

L.G. Ionescu

79

Philip James Witt, "Selected Proteolytic Activity by Extracts of Dermestid Larvae", M.S. Thesis, New Mexico State University, May 9, 1968

Advisor: Prof. Arthur F. Fishkin

ABSTRACT

The larvae of the beetle Dermestes maculatus DeGeer can subsist on a diet consisting largely of protein. Studies have been undertaken to investigate the nature of the proteolytic enzymes. A water extract of the larvae yielded a crude preparation which hydrolyzes gelatin, hide powder, hemoglobin substrate, benzoyl-DL-arginine p-nitroanilide and glutaryl-L-phenylalanine p-nitroanilide. Enzyme activity was found in a non-dialysable, heat- and acid-labile portion of the extracts. Fractionation with ammonium sulfate of the crude extract yielded two fractions with high specific activity towards gelatin. These are precipitated between 40% to 60% saturation of ammonium sulfate and 60% to 80% saturation. The higher specific activity was observed in the 40%-60% fraction. These results suggest that the larvae of these dermestids contain proteolytic enzymes with actions similar to mammalian trypsin and chymotrypsin. The results also suggest that other proteolytic enzymes may be present as well.

VISIT OUR SITE: <http://www.sbjchem.he.com.br>

Arthur F. Fishkin, Prominent Biochemist and Educator

80

In 1968, forced by circumstances, Prof. Dr. Arthur F. Fishkin left Las Cruces and went to the School of Medicine of Creighton University in Omaha, Nebraska, where he remained for the rest of his life.

He was sad about the fact that his *Research Group* and his *Research Laboratory* , built with so much effort, would be dismantled. He knew that at Creighton University, an institution mainly devoted to teaching and the training of health professionals, he would have less time and fewer collaborators to continue his research. It was, after all, a question of survival and he had the responsibility of the life and education of his wife and four small children and this was much more important.

Besides his effort of almost half a century in the training of health professionals, Prof. Dr. Arthur F. Fishkin made important contributions to science. His discovery of the racial differences in the composition of blood vessels and their relationship to cardiovascular disease, led to the Bogalusa Heart Study led by Gerald S. Berenson that lasted more than thirty years. He had ample research support from the Louisiana Heart Association, National Institutes of Health and the National Aeronautics and Space Administration.

He was a member of the New York Academy of Sciences, Phi

Lambda Upsilon, Sigma Xi-The Scientific Research Society of America, American Society for Biochemistry and Molecular Biology, American Institute of Chemists, Society for Complex Carbohydrates and the American Chemical Society.

Prof. Dr. Arthur Fishkin liked people and liked to talk to people. He had a quality called empathy and in many ways he was an archetype. He was a great person, teacher, mentor, educator and friend.

ACKNOWLEDGMENT. We thank Charles A. Fishkin, Senior Vice-President, Bernstein Alliance, New York, USA for his help and assistance.

SOME REPRESENTATIVE PUBLICATIONS

1. A. F. Fishkin and G. F. Lata, Some Hormonal influences on the acetylation of sulfanilamide *in vivo*, *Endocrin.*, 63, 162 (1958).
2. A. F. Fishkin and G. S. Berenson, Isolation of a glycoprotein from granulation tissue in rats, *Arch. Biochem. Biophys.*, 95, 130 (1961).
3. G. S. Berenson and A. F. Fishkin, Isolation of a glycoprotein from bovine aorta, *Arch. Biochem. Biophys.*, 97, 18 (1962).
4. B. Radhakrishnamurthy, A. F. Fishkin. G. J. Hubbell and G. S. Berenson, Further studies on glycoprotein from bovine aorta, *Arch. Biochim. Biophys.* 104, 19 (1964).

5. B. Radhakrishnamurthy, A. F. Fishkin and G.,S. Berenson, A glucose containing glycopeptide from bovine aorta glycoprotein, *Biochem. et Biophys. Acta*, 101, 129 (1965).
6. A. F. Fishkin , R.W. Turner and G. S. Berenson, Time course concentration of N-acetylneuraminate lyase from rat granulation tissue, *Nature*, 207, 875, 975 (1965).
7. G. S. Berenson, B. Radhakrishnamurthy, A.F. Fishkin, H. Dessauer and P. Arquembourg, Individuality of glycoproteins in human aortas, *J. Atherosclerosis*, 6, 214 (1966).
8. A. F. Fishkin and P. Spangler, Glycoproteins in foetal and adult cattle aorta, *Nature*, 218, 577 (1968).
9. G. H. Broughton, A. Tseng, R. Fitzgibbon Jr., A. F. Fishkin and E. L. Rongone, The quantitative and qualitative analysis for biliary lipids in the prairie dog *Cynomys ludovicianus*, *Comp. Biochem. Physiol.*, 97B, 521 (1990).
10. D. H. Kretchmar, J. T. Sugimoto and A. F. Fishkin, Proteolytic enzyme activity in normal sheep myocardium, *Lab. Anim. Sci.*, 43, 515 (1993).
11. A. F. Fishkin and G. F. Lata, Steroid hormones and the acetylation of sulfanilamide, *Fed. Proc.*, 16, 180 (1957).
12. A. F. Fishkin and G. S. Berenson, Isolation of a glycoprotein from rat granulomas, *Fed. Proc.*, 19, 142 (1960).
13. A. F. Fishkin, G. S. Berenson and V.S. Kantrow, Isolation of a glycoprotein from bovine aorta, *Fed. Proc.*, 20, 104 (1961).
14. B. Radhakrishnamurthy, A. F. Fishkin, , H. C. Dessauer and G. G. S. Berenson, Glycoprotein variants in human aorta, *Fed. Proc.*, 23, 273 (1964).

15. A. F. Fishkin, N. Peters and F. N. Parth, Glycopropein composition of veins and arteries, *Fed. Proc.*, 32, 829 (1973).
16. A. F. Fishkin and F, N, Parth, Albumin-like fraction associated with glycoproteins from blood vessels, *Fed. Proc.*, 34, 251 (1975).
17. A. F. Fishkin and G. M. Westwick, Electrophoretic determination of glycoprotein in human gingiva, *Fed. Proc.*, 36, 694 (1997).
18. G. Broughton, E. Rongone, A. F. Fishkin, R. Fitzgibbons Jr. and A. Tseng, The efficiency of gallstone dissolution by infused chenodeoxycholatein the prairie dog, *FASEB Journal*, 2, A579 (1988).

VISIT OUR SITE: <http://www.sbjchem.he.com.br>