

THE POWER OF PROTEIN: KEEPING MUSCLES STRONG

Muscle power depends on protein. Not surprisingly, canine athletes that do not receive adequate dietary protein may suffer from fatigue and have a lackluster attitude and performance. Nutritionists recommend feeding active dogs a diet made with highly digestible, quality protein sources.

Active dogs require more protein than sedentary ones. This is because active muscles undergo a natural process of building and breaking down muscle protein called protein turnover. During and after exercise, protein turnover increases to meet the increasing metabolic needs of working dogs¹. Elevated dietary protein complements the benefits of fat metabolism (benefits of fat explained in ProPlan.com articles “Dogs: The Ultimate Athlete”) since amino acids, the building blocks of protein, promote muscle growth and recovery. Key protein building blocks, branched-chain amino acids, also become an important energy source in exercising muscles.²

Though dietary protein is important for dogs’ overall health and well-being, it is particularly important for active dogs that require more protein to meet their energy needs and fuel their muscles. To help support active dogs, Purina Pro Plan formulated the Purina Pro Plan Sport dog food formulas with high levels of protein and fat. Dogs that receive optimal dietary protein are more likely to perform at their full capacity.

FACTOID

Exercise is a natural stress that challenges the immune system and accelerates the body’s protein metabolism and muscle breakdown. Suboptimal nutrient ingestion and/or inadequate recovery time from exercise can impair a dog’s immune system. Muscle breakdown continues after exercise until a dog is fed, which is why it is important to rehydrate and feed after exercise, as it aids in fueling a dog’s recovering body. The nutrients in the food provide the building blocks to allow the muscles to switch from breakdown to rebuilding.



¹ Blomstrand E, Eliasson J, Karlsson H, Kohnke R. Branched-Chain Amino Acids Activate Key Enzymes in Protein Synthesis after Physical Exercise. *Journal of Nutrition*. 2006;136:269S-273S.

² Henriksson J, et al. Effect of Exercise on Amino Acid Concentrations in Skeletal Muscle and Plasma. *Journal of Experimental Biology*. 1991;160:149-165.