

Difference Between Chyle and Chyme

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Key Difference – Chyle vs Chyme

Digestive system is the organ system which converts food into energy and other nutrients. Whatever food you eat is converted into nutrients which can be utilized as energy, for growth and other cellular functions. The human digestive system consists mainly of the gastrointestinal tract and other accessory organs which support digestion. When a person swallows food, food goes to the esophagus and then to the stomach and mixes with the digestive juices (acids and digestive enzymes) produced by the stomach. Stomach stores these swallowed food and liquids together with its digestive juices. This mixture or the mass of partly digested foods and stomach fluids is known as chyme. Stomach transfers the chyme to the small intestine for further digestion and nutrient absorption. When chyme reaches the small intestine, it mixes with the digestive juices produced by the pancreas, liver, and intestine. During the digestion inside the small intestine, it produces a milky fluid containing emulsified fat and other products of further digested chyme, which is known as chyle. The key difference between chyle and chyme is that **chyle is formed in the small intestine while chyme is formed in the stomach**

What is Chyme?

Organisms eat food for nutritional requirements. Once the food goes into the mouth, it mixes with saliva and breaks into small pieces. The tongue mixes all the content and makes a mixture known as bolus. Bolus goes to the stomach via esophagus and mixes with stomach digestive juices. The stomach secretes acids (HCl) and digestive enzymes (rennin, pepsin, etc.) help further digestion of ingested foods. The mixture of stomach digestive juices, together with partly digested bolus, is known as chyme. Chyme is a semifluid mass of partly digested foods and stomach fluids. Chyme is acidic due to mixing with gastric acids.

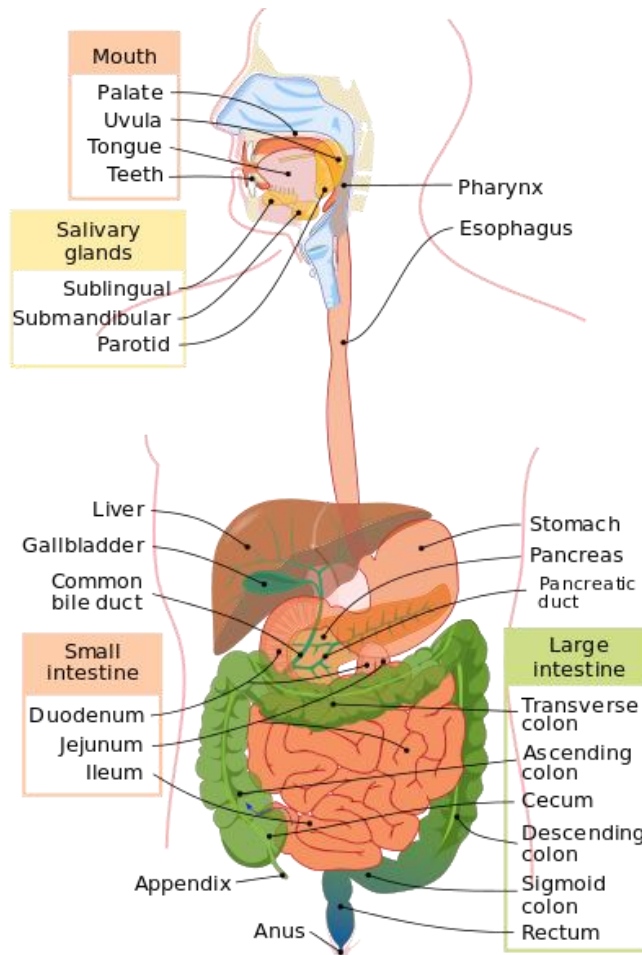


Figure 01: Human Digestive System

In the small intestine, chyme mixes with some intestinal juices and the bile and makes chyle. The small intestine absorbs the nutrients you need to live and the rest goes to the large intestine.

What is Chyle?

Chyme reaches the small intestine after the digestion process in the stomach. In the small intestine, chyme mixes with intestine juices and bile and converts into a milky fluid known as chyle. Chyle is actually formed due to the digestion of the fatty foods. Therefore chyle is composed of emulsified fat and oils. It digests inside the small intestine. [Proteins](#), [carbohydrates](#), [lipids](#) and [nucleic acids](#) are completely digested and absorbed by the small intestine.

Chyle consists of fat droplets and [lymph](#). It drains from the lacteals of the small intestine to the lymphatic system and travels throughout the body. The small

intestine is responsible for absorption of most of the nutrients from the chyle. The rest of the chyle enters into the large intestine. Water is absorbed from the chyle within the large intestine. The remaining solid part transforms into feces and reaches the rectum and is later expelled by the anus.

What is the relationship between Chyle and Chyme?

- Chyle is produced from chyme.

What is the difference between Chyle and Chyme?

Chyle vs Chyme	
Chyle is a milky fluid comprised of lymph and emulsified fat globules that are formed in the small intestine during digestion.	Chyme is the mixture of partly digested foods and stomach juices.
Formation	
Chyle forms in the small intestine.	Chyme forms in the stomach.
Composition	
Chyle is composed of digested foods, stomach juices, and small intestine juices.	Chyme is composed of partly digested foods and stomach juices.

Summary – Chyle vs Chyme

Chyle and chyme are two different contents formed during digestion. Chyme is formed in the stomach. It is the mixture of partly digested food and stomach juices. Chyme is a result of the mechanical and chemical breakdown of the bolus. Chyme converts into chyle once it reaches the small intestine. Chyme is the milky fluid formed by mixing chyme with small intestine juices. This is the difference between chyle and chyme.

References:

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Image Courtesy:

1. "Digestive system diagram en" By Mariana Ruiz Villarreal(LadyofHats) – Own work (Public Domain) via [Commons Wikimedia](#)

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