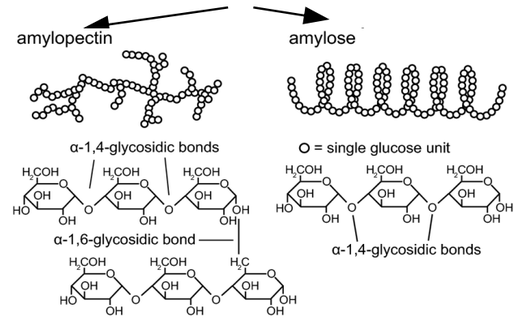
Starch Digestion in the Small Intestine

Starch is an important component of many human diets

It occurs as:



Digestion of starch is completed by enzymes in the membranes of microvili on villus epithelium cells: maltase and dextrinase digest maltose and dextrins into glucose

The process consist on the following steps:

The food is chewed

Amylose, as it is present in the saliva, gets mixed with th food and breaks dow the α-1,4 glycosidic bonds that connect the maltose monomers in amylose and amylopectin.

The end products are maltose and maltriose.

The di- and tri-saccharides produced from the starch molecules are too large to pass through membranes, so they need to be broken down into monomers (monosaccharides) before they can be absorbed.

A mixture of maltose, maltotriose and dextrins enter the small intestine.

Three enzymes that are immobilised in the epithelial cells of the small intestine, maltase, glucosidase and dextrinase, break down these molecules into glucose, which can then be absorbed by the villi.

All absorbed monomers from food are transported via the hepatic portal vein from the small intestine to the liver, from there it enters the general circulation which then makes the glucose available for use by all body cells.