

and Miss Johansen, it has been decided to submit the results for publication simultaneously. A recent note by Cunningham *et al.*¹³ reports the identification, after hydrolysis of ovalbumin with purified proteases, of a fragment to which the tentative structure Tyr.Asp-(carbohydrate).(Thr,Ser,Val).Leu was assigned.

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Occurrence of 'Masked Lipid' in Mouse Pancreas

Bensley and Hoerr¹ showed in 1934 that a certain proportion of the cytoplasm of animal cells was insoluble in salt solutions. More recently, Smith and his collaborators² have shown that as much as 45 per cent of the material which remains after liver cells have been repeatedly extracted with molar salt solutions is lipid; they suggest that this is a complex lipo-protein. Histochemical studies, using sudan colouring agents and the acid hæmatein test for phospholipids, do not seem to indicate the presence of such large amounts of reactive lipids in many cells. These tests do not, however, exclude the possibility that the lipid is present in a 'masked' condition, a fact which was recognized by Ciaccio³, who published techniques for detecting lipids when they are combined with other substances.

In the basal region of the pancreas exocrine cell, standard lipid tests (for example, sudan black, Baker^{4,5}; acid hæmatein, Baker⁶) do not give a positive reaction (Fig. 1). With the acid hæmatein test, however, a positive reaction is given by the mitochondria and by the zymogen granules in the apical region of the cells. On the other hand, it was found that if the tissue was fixed in Flemming's fluid instead of the formaldehyde-calcium usually employed in the standard acid hæmatein test, and then subjected to the subsequent post-chroming and staining technique exactly as described by Baker⁶, the appearance of the cells was very different: the basal region now shows an intense positive reaction (Fig. 2). As this part of the cell can be coloured with sudan black after this fixation, and as all the lipid coloration is abolished if the material is afterwards extracted with pyridine at 60° C. for 24 hr., it is concluded that the fixation with Flemming's fluid is revealing lipids. This unmasking reaction is probably caused by the chromic acid in the fixative. It must be remembered, however, that after fixation in Flemming's fluid, the acid hæmatein technique is no longer a rigorous histochemical test; but, as the reacting material colours with sudan black and therefore must be considered to be a lipid, it is probable that the positive reaction to the acid hæmatein test is due to a phospholipid.

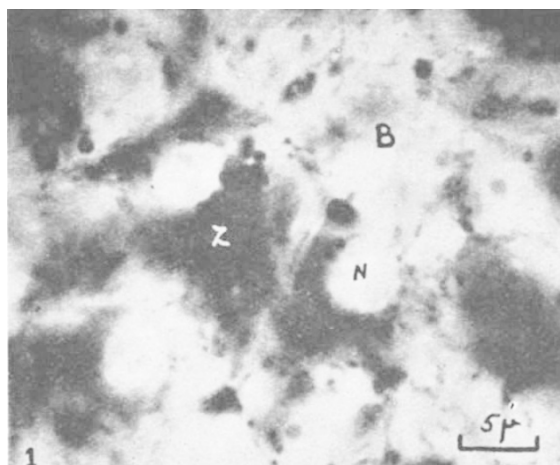


Fig. 1. A section of mouse pancreas prepared by the standard acid hæmatein technique. Note that there is no positive reaction in the basal region of the cells.

Key to Figs. 1 and 2: B, basal region of cell; N, nucleus
Z, zymogen granules

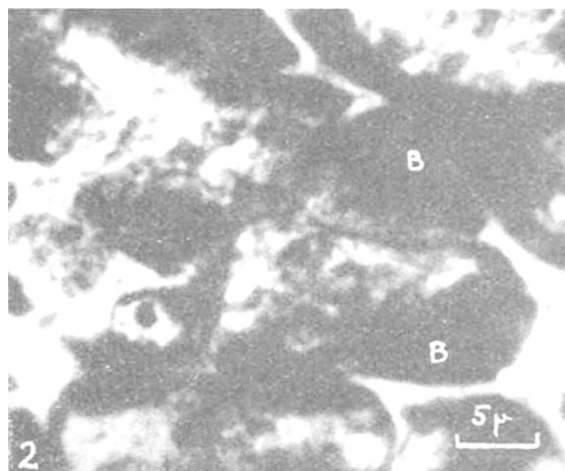


Fig. 2. A section of mouse pancreas prepared by the acid hæmatein technique following fixation in Flemming's fluid. The basal region of the cells is now positive

These observations suggest that there may be large amounts of 'masked' phospholipid, probably in the form of a phospho-lipoprotein, as suggested by Smith *et al.*², in the basal region of the pancreas cells. This histochemical work supports a recent hypothesis of Bradbury and Meek (unpublished work) that phospho-lipoproteins are involved in the composition of the membranes of the endoplasmic reticulum.

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