

# Enzyme Chart

ENZYME	MADE IN	ACTS ON	ACTION
1. Ptyalin (Salivary Amylase)	Salivary glands	Starch	Starch → disaccharide
2. Maltase	Small Intestine (SI)	Maltose	Maltose → 2 glucose
3. Lactase	SI	Lactose	Lactose → 1 glucose and 1 galactose
4. Sucrase	SI	Sucrose	Sucrose → 1 glucose and 1 fructose
5. Pancreatic Amylase	Pancreas	Starch	Starch → disaccharides
6. Pepsinogen	Stomach	---	Inactive form of pepsin - activated by HCl
7. Pepsin	Stomach	Protein	Protein → short polypeptides
8. Trypsinogen	Pancreas	---	Inactive form of trypsin
9. Trypsin	Pancreas	Short polypeptides	Short polypeptides → dipeptides
10. Peptidase	SI	Dipeptides	Dipeptides → amino acids
11. Bile	Liver	Fats	Emulsifies (breaks up) large fats → small fats
12. Lipase	Pancreas	Fats	Small fats → fatty acids and glycerol
13. Enterokinase	SI	Trypsinogen	Trypsinogen → trypsin

Villus Diagram Answers on Next Page→

## Intestinal villus

### READ INFORMATION BELOW!!!

From Wikipedia, the free encyclopedia

**Intestinal villi** (singular: **villus**) are tiny, finger-like projections that protrude from the epithelial lining of the intestinal wall. Each villus is approximately 0.5-1.6 mm (millimetres) in length and has many microvilli (singular: [microvillus](#)), each of which are much smaller than a single villus. Intestinal villi should not be confused with the larger folds of [mucous membrane](#) in the [bowel](#) known as the [plicae circulares](#). A villus is much smaller than a single fold of plicae circulares.

Villi increase the internal surface area of the intestinal wall. Increased surface area allows for increased intestinal wall area that is available for absorption. Increased absorptive area is useful because digested nutrients (including [sugars](#) and [amino acids](#)) pass into the villi which is semi permeable, through diffusion, which is effective only at short distances. In other words, increased surface area (in contact with the fluid in the [lumen](#)) decreases the average distance traveled by nutrient molecules, so effectiveness of diffusion increases. The villi is connected to the blood vessels so the circulating blood then carries these nutrients away to the cells in the body that need them.<sup>[1]</sup>

### [Villus Diagram Answers]

1. Muscularis mucosae
2. Central Lacteal (part of the lymphatic system that provides white blood cell immunity)
3. Mucous membrane
4. Capillary network (smallest blood vessels)
5. Circular muscle
6. Longitudinal Muscle
7. Serosa
8. Submucosa
9. Lymphatic Vessel (an extension of the lacteal).
10. Muscular Coat
11. Submucosa
12. Epithelial Cell (Simple columnar Tissue)
13. Arteriole (=medium-sized artery).
14. Venule (=medium-sized vein)
15. Villus