

Goldin, B.R., & Gorbach, S.L., (1984). The Effect of Oral Administration on *Lactobacillus* and Antibiotics on Intestinal Bacterial Activity and Chemical Induction of Large Bowel Tumors. Developments in Industrial Microbiology, 25 (1), 139-150.

#### Abstract

The effect of antibiotics and *Lactobacillus acidophilus* supplements on fecal microflora activity was studied in humans and rats. In addition, the effect of these factors and diet on dimethylhydrazine-induced intestinal tumors in the rat were investigated. The bacterial enzymes that were investigated are known to catalyze reactions that may result in formation of proximal carcinogens. The addition of viable *Lactobacillus acidophilus* supplements to the diet reduced  $\beta$ -glucuronidase and nitroreductase in rats and humans. Erythromycin, tetracycline, and metronidazole reduced fecal  $\beta$ -glucuronidase activity in the rat. Oral administration of *L. acidophilus*, erythromycin, and tetracycline significantly reduced dimethylhydrazine-induced colon tumors in the rat. These findings suggested that the metabolic activity of the fecal microflora was influenced by *Lactobacillus* supplements and antibiotics. These intestinal alterations appear to reduce the capacity of the intestinal flora to catalyze the formation of carcinogens and/or the promotional factors involved in the chemical induction of large-bowel tumors.