TAURINE DEFICIENCY IN DOGS

BACKGROUND

- Amino acids are the "building blocks" of proteins. All animals require amino acids to maintain a healthy physiological function.
- Proteins are made up of groups of amino acids, 10 of which cannot be produced by a dog’s body and need to be supplied within the diet. A carnivore’s natural diet is rich in all 10 essential amino acids.
- Poultry, fish, meat and eggs are excellent Biologically Appropriate™ sources of amino acids.
- Taurine is an amino acid which can only be found in animal protein. It can be synthesised in dogs from the precursor amino acids cysteine and methionine. It is not present in vegetarian protein sources such as grains and/or legumes.
- The sulphur amino acid family includes methionine, cysteine and taurine, which are abundant in fish, eggs and organ meats. These amino acids are important in the maintenance of a healthy heart, healthy skin and hair and good eyesight.

TAURINE AND OUR FOODS

LAMB AND RICE BASED DIETS

- Previous studies\(^1,2\) have reported that taurine deficiency may arise from lamb and rice based diets where the primary protein is lamb meal.
- It is hypothesized\(^3\) that consumption of diets with inadequate methionine and cysteine can result in taurine deficiency in dogs.
- The naturally occurring sulphur amino acid precursors of taurine, cysteine and methionine are consistent with a Biologically Appropriate™ diet, and are listed in the typical analysis. You can find this information under Dog Food here.
- As a result, the ACANA Lamb & Apple Singles formula contains a Biologically Appropriate™ amount of taurine.
- ACANA Lamb & Apple Singles formula uses FRESH and RAW lamb meat as the first ingredient and contains WholePrey™ ratios of meat, organs and cartilage. Of the 27% protein in the ACANA Singles foods, more than 85% comes directly from the meat and organ inclusions, which are rich in taurine.
- In addition, animal feeding tests using AAFCO procedures have substantiated that ACANA Lamb & Apple Singles formula provides complete and balanced nutrition, with no indication of taurine-deficient dilated cardiomyopathy in dogs.

RENDERING

- A University of California Davis study\(^4\) indicates that the method of cooking has a significant effect on taurine loss. To read the study, the details of which are below, click here.
- Conventional pet foods are made primarily with meat meal ingredients, which are typically rendered at high temperatures, where most of the taurine and its precursors are destroyed.
- All our ORIJEN and ACANA foods include large amounts of fresh meats with minimal heat treatments and meat meals that are processed at lower temperatures than conventional rendering.
- Limiting the exposure of our Fresh Regional Ingredients to heat means our foods retain the specific amino acids needed for a Biologically Appropriate™ kibble.

MEAT CONTENT AND WHOLEPREY™

- Taurine is not considered an essential amino acid for dogs. It can be synthesized in a dog’s pancreas, from the amino acids cysteine and methionine.
- With rich meat inclusions, and by incorporating WholePrey™ ratios in all our diets, we never have to supplement ORIJEN or ACANA foods with synthetic amino acids to meet the nutritional needs of dogs.
- Our naturally occurring cysteine and methionine content is consistent with a Biologically Appropriate™ diet, and is listed in the typical analysis. You can find this information under Dog Food here.
- For dogs with no pre-existing medical conditions, ORIJEN and ACANA diets provide sufficient levels of naturally occurring, highly bioavailable methionine, cysteine and taurine.

\(^1\) Carruthers, D.F., \\(^2\) Le Marchand, S., \\(^3\) Prout, G., \\(^4\) Lunnin, K.
**OUR COMPETITORS**

- Conventional pet foods contain large amounts of grain and vegetables as their primary source of protein. As a result, essential amino acids, such as methionine, are insufficient and require supplementation. They are included on the ingredient panel as DL-methionine.

- Taurine is also heavily supplemented in traditional pet foods to compensate for its destruction during the extreme heat treatments and/or lack of adequate inclusion of animal-based ingredients.

- Each ORIJEN and ACANA food leads its category in fresh meat content and meat diversity, while incorporating WholePrey™ ratios that include muscle meat, organs and cartilage. This ensures no taurine supplementation is required to make our diets complete and balanced.

- Our award-winning Biologically Appropriate™ foods mirror the quantity, freshness and variety of meats that dogs and cats are evolved to eat.

**REFERENCES**


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<th>Brand</th>
<th>Formula</th>
<th>(%) Taurine (as fed basis)</th>
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<td>ACANA Singles</td>
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<tr>
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