On the Transglycosidation relating to Riboflavin by Escherichia coli. (I) : Formation of Riboflavinyl Glucoside

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CITATION:

ISSUE DATE:
1958-07-31

URL:
http://hdl.handle.net/2433/75636

RIGHT:
ABSTRACTS

On the Transglycosidation relating to Riboflavinn by
Escherichia coli. (I)

Formation of Ribofлавинyl Glucoside

Hideo KATAGIRI, Hideaki YAMADA and Kazutami IMAI
(Katagiri Laboratory)
The Journal of Vitaminology, 3, 264 (1957)

Ribofлавинyl glucoside has been isolated from reaction mixture composed of riboflavín, maltose and the cell suspension of Escherichia coli.

The suitable conditions and the effects of several substances on the formation of ribofлавинyl glucoside were studied, and it is ascertained that riboflavín plays the role of specific acceptor of transglycosidation, and concluded that the interaction of the enzyme on isovalloxazine ring of riboflavín molecule would take place in the first step of the reaction.

Thus the authors suggest that riboflavín reveals a new biochemical significance in carbohydrate metabolism.

Microbiological Assay of Vitamins and Amino Acids by One-dimentional Diffusion Method

Tomoji SUZUKI and Fumihiko TANAKA
(Suzuki Laboratory)
Journal of the Pharmaceutical Society of Japan (Yakugaku Zasshi), 77, 1159 (1957)

We designed the one-dimentional diffusion method for microbiological assay of vitamins and amino acids. The agar synthetic medium containing triphenyltetrazoliumchloride (TTC) (50mg/100cc. of medium) and test organisms for example, Lactobacillus arabinosus 17-5 is poured into the test tube which is 75 mm in high and 5 mm in diameter. After the medium solidified, about 0.1 ml of sample were over it. Following incubation about 12 hours, red zone of reduced TTC were observed. This red zone is proportional to logarithms of concentration of amino acids and vitamins. Using Lactobacillus arabinosus 17-5, the assay range is as following : biotin 1-100 μg/cc., pantothenic acid and nicotinic acid 0.1-100 μg/cc., DL-phenylalanine and DL-methionine 15-1000 μg/cc., L-leucine 60-1000 μg/cc. This method is distinguished with large range of determination and small amount of medium, still more convenient for routine assay.