

CANINE ENTERIC SUPPORT

Canine Enteric Support is a blend of ingredients that provide support for a wide range of intestinal situations. These ingredients are known as functional foods, and include a broad grouping of tissue concentrates, whole vitamin complexes, and botanical components. In addition to support for enteric disorders, this product can be used in conjunction with many common drug protocols.

Proper intestinal function is essential for optimum health. Intestinal function has a direct and indirect impact on multiple body systems, especially the liver, kidney and immune systems. **Canine Enteric Support** is formulated to help normalize digestive function, promote healing and repair of digestive tissues, and to enhance the ability of intestinal cells to function and react to daily metabolic and immune challenges.

Indications for use:

- General enteric support
- Patients with abnormal enteric function or with increased metabolic demand
- Patients receiving drugs that are known to create enteric stress
- Hepatic patients in need of additional enteric support
- Patients with chronic immune disorders (hypersensitivity, immune dysfunction)
- Clinical signs associated with enteric dysfunction including decreased appetite, depression, vomiting, and diarrhea.
- Abnormal ALT, alkaline phosphatase, bile acids studies, and enteric histopathology.

Systems Supported:

- **Small Intestine** – primary support for the small intestine mediated with L-glutamine, desiccated duodenum, desiccated jejunum, desiccated stomach, chlorophyll, veal bone PMG, parotid PMG, chlorophyll, allantoin, pancreas PMG, pancreas cytosol, nutritional yeast, and rice bran
- **Liver** – primary support for the liver is mediated with liver PMG, desiccated liver, pea vine juice, nutritional yeast, rice bran, wheat germ oil, orchic extract, bentonite, beet root, beet leaf, and bile salts
- **Immune Tissues** – primary support for the immune tissues with desiccated jejunum, L-glutamine, spleen, calcium glycerophosphate, desiccated jejunum, and veal bone PMG

Whole Food Ingredient Sources:

- **Tissue desiccates** – liver, kidney, parathyroid, jejunum, duodenum, and stomach
- **Vitamin A complex** – liver and kidney
- **Vitamin B complex** – nutritional yeast, rice bran, and defatted wheat germ
- **Vitamin C complex** – mushroom and black currant juice
- **Carotenoids** – carrot
- **Minerals** – alfalfa juice
- **Botanical phytonutrients** – *Tillandsia usneoides* and licorice
- **Protomorphogens** – adrenal gland, liver, parotid, pituitary, and veal bone

Individual Ingredients:

Porcine stomach – cellular materials derived from the stomach. Used to improve the cellular biochemistry of the gastric mucosa, submucosa, and the neuronal components. This is important for the ability to respond to physiological demands.

L-glutamine – used as a primary energy source for enterocytes. Important for maintaining mucosal integrity and tight junctions (Buchman 1999).

Porcine duodenum – used to improve cellular biochemistry of the duodenum. Known to produce digestive secretions, like secretin, which promotes secretion of pancreatic fluid and bicarbonate (Chey, 2003).

Porcine jejunum – Important for maintaining the integrity of intestinal mucosa for proper absorption.

Bovine and ovine spleen – provides cellular materials from immune cells in the spleen.

Defatted wheat germ – source of vitamin E complex, vitamin B complex, trace minerals, antioxidant.

Bovine Liver – liver support, provides important cell substrates for hepatic cells and the Kupffer cells. Important both for the metabolic processes of the liver such as histamine detoxification and for particulate and bacterial toxin removal (increased intensity in Leaky Gut Syndrome).

Veal Bone PMG – source of bone protomorphogen, minerals, provides support for connective tissue structure and immune cells in bone marrow.

Alfalfa juice - source of bioavailable protein, vit A, C, E, and K complexes, carotenoids, chlorophyll, calcium potassium, isoflavonoids and triterpene saponins.

Bovine parotid PMG – extract from parotid salivary glands. Offers direct support for salivary glands (initial contact for food particles/amylase/pH) and indirect support for the stomach, small intestines, and pancreas (McColl 1979, Frulloni 1999, Lee, 1947, Kamisawa 2003).

Bovine kidney – kidney support, cell substrates for kidney cells.

Mushroom powder - rich source of vitamin C and tyrosinase

Nutritional yeast - provides a range of the whole vitamin B complexes that aid in nerve conduction and intestinal contractions.

Bovine liver PMG extract – liver support

Bovine adrenal PMG extract – adrenal support

Pea vine juice - source of whole vitamin E complex. Important antioxidant.

Bovine pancreas Cytosol extract – pancreas support, provides cellular materials derived from pancreatic cells. Used to improve pancreatic cell biochemistry and their ability to respond, exocrine and endocrine, to physiological demands. Pancreatic acinar atrophy is the most common cause of exocrine pancreatic insufficiency in the dog and is thought to be associated with nutritional deficiencies (Williams 1996) and lymphocytic pancreatitis (Wiberg, 1999).

Carrot - source of whole vitamin A complex, trace minerals

Rice bran - - provides whole vitamin B complex, important for cell energy reactions.

Bovine orchic extract – general endocrine support

Bovine pancreas PMG extract – pancreatic support

Purified bovine bile salts – the presence of bile salts in the intestine is a stimulus for secretion of bile. This benefits the liver, digestion and absorption, and the microenvironment of the intestine (Gruy-Kapral, 1999, Kishinaka, 1994, Guarner, 1997, Hofmann, 2002, Lorenzo-Zuniga, 2003).

Tillandsia usneoides (Spanish Moss) – contains significant amounts of various minerals, chlorophyll, and most of the B vitamins.

Licorice – stimulates cellular responses, beneficial for healing of damaged or inflamed intestinal mucosa (Rieth 1968, Loots 1979, Bone and Mills 2000), digestive support

Allantoin – a substance found in amniotic fluid and certain plants that is reported to promote natural cellular regeneration.

Wheat Germ oil – one of the richest sources of complete vitamin E complex, antioxidant, beneficial in multiple metabolic processes.

Beet leaf juice - supports proper bile production and flow, preventing accumulation of toxic bile salts (Graff 2002, Yerushalmi 2001). Also, the major protein in bile is IgA, which plays a significant part in mucosal immunity in the bile and upper small intestine (Brown 1989).

Beet root – contains betaine, glutamine, high levels of folic acid, and triterpene saponins. Important methyl group donor, facilitates Phase II hepatic detoxification.

Calcium glycerophosphate – source of calcium

Chlorophyll extract - support intestinal mucosa, provides minor levels of detoxification

Bovine pituitary PMG – Protomorphogen extract from pituitary glands. Offers direct support for the pituitary gland and signaling for the pancreas (Lee, 1947). Pituitary adenylate cyclase activating polypeptide has been shown to have a promoting effect on pancreatic insulin secretion (Yamaguchi, 2001).

Bentonite (Montmorillonite) – a natural colloidal, adsorbing clay which can bind substances present in the lumen of the digestive tract, allowing these substances to be eliminated with the fecal material.

Bovine parathyroid – parathyroid support, supports calcium metabolism.