

*“Pearls”
of
Veterinary Medicine*



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AT A GLANCE

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GASTROENTEROLOGY – PANCREATITIS

Panoquell for Acute Pancreatitis

Panoquell (fuzapladib) is a conditionally approved product marketed by CEVA. It is a Leukocyte function associated antigen 1 (LFA-1) activation inhibitor that reduces the infiltration of the pancreas by neutrophils and thereby reduces pancreatic inflammation. [ref] It is administered IV for 3 consecutive days. In a study of 36 dogs with cPL >400, Panoquell reduced symptoms and lowered the cPL by day 3. [ref]

The 14 mg, 4 mg/ml multi-use vial is stable for 28 days under refrigeration once reconstituted. 1 vial will treat a 25-pound dog for 3 days and costs \$225.00. [ref]

[For more information about Panoquell, click here.](#)

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INTEGRATIVE MEDICINE

Medicinal Mushrooms

Medicinal mushrooms have multiple beneficial effects: all species are anti-microbial, have lipid lowering benefits, support healthy inflammatory responses, support the microbiome, and are a source of vitamin D2. Lion’s mane supports cognition; Cordyceps supports energy and

endurance; and Shiitake and Oyster mushrooms are a source of ergothioneine, a glutathione-like antioxidant associated with longevity and improved cognition. In dogs, oyster mushroom improved responses to vaccines whereas Agaricus, Maitake and Turkey Tail may be beneficial adjuncts in cancer therapy.

Beta-glucans are polymers of glucose found in the fungal cell wall and are the major beneficial constituent of mushrooms. Each mushroom has its own beta-glucan composition. “Macrophages metabolize β-glucans into smaller, more immunologically active metabolites which bond to and activate bone complement receptors (CR3) on marrow granulocytes (stem cells), thus increasing immune competence.”

The positive response to mushrooms results from evolutionary pressure. “Fungal infections can be very destructive with a high rate of mortality. The immune system of all organisms early in their evolutionary development learned to identify and protect against fungal infections, or else risk death. It is the branched chain 1,3:1,6-β-glucans, mannans and glycoproteins that provide the molecular recognition factors for fungal organisms that trigger a robust immune response.”

Beta-glucans may be of benefit in improving response to vaccination – “puppies who fail to produce protective immunity for their vaccinations, as determined by vaccination titers, be given **4 mg/kg of a beta glucan product for a month**. Based on the results of this study, this can improve their immunological response to being revaccinated.” [ref]

The quality of mushroom products depends on the method in which the mushrooms are grown. The quantity of beta-glucans is much higher in mushrooms grown on native substrate (compost, wood, etc.) versus those grown on grain (mycelial biomass). Most mushrooms are grown in China whereas myceliated grain supplements are made in

