

BIBLIOGRAPHY

- Agrawal, H.C., Fishman, M.A. and Prenskey, A.L. (1972). A possible block in the intermediary metabolism of glucose into proteins and lipids in the brains of undernourished rats. *Lipids*, 6, 431-433.
- Alling, C., Bruce, A., Karlsson, I., Sapia, O. and Svennerholm, L. (1972). Effect of maternal essential fatty acid supply on fatty acid composition of brain, liver and serum in 21 day old rats. *J. Nutr.*, 102, 773-782.
- Alling, C., Bruce, A., Karlsson, I. and Svennerholm, L. (1974). The effect of different dietary levels of essential fatty acids on lipids of rat cerebrum during maturation. *J. Neurochem.*, 23, 1263-1270.
- Alling, C. and Karlsson, I. (1973). Changes in lipid concentrations and fatty acid compositions in rat cerebrum during maturation. *J. Neurochem.*, 21, 1051-1057.
- Ansell, G.B. (1973). In : Form and Function of Phospholipids Eds. G.B. Ansell, J.N. Hawthorne and R.C.M. Dawson. Elsevier Scientific Publishing Co., Amsterdam. pp.377-422.
- Ansell, G.B. and Metcalfe, R.F. (1971). Studies on the CDP-ethanolamine 1,2-diglyceride ethanolamine phosphotransferase of rat brain. *J. Neurochem.*, 18, 647-665.
- Atkins, G.L. and Nimmo, I.A. (1975). A comparison of seven methods for fitting the Michaelis - Menten equation. *Biochem. J.*, 149, 775-777.

- Banik, N.L. and Davison, A.N. (1969). Enzyme activity and composition of myelin and subcellular fractions in the developing rat brain. *Biochem. J.*, 155, 1051-1062.
- Banik, N.L. and Smith, M.E. (1977). Protein determinants of myelination in different regions of developing rat central nervous system. *Biochem. J.*, 162, 247-255.
- Bartlett, G.R. (1959). Phosphorus assay in column chromatography. *J. Biol. Chem.*, 234, 466-468.
- Bass, N.H., Netsky, M.G. and Young, E. (1970a). Effect of neonatal malnutrition on developing cerebrum : I. Microchemical and histologic study of cellular differentiation in the rat. *Arch. Neurol.*, 23, 289-302.
- Bass, N.H., Netsky, M.G. and Young, E. (1970b). Effect of neonatal malnutrition on developing cerebrum : II. Microchemical and histologic study of myelin formation in the rat. *Arch. Neurol.*, 23, 303-313.
- Bean, W.B., Hodges, R.E., Daum, K., Bradbury, J.T., Cuning, R., Manresa, J., Murray, W.M., Oliver, P., Pouth, J.I., Scheld, H.P., Townsend, M. and Chu-Tung, I. (1955). Pantothenic acid deficiency induced in human subjects. *J. Clin. Invest.*, 34, 1073-1080.
- Benjamins, J.A. and McKhann, G.M. (1976). Development, Regeneration and Aging. In : *Basic Neurochemistry* : Eds. G.J. Siegel, E.W. Albers, R. Katzman and B.W. Agranoff. Little, Brown and Company, Boston. pp. 365-387.

Benton, J.W., Moser, H.W., Dodge, R.R. and Carr, S. (1966).

Modification of the schedule of myelination in the rat by early nutritional deprivation. *Pediatrics*, 38, 801-807.

Bhagavan, H.N., Coursin, D.B. and Stewart, C.N. (1977).

Regional distribution of pyridoxal 5'-phosphate in developing and mature brains and its depletion in pyridoxine deficiency. *Neurochem. Res.*, 2, 681-687.

Bhat, P.V. and Rama Rao, P.B. (1972). Effect of vitamin A low diets on brain lipids in preweaning rats. *Proc. Soc. Biol. Chemists (India)*, 31, 69A.

Bhat, P.V. and Rama Rao, P.B. (1976). The effect of maternal diet low in vitamin A on brain constituents of preweaning rats. *Arogya. J. Health Sci.*, II, 96-102.

