

Abstract

Intestinal cancer is a serious and common disease. To understand the mechanisms of its development, it is important to know the structure of the intestinal epithelium, as well as the signalling pathways that maintain the homeostasis and regulate cell proliferation and differentiation. Development of the intestinal cancer is a multistep process in which many molecular events underlie initiation and progression of the disease. Transgenic mice produced by genetic engineering are essential tools in both research of the intestinal cancer initiation and progression and possible treatment strategies. The aim of this work is to describe the intestinal anatomy and the renewal of the intestinal epithelium including the role of multiple signalling pathways, to summarize the most common mutations conditioning human colorectal carcinoma development and to define the existing mouse models of the disease.