

AMINO ACIDS

Amino Acids are referred to as the building blocks of protein. The following is a list of essential and non-essential amino acids. The essential amino acids cannot be synthesized internally and must be consumed in your pet's diet. Dogs require ten of these essential amino acids and cats require eleven.

When amino acids are supplied in their natural, raw state they are easily absorbed and assimilated in your pet's body. Meat, poultry, fish and eggs are considered a complete protein because they supply all of the essential amino acids. However, every protein source consists of varying levels of these essential amino acids and each has different biological value (how they break down into protein). This is why it is important to offer a variety of animal proteins to your pet.

<u>ESSENTIAL AMINO ACIDS</u>
Arginine
Histidine
Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Threonine
Tryptophan
Valine
Taurine*

<u>NON-ESSETIAL AMINO ACIDS</u>
Alanine
Asparagine
Aspartic Acid
Cysteine
Glutamine
Glutamic Acid
Glycine
Hydroxylysine
Hydroxyproline
Proline
Serine
Tyrosine

*Taurine is considered essential for cats only. However, research indicates that large breed dogs have a higher requirement for Taurine than smaller breed dogs. Studies report that dilated cardiomyopathy is associated with low Taurine levels in large breeds.

JAVMA Taurine deficiency in Newfoundlands on complete balanced diets

Note: "Arginine is an essential amino acid in dogs and cats, but not humans. Arginine has been shown to enhance cellular immunity, wound healing and nitrogen balance (Barbul 1986)," **Critical Care in Cats**, Waltham Course on Dog and Cat Nutrition (1999). Beef is one protein source that is high in Arginine, chicken and tuna also have notable amounts.

Reference Links:

Wikipedia – Complete protein

http://en.wikipedia.org/wiki/Complete_protein

Natural Health Techniques, Amino Acids List and Best Bet Foods

Not all foods listed are suitable for pets, but this link provides a good overview of the functions of each amino acid.

http://www.naturalhealthtechniques.com/diet_nutrition/amino_acid_list1.htm