence their storage granules contain bacteria or cells such as [red blood cells](#).

E. histolytica has a simple life cycle, and exist in two main forms; the trophozoite stage and the cyst stage. The trophozoite stage is the active stage whereas the cyst stage is the resistant and dormant stage which has the ability to survive for long periods of time.

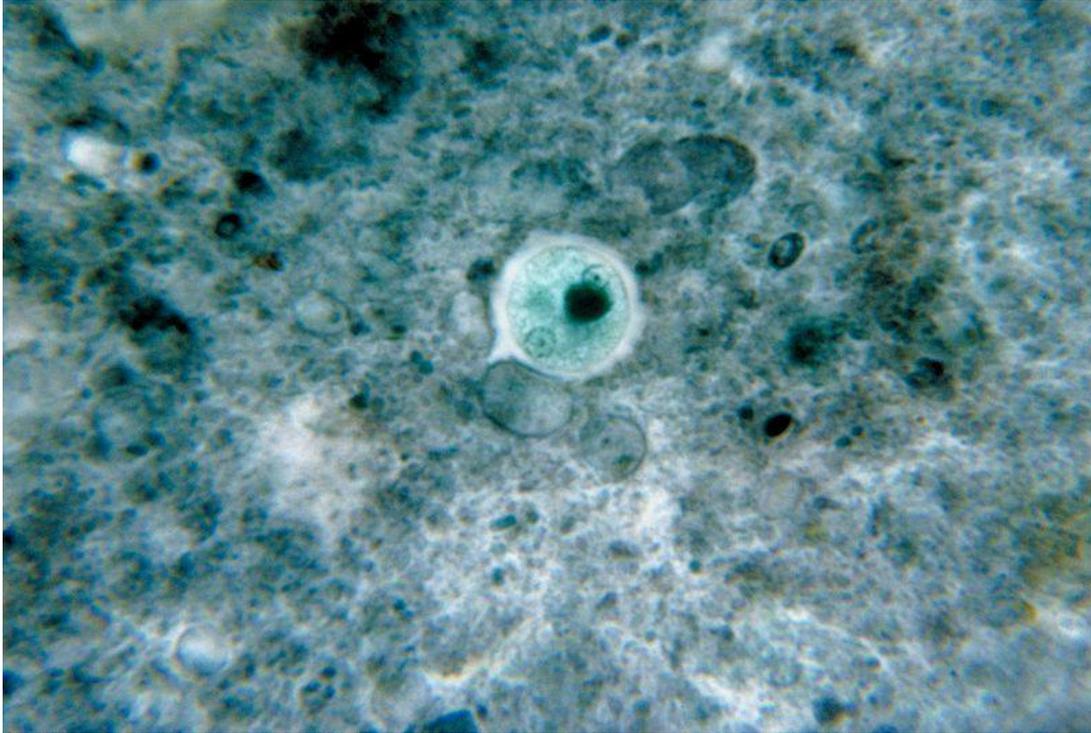


Figure 01: *E. histolytica*

The protozoan enters the body via the fecal oral route and stabilizes itself in the gastro intestinal tract, mainly along the [small intestine](#). They are believed to alter to natural [microbiome](#) of the gut and disrupt the intestinal cells, thereby affecting the process of absorption, leading to infections depicting symptoms such as [diarrhea](#). This infection leads to [lesions](#) in the small intestine and upon prolonged exposure if the protozoan manages to escape to the circulatory system it can cause lethal effects.

What is *E. coli*?

Entamoeba coli or *E. coli* is a nonpathogenic form of *Entamoeba* protozoa found mainly in the [large intestine](#). These species also enters the host system via the oral fecal route and are readily passed through stools if ingested. It is distributed in any polluted water way and also acts as an indicator of pollution. The endoplasm constitutes of a prominent nucleus which has a central karyosome and the chromatin is clumped and unevenly distributed in the nucleus. The cysts are capable of residing for a longer period, but the trophozoite is readily passed via stools.

