

PLASMA SUPPORTS A HEALTHIER GUT MICROBIOME AND KEY INTESTINAL HEALTH MARKERS IN ADULT DOGS

Gut health is widely recognized as a driver of whole-body wellness in pets, influencing digestion, immune function, and overall health. Plasma is a functional, high-quality protein ingredient rich in bioactive compounds and has been studied for its role in supporting intestinal health.

This peer-reviewed publication was designed to further evaluate and confirm the role of plasma in supporting gut health when included in extruded adult dog diets. The research evaluated microbiome-related outcomes, fecal metabolites, nutrient digestibility, and select immune and inflammatory biomarkers to better understand plasma's role in maintaining intestinal homeostasis in adult dogs.

STUDY DESIGN

Twelve adult Beagles were fed four extruded diets in a replicated 4×4 Latin Square design. Diets included control with no plasma, 4% plasma applied as a coating, 4% plasma included pre-extrusion, and 8% plasma included pre-extrusion. Each diet was fed for 21 days following an initial 7-day adaptation period. All diets met adult maintenance requirements and were well accepted by the dogs.

KEY RESULTS

- 1. Overall nutrient digestibility maintained:** Plasma inclusion maintained overall nutrient digestibility across diets supporting its use as a functional protein ingredient in extruded adult dog formulas.
- 2. Positive shifts in gut microbiome:** Dogs fed diets containing either 4% or 8% plasma had higher fecal short-chain fatty acids (SCFA), compared with control. Total SCFA increased with higher plasma inclusion, suggesting a beneficial microbial shift associated with gut health.
- 3. Improved gut metabolite profile:** Higher plasma inclusion was associated with reductions in indole-related metabolites, including 3-methylindole and total indoles. These changes suggest a shift toward a more favorable gut metabolite profile linked to intestinal health.
- 4. Microbiome composition changed consistent with gut health:** Plasma inclusion altered the fecal microbiome, with increases observed in bacterial genera commonly associated with beneficial gut function, including *Lactobacillus*, *Streptococcus*, and *Catenibacterium*.
- 5. Support for intestinal immune homeostasis:** Fecal IgA concentrations were higher in dogs fed plasma compared with control, indicating potential immunomodulatory effects that may support intestinal homeostasis.
- 6. Markers of protein metabolism supported:** Dogs fed plasma-containing diets had lower blood urea nitrogen compared with control, suggesting improved protein utilization. Triglyceride concentrations were reduced in the plasma treatments and remained within physiological reference ranges.

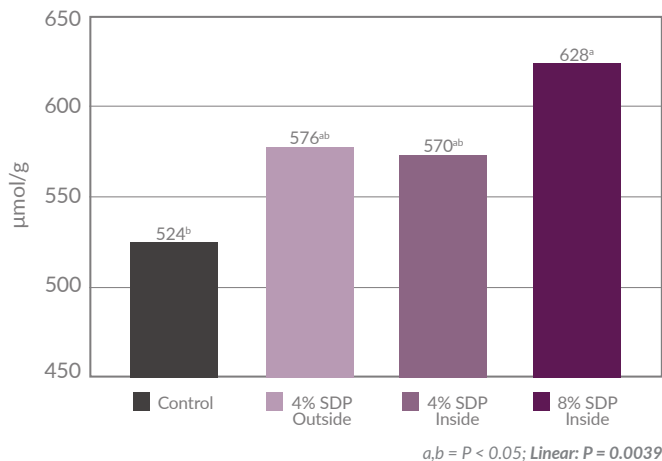
Plasma inclusion demonstrated a linear response across evaluated gut microbiome and fecal metabolite markers, while nutrient digestibility was maintained.

WHAT THIS MEANS FOR ADULT DOG FORMULAS

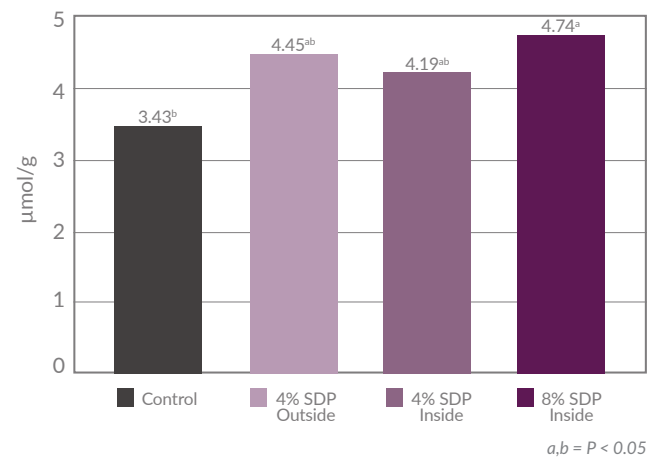
This study adds to the growing body of evidence demonstrating plasma's role in supporting gut health and the gut microbiome in adult dogs. Inclusion of plasma in extruded adult dog diets supported beneficial microbiome, improved fecal metabolites, and markers of intestinal immune homeostasis, while maintaining nutrient digestibility, with linear effects observed for inclusion level.

Plasma provides pet food manufacturers with a science-backed, functional ingredient option to support gut health and whole-body wellness in adult dog formulas, with flexibility for inclusion either pre-extrusion or as a coating.

TOTAL SCFA

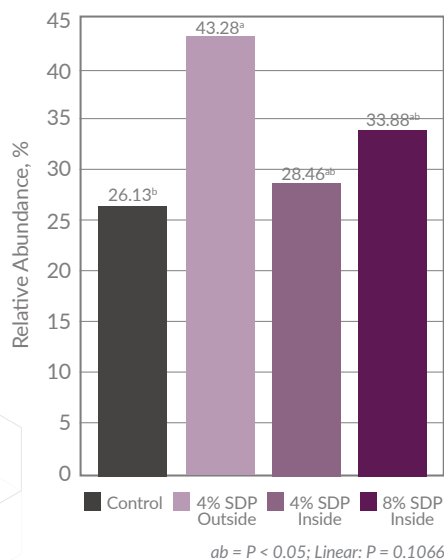


FECAL IgA

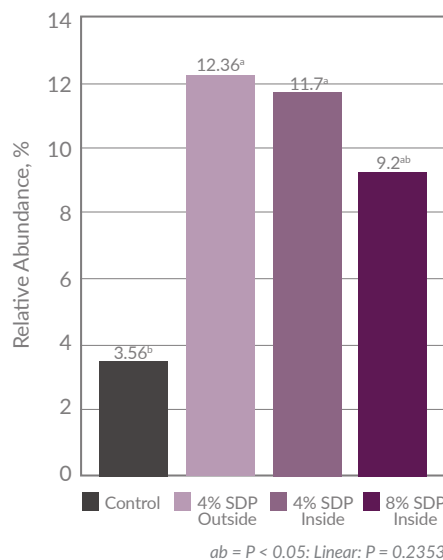


MICROBIOME ASSOCIATED WITH SCFA

LACTOBACILLUS



STREPTOCOCCUS



CATENIBACTERIUM