Bhat, P.V. and Rama Rao, P.B. (1978). Vitamin A nutrition in relation to gangliosides and myelination in the developing brain. In : *Wld. Rev. Nutr. Diet.* Eds. H.R. Cama and P.S. Sastry, S. Karger. ^{Basel} 31, 100-106.

Booher, L.E., Behan, I. and McMeans, E. (1951). Biological utilization of unmodified and modified food starches. *J. Nutr.*, 45, 75-95.

Bowman, R.E. and Wolf, R.C. (1962). A rapid and specific ultramicro method for total serum cholesterol. *Clin. Chem.*, 8, 302-309.

Brante, G. (1949). Studies on lipids in the nervous system with special reference to quantitative chemical determinations and topical distribution. *Acta Physiol. Scand.*, (Suppl.63), 18, 1-189.

- Brenkert, A. and Radin, N.S. (1972). Synthesis of galactocerebrosides and glucocerebrosides by rat brain : Assay procedure and changes with age. *Brain Res.*, 36, 183-193.
- Drizze, K., Vogt, J. and Kharetchko, Y. (1969). In *Prog. Brain Res.* Eds. D.R. Purpura, and J.P. Schade, Elsevier Publ. Co., N.Y. Vol. 4, 136.
- Brown, R.A. and Sturtevant, M. (1949). Vitamin requirement of the growing rats. *Vitamins and Hormones.*, 7, 171-199.
- Burns, E.M., Richards, J.G. and Kuhn, H. (1975). An ultrastructural investigation of the effect of perinatal malnutrition on E-PTA stained synaptic junctions. *Experientia*, 32, 1451-1452.
- Burton, R.M., Sodd, M.A. and Brady, R.O. (1958). The incorporation of galactose into galactolipids. *J. Biol. Chem.*, 233, 1053-1060.
- Chase, H.P., Dorsey, J. and McKhann, G.M. (1967). The effect of malnutrition on the synthesis of a myelin lipid. *Pediatrics*, 40, 551-559.
- Chase, H.P., Welch, N.N., Dabiero, C.S., Vasan, N.S. and Butterfield, L.J. (1972). Alterations in human brain biochemistry following intrauterine growth retardation. *Pediatrics*, 50, 403-411.
- Chase, H.P., Rodgersen, D.O., Lindsley, Jr. W., Thorne, T. and Cheung, G. (1976). Brain glucose utilization in undernourished rats. *Pediat. Res.*, 10, 102-107.

- Collins, G.H. (1967). Glial cell change in the brain stem of thiamine deficient rats. *Am. J. Path.*, 50, 791-814.
- Cordero, M.E., Diaz, G. and Araya, J. (1976). Neocortex development during severe malnutrition in the rat. *Am. J. Clin. Nutr.*, 29, 358-365.
- Costantino - Ceccarini, E. and Morell, P. (1972). Biosynthesis of brainsphingolipids and myelin accumulation in the mouse. *Lipids*, 7, 656-662.
- Cragg, B.G. (1972). The development of cortical synapses during starvation in the rat. *Brain*, 95, 143-150.
- Culley, W.J. and Mertz, E.T. (1965). Effect of restricted food intake on growth and composition of preweaning rat brain. *Proc. Soc. Exp. Biol. Med.*, 118, 233-235.
- Culley, W.J. and Linenberger, R.O. (1968). Effect of under-nutrition on the size and composition of the rat brain. *J. Nutr.*, 96, 375-381.
- Culley, W.J., Yuan, L. and Mertz, E.T. (1966). Effect of food restriction and age on rat brain phospholipids. *Fed. Proc.* 25, 674, 2739.
- Cuzner, M.L. and Davison, A.N. (1968). The lipid composition of ~~rat~~ rat brain myelin and subcellular fractions during development. *Biochem. J.*, 106, 29-34.
- Cuzner, M.L., Davison, A.N. and Gregson, N.A. (1965). The chemical composition of vertebrate myelin and microsomes. *J. Neurochem.*, 12, 469-481.

