Hill's
Transforming Lives

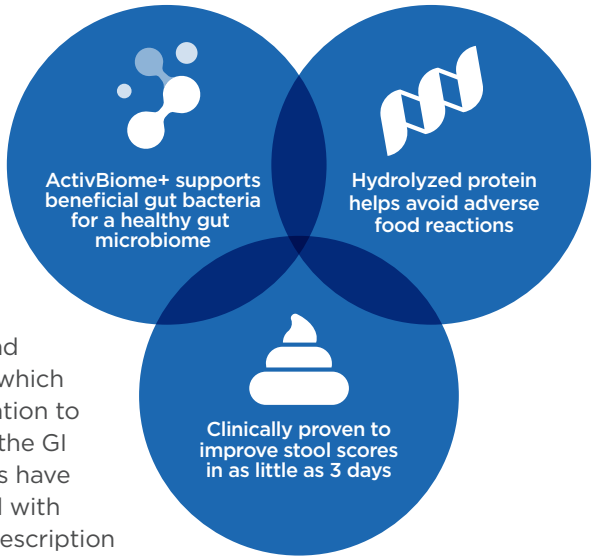
Clinical Evidence Report

Hill's Prescription Diet z/d with ActivBiome+ Significantly Improves Stool Quality in Dogs with Chronic Enteropathy

In this crossover study of matched healthy dogs and those with chronic enteropathy (CE) fed Hill's Prescription Diet z/d with ActivBiome+ Digestion Blend, weight was maintained in both groups, and in the dogs with CE, fecal scores significantly improved.

INTRODUCTION

Clinical signs associated with CE and a disrupted gastrointestinal (GI) tract cause significant distress to dogs, and thereby their owners. Many dogs with chronic GI signs, including those with and without a true food allergy, respond well to a hydrolyzed protein therapeutic food. Additionally, these dogs may benefit from support of the gastrointestinal (GI) microbiome because a robust GI microbiome plays a critical role in facilitating optimal nutrient absorption and metabolism, maintaining the integrity of the intestinal epithelium, supporting immune responses within the gut, and contributing to overall physiological well-being.[1] Prebiotics, which are substances that the GI microbiome can use for fermentation to confer a health benefit, which can have a positive effect on the GI microbiome in a variety of species, including dogs.[2-6] Studies have also shown that prebiotics can improve the signs associated with CE.[7-9] With this in mind, Hill's Pet Nutrition has developed Prescription Diet z/d with ActivBiome+, which combines the hydrolyzed nutrition of z/d with the prebiotics of ActivBiome+, proven to support the GI microbiome.



Highly digestible, complete and balanced food supports dogs with chronic enteropathy
Key MA, Motsinger LA, Vondran J, et al. A highly digestible, complete and balanced food supports dogs with chronic enteropathies. J Am Acad Vet Nutr. 2024; [Abstract accepted].

RESULTS

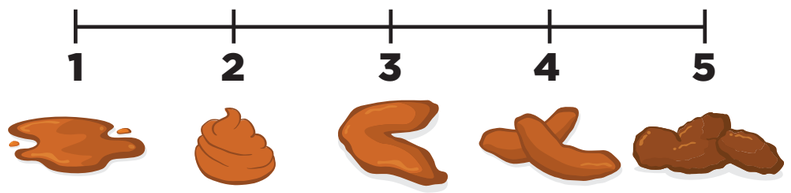
Study population
Mean (± standard deviation [SD]) age was 9.21 (± 3.46) years in the group with CE and 8.92 (± 2.93) years in the healthy group. The mean (SD) body weight was 10.29 (± 2.20) kg in the group with CE and 10.06 (± 2.27) kg in the healthy group, approximately 75% were neutered male dogs, and all dogs were purebred. Five dogs were removed from the study, allowing for 31 dogs to complete the study. Of the dogs removed, 3 were removed for poor food intake, and two were removed due to the subsequent diagnosis of concurrent medical conditions.

Food intake
Of the dogs randomized to the test food group, 92% successfully transitioned to the food. Food intake was maintained and remained consistent throughout the feeding period when measured on both a body mass and caloric basis to ensure each dog's Daily Energy Requirement (DER) was met. This correlated with body weight, which remained unchanged over the course of the study.

