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ISOLATION AND PURIFICATION OF THE CHOLINESTERASES OF CHICKEN'S EGG.

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SUMMARY

Cholinesterase of yolk was purified by conventional biochemical method including c ntrifugation techniques, precipitation with $(NH_4)_2SO_4$ and gel filtration. Chromatography of the preparation on sephadex G-200 revealed two quite distinct activity peaks. The peak I was almost completely separated from the proteins in sample with purification factor upto 350 with overall recovery of 14%. While peak II was purified 21 fold with recovery of 10% representing low molecular weight.

INTRODUCTION

Many studies on Acetylcholinesterase (EC 3.1.1.7) and cholinesterase (EC 3.1.1.8) from different sources have been carried out. But much is left to be studied on yolk of the chicken eggs.

Cholinesterase is one of the most active enzyme found in the yolk of the chicken's eggs. WILLEMS and STOCKX[1] were able to localize this enzyme in the water solube fraction of the yolk, SAITO et al.[2] Starting from this fraction BOECK et al[3] were able to purify the enzyme by conventional method but the recoveries were too low.

In this paper we do report the partial purification of cholinesterase from the egg yolk of chicken.

EXPERIMENTAL

Material :

Acetylthiocholine iodide was purchased from sigma (London) Chemical Co., Sephadex G-200 was supplied by pharmacia. All other reagents were commercial products of analytical grade purity.

Abbreviations :—Act :—Activity ; Sp. Act—specific activity ;
P.F :—Purification factor : Rec.—Recovery ;