- Dallal, K.B. and Einstein, E.R. (1969). Biochemical maturation of the central nervous system. I. Lipid changes. *Brain Res.*, 16, 441-451.
- Dakshinamurti, K. (1977). B-vitamins and nervous system function. In : *Nutrition and the Brain*. Eds. R.J.Wurtman J.J. Wurtman. Raven Press, New York. Vol. 1, pp. 249-318.
- Dakshinamurti, K., Stephens, M.C. and Mokashi, S. (1973). Cerebral fatty acids in pyridoxine deficient young rats. In : *Proceedings IV International meeting, International Society for Neurochemistry, Tokyo*, pp. 423.
- Davison, A.N. and Dobbing, J. (1968). Developing brain. In : *Applied Neurochemistry*. Eds. A.N. Davison and J. Dobbing. Blackwell Scientific Publication, Oxford, pp. 253-286.
- Dayan, A.D. and Ramsey, R.B. (1974). An inborn error of 1- vitamin B₁₂ metabolism associated with cellular deficiency of coenzyme forms of the vitamin : Pathological and neurochemical findings in one case. *J. Neurol. Sci.*, 23, 117-128.
- DeMaccioni, A.H.R. and Caputto, R. (1968). Synthesis of gangliosides during development and its relation to the quantitative changes of subcellular particles of rat brain. *J. Neurochem.*, 15, 1257-1264.
- Denny-Brown, D. (1958). *Fed. Proc.*, 17, 35. cf : In : *Nutrition, a comparative treatise*. Eds. G.H. Beaton and E.W. McHenry. Academic Press, New York. (1964), Vol. II, 109-206.

- Deshmukh, D.S., Flynn, T.J. and Pieringer, R.A. (1974). The biosynthesis and concentration of galactosyl diglyceride in glial and neuronal enriched fractions of actively myelinating rat brain. *J. Neurochem.*, 22, 479-485.
- deSousa, B.N. and Horrocks, L.A. (1979). Development of rat spinal cord. II. Comparison of lipid compositions with cerebrum. *Devel. Neurosci.*, 2, 122-128.
- DeVries, G.H. and Norton, W.T. (1974). The lipid composition of axons from bovine brain. *J. Neurochem.*, 22, 259-264.
- Deuel, J.H. Jr. (1955). In : *The Lipids. Their chemistry and biochemistry.* Vol. II, 707-810. Interscience Publishers. Inc., New York.
- Dickerson, J.W.T. (1968). The composition of nervous tissue. In : *Applied Neurochemistry.* Eds. A.N. Davison and J. Dobbing. pp. 48-118. Blackwell Scientific Publications. Oxford.
- Dickerson, J.W.T. and Jarvis, J. (1970). The effects of under-nutrition and rehabilitation on the growth and chemical composition of the cerebellum, brain stem, and forebrain of the rat. *Proc. Nutr. Soc.*, 27, 4A-5A.
- Dickerson, J.W.T., Hughes, P.C.R. and McAnulty, P.A. (1972). The growth and development of rats given a low protein diet. *Br. J. Nutr.*, 27, 527-536.
- Dipolo, R.V., Kanfer, J.N. and Newberne, P.M. (1974). Copper deficiency and the central nervous system. Myelination in the rat : Morphological and biochemical studies. *J. Neuropathol. Exp. Neurol.*, 33, 226-236.

- Dobbing, J. (1968). Vulnerable periods in developing brain.
In : Applied Neurochemistry. Eds. A.N. Davison and J.
Dobbing. Blackwell Scientific Publication, Oxford.
pp. 287-316.
- Dobbing, J. and Sands, J. (1971). Vulnerability of developing
brain. IX. The effect of nutritional growth retardation
on the timing of brain growth spurt. Biol. Neonat. (Basel),
19, 363-378.
- Dobbing, J. and Widdowson, E.M. (1965). The effect of under-
nutrition and subsequent rehabilitation on myelination of
rat brain as measured by its composition. Brain, 88, 357-366.
- Dorman, R.V., Freysz, L. and Horrocks, L.A. (1977). Synthesis
of ethanolamine phosphoglycerides by microsomes from the
brains of Jimpy and Quaking mice. J. Neurochem., 29, 231-233.
- Dreyfus, P.M. (1967). Biochemical lesions and their clinical
significance. In : Thiamine deficiency. Eds. G.E.W.
Wolstenhome. Little, Brown and Company, Boston, pp. 103.
- Dreyfus, P.M. and Hauser, G. (1965). The effect of thiamine
deficiency on the pyruvate decarboxylase system of the
central nervous system. Biochim. Biophys. Acta, 104, 78-84.
- Dreyfus, P.M. and Moniz, R. (1962). The quantitative histo-
chemical estimation of transketolase in the nervous system
of the rat. Biochim. Biophys. Acta, 65, 181-189.
- Dreyfus, P.M. and Victor, M. (1961). Effects of thiamine
deficiency on the CNS. Am. J. Clin. Nutr., 9, 414-425.

