

## Bilex

### DESCRIPTION

Bilex is a dietary enzyme formula that includes pancreatin and papain for protein, carbohydrate and fat digestion, along with the addition of ox bile extract to help break down and assimilate lipids in the intestinal tract.†

### FUNCTIONS

The pancreas supplies the major digestive enzymes that catalyze the breakdown of starches (carbohydrates), proteins and fats, so that the breakdown products can be absorbed in the upper small intestine. Some carbohydrate digestion takes place in the mouth by salivary amylase, but pancreatic amylase is the major carbohydrate-digesting enzyme. Amylases break down starches to maltose and maltotriose that are further hydrolyzed into glucose by the disaccharidases of the mucosal cells and then absorbed. Although cellulose is indigestible by pancreatic and intestinal enzymes, the microflora within the large intestine may degrade it and produce uncomfortable symptoms in the process. Although fat digestion starts in the mouth with the action of salivary lipase, the great majority of fat triglycerides are digested by pancreatic lipase secreted by the exocrine pancreas into the duodenum. Lipases break down triglycerides into monoglycerides and free fatty acids that are efficiently absorbed in the upper small intestine. Protein digestion is initiated in the stomach by pepsin and hydrochloric acid that denature and break large proteins down to smaller polypeptides. In the small intestine, proteases break down these polypeptides into free amino acids, and di- and tripeptides. These are directly absorbed by the intestinal mucosa. Papain is a protease enzyme derived from papaya and is an enzyme that breaks peptide bonds. Bile is normally secreted by the gallbladder to digest fat. Ox bile is very similar to human bile for aiding the digestion and assimilation of lipids in the small intestine.†

### INDICATIONS

Bilex may be a useful dietary supplement for individuals desiring digestive support of food.†

### FORMULA (#7102)

3 Tablets Contain:

Ox Bile Extract.....	380 mg
Pancreatin (10X) (from porcine).....	47 mg
Yielding approximately:	
Amylase .....	9400 USP units
Protease.....	9400 USP units
Lipase .....	752 USP units
Papain .....	372,000 USP units
(Carica papaya, papaya latex)	

Other ingredients: Microcrystalline cellulose, coating (hypromellose, glycerin), stearic acid, croscarmellose sodium, vegetable stearate and silica

### SUGGESTED USE

Adults take 3 tablets daily with meals or as directed by a healthcare professional.

### SIDE EFFECTS

No adverse side effects have been reported.

### STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

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### REFERENCES

Bragelmann R, Armbrecht U, Rosemeyer D, et al. The effect of pancreatic enzyme supplementation in patients with steatorrhea after total gastrectomy [see comments]. *Eur J Gastroenterol Hepatol* 1999;11:231-7.

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Greenberger NJ. Enzymatic therapy in patients with chronic pancreatitis. *Gastroenterol Clin North Am* 1999;28:687-93.

Lager P, Keller J. Pancreatic enzymes: secretion and luminal nutrient digestion in health and disease. *J Clin Gastroenterol* 1999;28:3-10

**For more information Bilex visit [douglaslabs.com](http://douglaslabs.com)**

† These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.

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