Proceedings of the Iowa Academy of Science

Volume 49 | Annual Issue Article 48

1942

Intermediary Metabolism of Histidine

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duced extensive oxidation to cystine. During similar treatment with kaolin no appreciable oxidation occurred.

When cysteine was added to proteins and the mixture was subjected to acid hydrolysis only about half (40 to 70 percent) of the added cysteine could be recovered even when kaolin was used as a decolorizing agent. Since cysteine added to a protein hydrolysate can be completely recovered the exposure of cysteine to hydrolyzing conditions in the presence of protein is probably responsible for its destruction. The figures given for the cysteine content of proteins must be regarded as minimal and cysteine probably occurs more widely in proteins than is ordinarily believed.

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The two optical isomers of β-4-imidazolelactic acid were prepared from the *d*-and *l*- histidine monohydrochlorides by means of silver nitrite. These were fed in diets containing casein hydrolysates from which the histidine had been removed by precipitation as the silver salt (Hydrolysate A) or as the mercuric sulfate complex (Hydrolysate B). Slow to moderate growth was obtained in rats fed diets containing Hydrolysate A when supplements of either *l*- or *d*- imidazolelactic acid were added; growth in the former instance was greater than in the latter. Rats fed the unsupplemented diets failed to grow. When the diet contained Hydrolysate B, supplements of *l* imidazolelactic acid did not promote growth, but supplementation with histidine did. A precipitate was obtained by subjecting Hydrolysate A to the procedure used for preparing Hydrolysate B. When this precipitate was freed of mercury and sulfate ions and added to diets containing Hydrolysate B and imidazolelactic acid, growth occurred.

Further studies are being conducted.

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