- Drummond, G.I., Iyer, N.T. and Keith, J. (1962). Hydrolysis of ribonucleotide 2',3'-cyclic phosphates by a diesterase from brain. *J. Biol. Chem.*, 237, 3535-3539.
- Eayrs, J.T. and Horn, G. (1955). The development of cerebral cortex in hypothyroid and starved rats. *Anat. Rec.*, 121, 53-61.
- Eisenthal, R. and Cornish Bowden, A. (1974). The direct linear plot : A new graphical procedure for estimating enzyme kinetic parameters. *Biochem. J.*, 139, 715-720.
- Enwonwu, O.C. and Glover, V. (1973). Alteration in cerebral protein metabolism in the progeny of protein calorie deficient rats. *J. Nutr.*, 103, 61-73.
- Fehling, C., Margaretha, J., Akesson, B., Axelsson, J. and Brun, A. (1978a). Effects of vitamin B₁₂ deficiency on lipid metabolism of rat liver and nervous system. *Br. J. Nutr.*, 39, 501-513.
- Fehling, C., Margaretha, J. and Arridson, G. (1978b). Lipid metabolism in the vitamin B₁₂ deprived rats. *Nutr. Metab.*, 22, 82-89.
- Fell, H.B. (1960), cf : Sondergaard, D.H. (1964). Fat soluble vitamins. In : *Nutrition - A comprehensive Treatise*. Eds. G.H. Beaton and E.W. McHenry. Academic Press, New York Vol. II, 2-90.
- Fishman, M.A., Prenskey, A.L. and Dodge, P.R. (1969). Low content of cerebral lipids in infants suffering from malnutrition. *Nature (Lond.)*, 221, 552-553.

- Fishman, M.A., Madyastha, P. and Prensky, A.L. (1971). The effect of undernutrition on the development of myelin in the rat central nervous system. *Lipids*, 6, 458-465.
- Folch - Pi, J. (1955). Composition of the brain in relation to maturation. In : *Biochemistry of the developing nervous system*. Ed. H. Waelsch, Academic Press, New York, pp. 121-136.
- Folch, J., Lees, M. and Sloane - Stanely, G.H. (1957). A simple method for the isolation and purification of total lipids from animal tissues. *J. Biol. Chem.*, 226, 497-509.
- Forbes, R.M., Cooper, A.R. and Mitchell, H.H. (1953). *J. Biol. Chem.*, 203, 361. of : Rajalakshmi, R. (1980). Nutrition and development of the nervous tissue. In "CRC Handbook series in Nutrition and Food" (In Press). CRC Press, Inc. U.S.A.
- Fox, J.H., Fishman, M.A., Dodge, P.R. and Prensky, A.L. (1972). The effect of malnutrition on human central nervous system myelin. *Neurology (Minneap.)*, 22, 1213-1216.
- Ford, D.H. (1973). Selected maturational changes observed in the postnatal rat brain. In *Prog. Brain Res.*, Ed. D.E. Ford, Elsevier Publ. Co., New York, Vol. 40, 1-125.
- Freysz, L., Horrocks, L.A. and Mandel, P. (1978). Ethanolamine and choline phosphotransferases of chicken brain. In : *Enzymes of Lipid Metabolism*. Eds. L. Freysz, S. Gatt, and P. Mandel., Plenum Publishing Corporation, New York, pp. 253-268.

