

particulate fraction from rat brain catalyzes the incorporation of  $^{14}\text{C}$ -choline,  $^{14}\text{C}$ -ethanolamine, and  $\text{L-}^{14}\text{C}$ -serine into phosphatidylcholine, phosphatidylethanolamine, and phosphatidylserine, respectively. The reaction appears to be energy-independent since  $\text{Mg}^{2+}$ , CTP, ATP and  $\text{NaF}$  have no stimulatory action. The incorporation is inhibited by EDTA and activated by  $\text{Ca}^{2+}$ . The pH optimum for the incorporation of choline is 9.5, for ethanolamine it is 9.0, and for L-serine it is 8.5. Tris, bicine and imidazole buffers are inhibitory. The incorporations are inhibited by a variety of structurally related alcohols and are stimulated by isoserine ( $\alpha$ -hydroxy,  $\beta$ -aminopropionic acid).

QUANTITATIVE ANALYSIS OF UPTAKE OF FREE FATTY ACID BY MAMMALIAN CELLS: LAURIC ACID AND HUMAN ERYTHROCYTES. A.A. Spector, J.D. Ashbrook, Elsa C. Santos and J.E. Fletcher (Depts. of Biochem. and Int. Med., Univ. of Iowa, Iowa City, Iowa 52240). *J. Lipid Res.* 13, 445-51 (1972). Quantitative aspects of the binding of free fatty acid to human erythrocytes were studied by measuring the distribution of various amounts of lauric acid- $1\text{-}^{14}\text{C}$  between washed human erythrocytes and defatted human plasma albumin. Incubations were done at  $37\text{C}$  in an isotonic phosphate-buffered salt solution. Laurate uptake approached a steady state value within 1 hr of incubation over the range of laurate-albumin molar ratios that were tested. Uptake was due primarily to a transfer of laurate from albumin to the cell, not to incorporation of the intact laurate-albumin complex. The fatty acid binding sites of the erythrocyte are located predominantly on or within the cell membrane. The binding model which best fitted the laurate uptake data consisted of two classes of erythrocyte binding sites. This model contains a small number of sites,  $2.0 \times 10^{-13}$  moles/ $10^9$  cells, that have an average apparent association constant of  $1.8 \times 10^6 \text{ M}^{-1}$  for laurate. Thus, the average strength of these sites is of the same order of magnitude as the stronger laurate binding sites of albumin. The binding model also contains a relatively large number of weaker fatty acid binding sites,  $1.3 \times 10^{-11}$  moles/ $10^9$  cells, that have an average apparent association constant of  $1.3 \times 10^4 \text{ M}^{-1}$  for laurate. These sites are too weak to bind appreciable amounts of laurate unless the fatty acid-albumin molar ratio is elevated.

HETEROGENEITY OF HUMAN VERY LOW DENSITY LIPOPROTEINS BY GEL FILTRATION CHROMATOGRAPHY. S.H. Quarfordt, Anne Nathans, Marie Dowdee and Helen L. Hilderman (Dept. Med., Duke Univ. Med. Center and the Cooperative Lipid Lab., Vet. Admin. Hosp., Durham, N.C. 27705). *J. Lipid Res.* 13, 435-44 (1972). Very low density lipoproteins were separated by gel filtration on Sepharose 4B. A decrease in mean particle diameter and flotation rate was seen with increasing elution volumes. The smaller lipoproteins had relatively more protein and phospholipid and less triglyceride than the larger ones. No differences were noted in the relative contents of the various phospholipids or partial glycerides between small and large lipoproteins. Fatty acid patterns of triglycerides and cholesterol esters were also similar for the various lipoproteins. Relatively more lecithin containing linoleoyl acyl groups was found in smaller lipoproteins of some subjects. More of the protein of smaller lipoproteins was apo-LDL protein. Apo-HDL peptide was lost from the very low density lipoprotein as a consequence of the gel filtration.

