

DISACCHARIDASE DEFICIENCY

What are disaccharidases? Disaccharidases are enzymes that break disaccharides down into monosaccharides for digestion. Disaccharidases are located in the brush border membrane (microvilli) of the small intestine.

Gastrointestinal symptoms often result when disaccharides cannot be properly digested due to a deficiency of the corresponding disaccharidase. This may occur if there has been damage to the microvilli of the small intestine, leading to inadequate production of the enzymes. Damage to the microvilli may be the result of inflammation resulting from intestinal infection (enteritis), due to a virus (rotavirus), a bacterium (Giardia lamblia) or an intestinal parasite. It may also be the result of a food allergy, gluten enteropathy (celiac disease), Crohn's disease, long-term use of strong antibiotics or from chronic diarrhea.

Disaccharides are a combination of two monosaccharides

Sucrose (table sugar) = glucose + fructose. Requires sucrase for digestion

Maltose (beer sugar) = glucose + glucose. Requires glucoamylase for digestion

Lactose (milk sugar) = galactose + glucose. Requires lactase for digestion

Palatinose (isomaltulose) = glucose + fructose. Requires palatinase for digestion

The two polysaccharides amylose and amylopectin (starches) also require Glucoamylase for digestion.

If you have a

Sucrase deficiency – avoid table sugar (white and brown) and all sweets/desserts (soda, candy, honey, syrup, jam jelly, desserts)

Glucoamylase deficiency – avoid beer, malt beverages, root beer and starches (bagels, bread, buns, tortillas, pasta, rice, waffles, potatoes, corn, peas, squash, soup)

Lactase deficiency – avoid milk and all dairy products (milk, yogurt, cheese, butter, cream, half and half, sherbet, ice cream pudding)

Palatinase deficiency – avoid potatoes, pasta and starches (bagels, bread, buns, tortillas, pasta, rice, waffles, potatoes, corn, peas, squash, soup)

Reference: Aspirus Nutrition Counseling