

## REASONING OF GENERATION OF THREONINE INDISPENSABILITY IN EVOLUTIONARY ASPECT

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As is known, amino acid threonine is not synthesized in the vertebrates when it does not come with food. However, in the course of evolution the decomposition of threonine is changed. Taking into account that the decomposition of threonine under the action of threonine dehydratase is irreversible process, in the present work attention is focused on threonine dehydrogenase which is the main enzyme involved in decomposition of threonine in birds. This was done with the aim to show the inability of threonine dehydrogenase to synthesis threonine as a result of reversibility of the reaction of threonine decomposition. It is shown why threonine dehydrogenase in the tissues of vertebrates cannot be used in the biosynthesis of threonine. A conclusion is made that some quantity of threonine is involved in transamination.

**Keywords:** threonine, NAD, acetyl-CoA