- Freysz, L., Horrocks, L.A. and Mandel P. (1980). Activities of enzymes synthesizing diacyl, alkylacyl, and alkenylacyl glycerophosphoethanolamine and glycerophosphocholine during development of chicken brain. *J. Neurochem.*, 34, 963-969.
- Friede, R.L. (1966). In : *Topographic Brain Chemistry*. pp. 401-440. Academic Press, New York.
- Friede, R.L. (1975). In : *Developmental Neuropathology*. Springer - Verlag, Wien, New York. pp. 1-23.
- Galli, C., White, H.B. Jr. and Paoletto, R. (1970). Brain lipid modifications induced by essential fatty acid deficiency in growing male and female rats. *J. Neurochem.*, 17, 347-355.
- Gambetti, P., Gambetti, A.L., Gonatas, N.K., Shafer, B. and Stieber, A. (1972). Synapses and malnutrition : Morphological and biochemical study of synaptosomal fractions from rat cerebral cortex. *Brain Res.*, 47, 477-484.
- Gambetti, P., Gambetti, A.L., Rizzuto, N., Shafer, B. and Pfaff, L. (1974). Synapses and malnutrition : Quantitative ultrastructural study of rat cerebral cortex. *Exp. Neurol.*, 43, 464-473.
- Geel, S.E. and Dreyfus, P.M. (1974). Thiamine deficiency encephalopathy in the developing rat. *Brain Res.*, 76, 435-445.
- Geel, S.E. and Dreyfus, P.M. (1975). Brain lipid composition of immature thiamine - deficient and undernourished rats. *J. Neurochem.*, 24, 353-360.

- Geison, R.L. and Waisman, H.A. (1970). Effects of nutritional status on rat brain maturation as measured by lipid composition. *J. Nutr.*, 100, 315-324.
- Ghittoni, N.E. (1979). Effects of postnatal malnutrition on the lipid composition of rat brain stem. *Nutr. Rep. Int.*, 20, 309-318.
- Ghittoni, N.E. and de Raveglia, F.I. (1972). Influence of neonatal undernutrition on the lipid composition of cerebral cortex and cerebellum of the rat. *Neurobiology*, 2, 41-48.
- Ghittoni, N.E. and de Raveglia, F.I. (1973). Effects of malnutrition and subsequent rehabilitation on the lipid composition. *J. Neurochem.*, 21, 983-987.
- Gottfried, E.L. and Rapport, M.M. (1962). The biochemistry of plasmalogens. I. Isolation and characterization of phosphatidal choline, a pure native plasmalogen. *J. Biol. Chem.*, 273, 329-333.
- Gregson, N.A. and Oxberry, J.M. (1972). The composition of myelin from the mutant mouse 'Quaking'. *J. Neurochem.*, 19, 1065-1071.
- Griffin, W.S.T., Woodward, D.J. and Chanda, R. (1977). Malnutrition - induced alterations of developing purkinje cells. *Exp. Neurol.*, 56, 298-311.
- Guglielmone, A.E.R., Soto, A.M. and Davilanski, B.H. (1974). Neonatal undernutrition and RNA synthesis in developing rat brain. *J. Neurochem.*, 22, 529-533.

- Guthrie, H.A. and Brown, M.L. (1968). Effect of severe under-nutrition in early life on growth, brain size and composition in adult rats. *J. Nutr.*, 94, 419-426.
- Hawk, P.B., Oser, B.L. and Summerson, W.H. (1954). *Practical physiological chemistry*. 13th Edition, Blakiston Company, New York, pp. 1375.
- Heinrich, C.P., Stadler, H. and Weiser, H. (1973). The effect of thiamine deficiency on the acetylcoenzyme A and acetylcholine levels in the rat brain. *J. Neurochem.*, 21, 1273-1281.
- Hendrickson, H.S. and Reinertsen, J.L. (1971). Phosphoinositide interconversion : A model for control of Na⁺ and K⁺ permeability in the nerve axon membrane. *Biochem. Biophys. Res. Commun.*, 44, 1258-1264.
- Horrocks, L.A. (1968). The alk-1-enyl group content of mammalian myelin phosphoglycerides by quantitative two dimensional thin layer chromatography. *J. Lipid Res.*, 9, 469-472.
- Horrocks, L.A. and Reddy, T.S. (1980). Effects of postnatal undernutrition on the phosphocholine and phosphoethanolamine transferases in rat brain. In : *Multidisciplinary approach to brain development*. Eds. C. DiBenedelta, R. Balaza, G. Gombos and G. Porcellati, Elsevier/North-Holland Biomedical Press, Amsterdam, pp. 343-345.
- Horrocks, L.A. and Sun, G.Y. (1972). Ethanolamine plasmalogens. In : *Research Methods in Neurochemistry*. Eds. N. Marks and R. Rodnight, Plenum Press, New York, Vol. I, 223-231.