IDENTIFICATION OF A XYLOSE-CONTAINING CEREBROSIDE IN THE SALT OF THE HERRING GULL. Karl-Anders Karlsson, Bo E. Samuelsson and G.O. Steen (Dept. Med. Biochem., Univ. Göteborg, Fack, 400 33 Göteborg 33, Sweden). *J. Lipid Res.* 13, 169-76 (1972). A pentose-containing cerebroside has been identified in the salt gland of the herring gull, using mass spectrometry of acetyl and trimethylsilyl derivatives. A detailed interpretation of the spectra allowed a conclusion concerning the major long-chain base (the  $\text{C}_{20}$  homolog of sphingosine) and the major fatty acids ( $\text{C}_{22}$ - $\text{C}_{25}$  2-hydroxy fatty acids), using reference spectra of synthetic galactosylceramides. A six-membered glycoside ring (aldopyranose) was demonstrated by mass spectrometry of the acetyl derivative of periodic acid-oxidized and sodium borodeuteride-reduced pentosylceramide. By gas-liquid chromatography and mass spectrometry of methanolysis products, the pentose was shown to be identical with xylose. The procedures were applied to 25-50  $\mu\text{g}$  of glycolipid.

EFFECTS OF PROSTAGLANDIN  $\text{E}_2$  ON RAT SKIN: INHIBITION OF STEROL ESTER BIOSYNTHESIS AND CLEARING OF SCALY LESIONS

## Call for Nominations: Award in Lipid Chemistry

### Sponsored by Applied Science Laboratories

In April 1964 the Governing Board of the American Oil Chemists' Society established an Award in Lipid Chemistry under the sponsorship of the Applied Science Laboratories Inc., State College, Pa. Previous awards were presented as follows: Erich Baer, August 1964; Ernest Klenk, October 1965; H.E. Carter, October 1966; Sune Bergstrom, October 1967; Daniel Swern, October 1968; H.J. Dutton, October 1969; E.P. Kennedy, September 1970; E.S. Lutton, October 1971; and A.T. James, September 1972.

The award consists of \$2500 accompanied by an appropriate certificate. It is now planned that the 10th award will be presented at the AOCS Fall Meeting in Chicago, September 16-19, 1973.

### Canvassing Committee Appointees

Policies and Procedures governing the selection of award winners have been set by the AOCS Governing Board. An Award Nomination canvassing Committee has been appointed. Members are: T.J. Weiss, Chairman; C.D. Evans; D. Firestone; G. Fuller; and T.H. Smouse. The function of this committee is to solicit nominations for the 10th award. Selection of the award winner will be made by the Award Committee whose membership will remain anonymous.

### Rules

The rules prescribe that nominees shall have been responsible for the accomplishment of original research in lipid chemistry and must have presented the results thereof through publication of technical papers of high quality. Preference will be given to individuals who are actively associated with research in lipid chemistry and who have made fundamental discoveries that affect a large segment of the lipid field. For award purposes, the term "lipid chemistry" is considered to embrace all aspects of the chemistry and biochemistry of fatty acids, of naturally occurring and synthetic compounds and derivatives of fatty acids, and of compounds that are related to fatty acids metabolically, or occur naturally in close association with fatty acids or derivatives thereof. The award will be made without regard for national origin, race, color, creed or sex.

Letters of nomination together with supporting documents must be submitted in octuplicate to T.J. Weiss, Hunt-Wesson Foods, Inc., 1645 W. Valencia Dr., Fullerton, Calif. 92634 before the deadline of April 15, 1973. The supporting documents shall consist of professional biographical data, including a summary of the nominee's research accomplishments, a list of his publications, the degrees he holds, together with the names of the granting institutions, and the positions held during his professional career. There is no requirement that either the nominator or the nominee be a member of the American Oil Chemists' Society. In addition, letters from at least three other scientists supporting the nomination must be submitted in octuplicate.

Remember the DEADLINE, April 15, 1973