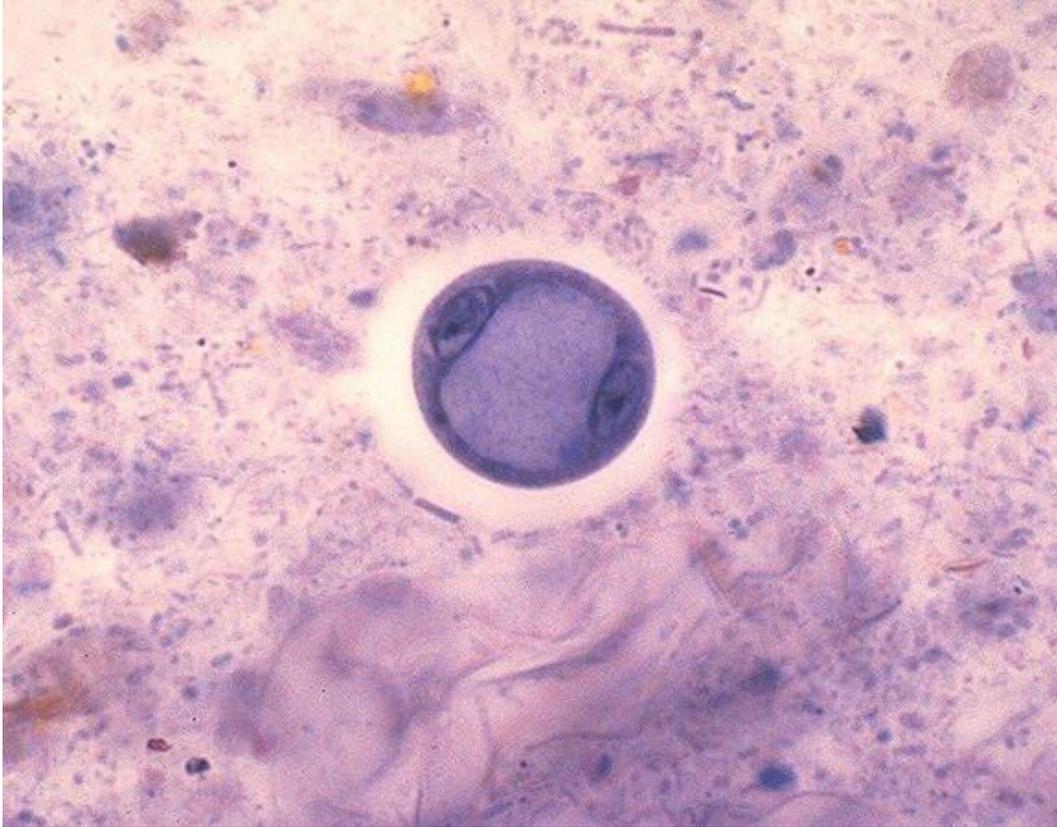


Figure 02: Entamoeba coli

What are the similarities between *E. histolytica* and *E coli*?

- *histolytica* and *E coli* belong to the genus *Entamoeba*.
- Both are eukaryotic single celled organisms.
- Both organisms exist in two forms; trophozoite and cyst.
- Both are anaerobic.
- Both organisms contain a central nucleus with a prominent karyosome.
- Both contain storage food granules in the cytoplasm.
- Mode of entry of both types is fecal-oral route.
- Both are indicators of fecal contamination.

What is the difference between *E. histolytica* and *E. coli*?

E. histolytica vs *E. coli*

E. histolytica is a pathogenic form of *Entamoeba* protozoan responsible for causing Amoebiasis.

E. coli is non-pathogenic form of *Entamoeba*.

Nucleus

Chromatin is placed like a thin thread along the nuclear membrane of <i>E. histolytica</i> .	Chromatin is clumped and distributed in the nucleus of <i>E. coli</i> .
Visibility of Nucleus	
The nucleus of <i>E. histolytica</i> is only visible when stained.	The nucleus of <i>E. coli</i> is visible under unstained condition.
Habitat	
<i>E. histolytica</i> is found in the small intestine.	<i>E. coli</i> is found in the large intestine.
Pseudopodia for Locomotion	
Pseudopodia are present in <i>E. histolytica</i> .	Pseudopodia are absent in <i>E. coli</i> .
Motility	
<i>E. histolytica</i> is actively motile.	<i>E. coli</i> is sluggishly motile.

Summary – *E. histolytica* vs *E. coli*

Entamoeba species, which possess a life cycle that alternates between the trophozoite stage and the cystic stage, can be either parasitic or non-parasitic. *E. histolytica* is the parasitic form which causes the food borne disease Amoebiasis which can be lethal upon the protozoan entering the circulatory system, whereas, *E. coli* the non-parasitic form is excreted via stools and can live as commensals in the large intestine. This is the difference between *E. histolytica* and *E. coli*. Both these species act as pollution indicators and used to determine fecal contamination of water ways.

References:

1. “Basic Information on Entamoeba.” Entamoeba Basics, [Available here](#). Accessed 18 Aug. 2017.
2. “Entamoeba coli – NCBI Taxonomy – Overview.” Encyclopedia of Life. [Available here](#). Accessed 18 Aug. 2017.
3. Sodeman, William A., and Jr. “Intestinal Protozoa: Amebas.” Medical Microbiology. 4th edition., U.S. National Library of Medicine, 1 Jan. 1996. [Available here](#). Accessed 18 Aug. 2017.

Image Courtesy:

1. "Entamoeba histolytica 01" By CDC/ Dr. George Healy – from the Centers for Disease Control and Prevention's Public Health Image Library (PHIL), with identification number #1474. (Public Domain) via [Commons Wikimedia](#)
2. "Entamoeba coli 01" By U.S.A –
http://en.wikipedia.org/wiki/Image:Entamoeba_coli_01.jpg (Public Domain)
via [Commons Wikimedia](#)

How to Cite this Article?

APA: Difference Between E. histolytica and E. coli. (2017, August 21). Retrieved (date), from <http://www.differencebetween.com/difference-between-e-histolytica-and-vs-e-coli>

MLA: " Difference Between E. histolytica and E. coli " Difference Between.Com. 21 August 2017. Web.

Chicago: "Difference Between E. histolytica and E. coli." Difference Between.Com. <http://www.differencebetween.com/difference-between-e-histolytica-and-vs-e-coli> (accessed [date]).



Copyright © 2010-2017 Difference Between. All rights reserved.