

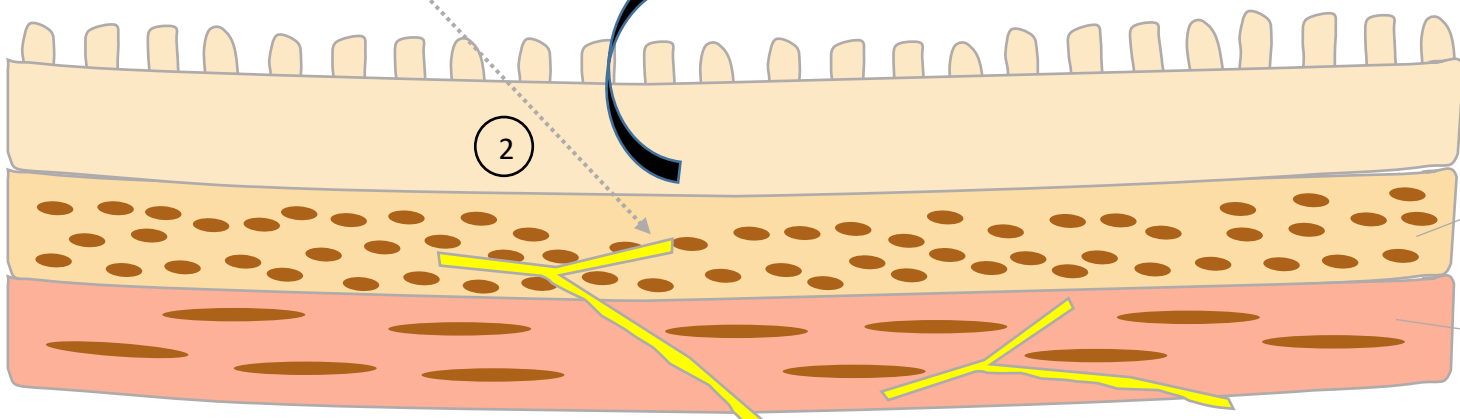
Tamarine®

Anthraquinones

Intraluminal Fluid Increase

Peristalsis

Increase of Motility



1

2

Myenteric plexus

Submucosal plexus

Inner layer (circular)

Muscularis externa

Outer layer (longitudinal)

Figure 1. Mechanism of action of Tamarine®. The figure illustrates the structural organization of the intestinal wall, focusing on the muscularis externa, which consists of two smooth muscle layers responsible for peristalsis.

- The inner circular layer contains muscle fibers arranged circumferentially around the lumen; its contraction reduces the luminal diameter.
- The outer longitudinal layer contains fibers oriented along the long axis of the intestine; its contraction shortens the intestinal segment. Coordinated, sequential contraction of these two layers generates peristalsis, the propulsive movement that advances intestinal contents.

Embedded within the intestinal wall is the enteric nervous system (ENS), which regulates motility and secretion. The myenteric (Auerbach's) plexus, located between the circular and longitudinal muscle layers, primarily controls intestinal motility and coordinates peristaltic contractions. The submucosal (Meissner's) plexus, located in the submucosa, regulates epithelial secretion, fluid transport, and local blood flow.

Tamarine® contains senna-derived anthraquinones (sennosides), which exert a dual mechanism of action in the colon¹⁻²:

1. **Modulation of water and electrolyte transport:** Active senna metabolites reduce absorption of sodium (Na^+) and chloride (Cl^-) and promote their secretion into the intestinal lumen. This osmotic effect increases intraluminal water content, softens stools, and accelerates transit.
2. **Stimulation of enteric neural activity:** Senna stimulates intrinsic enteric neurons, particularly within the myenteric plexus, thereby enhancing propulsive motility and reducing intestinal transit time. Effects on the submucosal plexus further contribute to increased fluid secretion.

In addition, tamarind extract and coriander fruit powder may support the overall laxative effect by contributing mild osmotic activity and helping reduce intestinal spasms or discomfort, thereby improving tolerability.

Ref. 1: Izzy M et al, Review of efficacy and safety of laxatives use in geriatrics., World J Gastrointest Pharmacol Ther. 2016 May 6;7(2):334-42.

Ref. 2: European Medicines Agency, assessment report on Cassia senna l. and Cassia angustifolia vahl, folium, April 2007, EMEA/HMPC/51868/2006 Corr.