The Asian Journal of Animal Science (June, 2010), Vol. 5 Issue 1 : (122-123)

RSEARCH NOTE

Studies on free amino acids of Ascaridia galli, a poultry nematode parasite

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Accepted : March, 2010

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Key words : Free amino acids, *Ascaridia galli*, Nanded region

There are twenty common or standard amino acids found in proteins (alanine, orginine, asparagine, asparagines cysteine, glutamine, glutamate, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, valine) and there are also number of rare amino acids. The free amino acid fraction in tissues in small compared with the protein amino acids. The amino acids have high biological significance and the simplest forms of proteins, for that in this aspect the invastigaters made an attempt towards the studies on free amino acids of *Ascaridia galli*.

The amino acids are the simplest form of proteins and have a high biological significance. They exist in free as well as bound states. The bound amino acids contribute for the formation of body proteins, enzymes etc. the free amino acids undergo various metabolic changes in the tissue such as deamination, decoboxylation and transamination. These changes are of imporatance as they not only maintain an equilibricum in the content of different amino acids but also take part in the energy metabolism, either, directly or indirectly further, the capacity of protein synthesis of the parasites depends on the pool of free amino acids at the given time. In intestinal worms the amino acid requirements are met from the content of their hosts as evidenced by the up take studies of Srivastava *et al.* (1970) But according to Von Brand (1973), the free amino acid pool sometime contains compounds derived from metabolic sequences (eg. b-alanine, b-aminobutyric acid, ornithine and others.)

A large number of reference are available on the qualitative and quantitative aspects of amino acids in various parasites. Thought the information on free amino acids in *Ascaridia galli* is available (Dubinsky and Ryos, 1978), the same is wanting in male and female worms from naturally infected native hosts.

The total free amino acids were estimated following method of Moore and Stein (1954).

Worms of 100-150 mg were homogenized in 2 ml of 10% (w/v) TCA To ensure proper precipitation of protein content, the homogenates were maintained in cold conditions for 30 minutes. Aliquots of 0.5 ml were made from these samples after filtering them through watman no. 1 filter paper after adding 2 ml of Ninhydrin reagent to the aliquots, they were boiled for 6 minutes. Cooled to room temperature and the contents were made up to 10 ml. the purple colour developed was read at 570 mμ.

The free amino acid content is expressed as μgms/of tyrosine equivalents/100 mg wet weight.

Free amino acid content (μgms100 mg tissue) in male and female worms of *A.galli*.

The content of free amino acids is indicated in the Table 1 and same is

Table 1 : Free amino acid content in male and female

Sex	Content	Male to female ratio	Percentage difference
Male*	118.00 ± 19.00	0.66	33.88
Female**	179.00 ± 26.00		

* Values are mean of 8 samples.

** Values are mean of 10 samples.