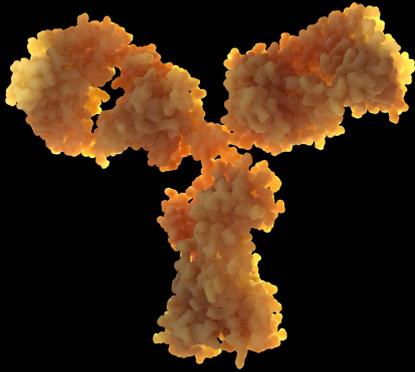


HOT TOPIC

Colostrum in Pet Food



COLOSTRUM ANTIBODY



In focus

Life stage and other factors including nutrition, environmental stressors, disease, and genetics can affect the immune system in dogs and cats. Research has shown that feeding a diet supplemented with colostrum may provide support during times of challenge by promoting a strong local and systemic immune response.¹⁻³

The Purina Institute provides the scientific facts to support your nutritional conversations.

let's
takeback
the conversation.

Learn more about the power of nutrition at
PurinaInstitute.com

Why are the immune systems of puppies and kittens less robust than in adulthood?

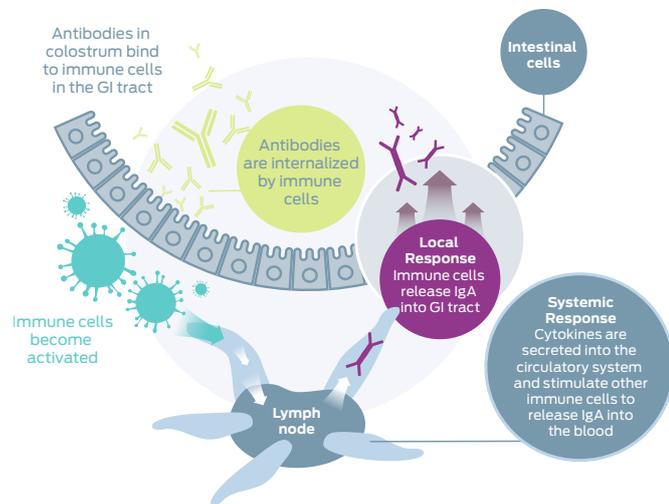
At birth, the immune systems of puppies and kittens are not fully developed. Puppies and kittens receive their initial immune support through their mother's first milk—colostrum—which is rich in protective antibodies, which impart passive immunity; antimicrobial agents, such as lactoferrin; and bioactive compounds, including those stimulating tissue growth and repair.⁴ However, this passive immunity gradually fades over time, potentially leaving a window of vulnerability, in which a puppy or kitten may be more susceptible to infection or digestive upset, while their own immune defenses are still developing. This period is referred to as the “immunity gap.”

How can colostrum supplementation support health in puppies and kittens?

Nutritional supplementation with bovine colostrum may help bridge the immunity gap. Approximately 70% of the body's immune system resides in the intestinal tract.⁵ This specialized tissue, known as gut-associated lymphoid tissue (GALT), plays a vital role in defending the body against harmful pathogens and foreign substances and contributes to overall well-being. Maintaining a healthy gut is especially important when puppies' and kittens' immune systems are still in the process of maturing.

The antibodies in dietary colostrum can interact directly with GALT cells to stimulate a beneficial immune response.

The antibodies in colostrum stimulate both a local and systemic immune response



In a Purina study, kittens fed a diet supplemented with bovine colostrum had a significantly greater antibody response to rabies vaccination compared to kittens fed a control diet.¹ Kittens in the colostrum-supplemented group also had a more stable intestinal microbiota in response to a mild stressor, which suggests higher resilience to invading pathogens. In addition, fecal immunoglobulin A (IgA) levels were higher in the colostrum-supplemented group, indicative of an enhanced local intestinal immune response.

Puppies fed a bovine colostrum-supplemented diet for 10 days after weaning had significantly better fecal quality compared to puppies fed a control diet.²

Research by Purina and others has shown that feeding the antibodies and bioactives in colostrum can provide benefits at any life stage.

How can colostrum support health in adult pets?

In another Purina study, antibody immune response to a canine distemper virus vaccine booster peaked at 8 weeks post-vaccination in adult dogs.³ In dogs fed a bovine colostrum-supplemented diet, the immune response was maintained, with a 50% increase in antibody levels evident after 6 months. However, in dogs fed a control diet, antibody levels returned to concentrations measured at the time of vaccination at 16 weeks. The intestinal microbiota was also more stable and diverse and fecal IgA levels were higher in the dogs fed the colostrum-supplemented diet.

References

1. Gore, A. M., Satyaraj, E., Labuda, J., et al. (2021). Supplementation of diets with bovine colostrum influences immune and gut function in kittens. *Frontiers in Veterinary Science*, 8, 675712. doi: 10.3389/fvets.2021.675712
2. Giffard, C. J., Seino, M. M., Markwell, P. J., & Bektash, R. M. (2004). Benefits of bovine colostrum on fecal quality in recently weaned puppies. *Journal of Nutrition*, 134(8), 2126S-2127S. doi: 10.1093/jn/134.8.2126S
3. Satyaraj, E., Reynolds, A., Pelker, R., et al. (2013). Supplementation of diets with bovine colostrum influences immune function in dogs. *British Journal of Nutrition*, 110(12), 2216-2221. doi: 10.1017/S000711451300175X
4. Jean-Philippe, C. (2010). Beneficial effects of dietary colostrum supplementation in kittens. *Nestlé Purina Scientific Update on Feline Nutrition*, 4, 1-8.
5. Vighi, G., Marcucci, F., Sensi, L., et al. (2008). Allergy and the gastrointestinal system. *Clinical & Experimental Immunology*, 153(Suppl. 1), 3-6. doi: 10.1111/j.1365-2249.2008.03713.x