

An immunoassay for canine pancreatic Elastase 1 as an indicator for exocrine pancreatic insufficiency in dogs

¹Spillmann, T.; ²Wittker, A.; ²Teigelkamp, S.; ³Eim, C.; ⁴Burkhardt, E.; ³Eigenbrodt, E.; ⁵Sziegoleit, A.

¹Medizinische und gerichtliche Veterinärklinik I; ²ScheBo® • Biotech AG; ³Institut für Biochemie und Endokrinologie; ⁴Institut für Veterinär-Pathologie; ⁵Institut für med. Mikrobiologie der Universität Gießen/Germany

The detection of pancreatic Elastase 1 in stool samples has become the noninvasive gold standard for the diagnosis of pancreatic insufficiency in humans. Accordingly, the development of a sandwich-ELISA specific for canine pancreatic Elastase 1, based on monoclonal antibodies, is presented here. The test has a detection range of 4-240 µg canine pancreatic Elastase 1/g feces. The intraassay coefficient of variation is 7.4%, and the interassay coefficient of variation is 7.7%. Spiking experiments show that canine Elastase 1 is quantitatively detectable in fecal samples. Interestingly, the range of the Elastase 1 concentration in canine feces within several days is higher as compared with humans. As the proposed cutoff of 10 µg/g is below this variation range in 96.1% of the tested samples, the effect on the test specificity is negligible. Because the test detects neither human nor bovine and porcine Elastase 1, pancreatic function can be monitored without interrupting an enzyme replacement therapy.

J Vet Diagn Invest (2001) 13:468-474