Fecal Score and Details
In both the CE and healthy groups there were no significant changes over time in stool size or color. When health status was pooled, all dogs fed the test diet had increased (P = 0.0003) fecal scores using a 1-5 scoring system **(Figure 1)** where 1 represented unformed stool and 5 represented well formed stool compared with when fed the control diet starting at day 3 and maintained for the length of the study. **Figure 2** shows fecal score changes over the course of the study in the CE group.

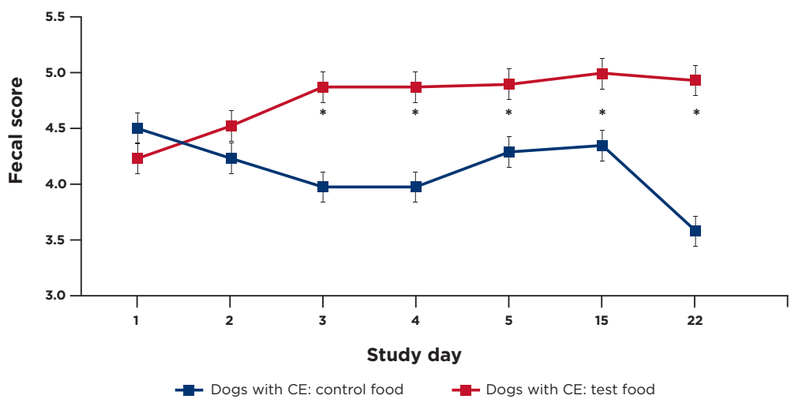
IMPLICATIONS FOR PRACTICE

Figure 1. Stool grading chart



1 = Unformed, watery stool, 5 = Well formed stool

Figure 2. Impact of study food on fecal scores of dogs living with CE



*P<0.0003 for test food vs. control food.
Fecal score scale: 1-5 (1 = Unformed, watery, 5 = well formed).

Prescription Diet z/d with ActivBiome+ Canine has the nutritional attributes of Prescription Diet z/d, which has previously been clinically proven to reduce skin and GI signs in dogs with food allergies.[5,7,8] The present study demonstrated that the test food (Prescription Diet z/d with ActivBiome+) was well accepted, with minimal differences in body weight and food intake. In dogs with CE, feeding the test food resulted in increased (P=0.0003) fecal scores within 3 days compared with feeding the control food (Prescription Diet z/d). This study supports the use of z/d with ActivBiome+ to improve stool scores of dogs with chronic GI signs.

METHODS

Adult dogs (n=18) housed at Hill's Pet Nutrition Center and with confirmed CE were matched with healthy dogs (n=18) based on age, weight, gender and neutered status. To be eligible, dogs had to be at least 1 year of age. Dogs could not have had any other major medical conditions (excluding GI issues).

Dogs were randomized the order to which they were provided either food. Dogs were transitioned over the first 7 days of each food trial and assessed for a total of 22 days **(Figure 3)**. Dogs were not fed any other food. Assessments were made by veterinarians and included fecal score and description, body weight, and food intake. Stool scoring was measured on a 5-point scale **(Figure 1)**, with 1 = Unformed, watery stool and 5 = Well formed stool.

Figure 3. Study design

Study Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Repeat
Transition to study food	■	■	■	■	■	■	■																
Baseline Collection	■																						
Veterinary Team Assessment																							
Fecal Score	■	■	■	■	■										■							■	
Body Weight	■							■							■							■	
Intake	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Fecal Description	■	■	■	■	■										■							■	
Crossover																							
Switch Diets																							■

Adult dogs with CE and healthy adult control dogs were randomized to the test food (Prescription Diet z/d with ActivBiome+ Canine) or the control food (Prescription Diet z/d) for 22 days then crossed over to the other food. Fecal characteristics and scores, body weight and food intake were evaluated.

KEY CONCLUSIONS

Hill's Prescription Diet z/d with ActivBiome+ maintained weight and improved fecal score within 3 days in a cross-over study of 18 healthy dogs and 18 dogs with CE.

References

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Hill's PRESCRIPTION DIET