- Horrocks, L.A., Teews, A.D., Thompson, D.K. and Chin, J.Y. (1976). Synthesis and turnover of brain phosphoglycerides - results, methods of calculation and interpretation. In : Functional and metabolism of phospholipids in the central and peripheral nervous systems. Eds. G. Porcellati, L. Amaducci, and C. Galli, Plenum Publishing Corporation, New York, pp. 37-54.
- Horrocks, L.A., Spanner, S., Mozzi, R., Fu, S.C., D'Amato, R.A. and Krakowka, S. (1978). Plasmalogenase is elevated in early demyelinating lesions. In : Myelination and Demyelination. Eds. J. Palo, Plenum Publishing Corp., New York, 423-438.
- Hyden, H. (1967). In : The neurosciences : A study programme. Eds. C.C. Quarton, T. Melnechuk, and F.O. Schmitt, Rockefeller University Press, New York.
- Irwin, L.N. and Samson, Jr. F.E. (1971). Content and turnover of gangliosides in rat brain following behavioural stimulation. *J. Neurochem.*, 18, 203-211.
- Jailkhani, R. and Subramanyam, D. (1977). Effects of neonatal undernutrition on the composition and metabolism of brain lipids in rats. *Baroda J. Nutr.*, 4, 35-40.
- Jacobson, M. (1970). In : Developmental Neurobiology. Holt, Rinehart and Winston Inc. New York, pp. 75-185.
- Jarori, G.K. (1976). Effects of prenatal and neonatal deficiency of pantothenic acid on brain lipid composition in rats. M.Sc. Dissertation. M.S. University of Baroda, Baroda.

- Jones, J.P., Rios, A., Nicholas, H.J. and Ramsey, R.D. (1975).
The biosynthesis of cholesterol and other sterols by brain
tissue : Distribution in subcellular fractions as a function
of time after injection of (2-¹⁴C) mevalonic acid sodium
(2-¹⁴C) acetate and (U-¹⁴C) glucose into 15 days old rats.
J. Neurochem., 24, 117-121.
- Jun, O. and Feigin, I. (1973). The relative weight of gray
and white matter of the normal human brain. J. Neuropathol.
Exp. Neurol., 32, 585-588.
- Karlsson, I. (1975). Effects on different dietary levels of
essential fatty acids on the fatty acid composition of
ethanolamine phosphoglycerides in myelin and synaptosomal
plasma membranes. J. Neurochem., 25, 101-107.
- Karlsson, I. and Svennerholm, L. (1978). Biochemical develop-
ment of rat forebrains in severe protein and essential
fatty acid deficiencies. J. Neurochem., 31, 657-662.
- Kauffman, F.C. (1972). The quantitative histochemistry of
enzymes of the pentose phosphate pathway in the central
nervous system of the rat. J. Neurochem., 19, 1-9.
- Kerr, S.E. and Read, W.W.C. (1963). The fatty acid components
of polyphosphoinositides prepared from calf brain.
Biochim. Biophys. Acta., 10, 477-478.
- Kishimoto, Y., Davies, W.E. and Radin, N.S. (1965). Developing
rat brain : Changes in cholesterol, galactolipids and the
individual fatty acids of gangliosides and glycerophospha-
tides. J. Lipid Res., 6, 532-536.

- Kokrady, S., Gopalakrishnamurthy, H.R. and Bachhawat, B.K. (1972). Glycolipids in brain in protein calorie malnutrition. Proc. Nutr. Soc. India, 12, 20-31.
- Krigman, M.R. and Hogan, E.L. (1976). Undernutrition in the developing rat : Effect upon myelination. Brain Res., 107, 239-255.
- Kulkarni, A.B. (1979). Brain acetylcholine metabolism in malnourished rats. Ph.D. Thesis, M.S. University of Baroda, Baroda.
- Kurihara, T. and Tsukada, Y. (1967). The regional and sub-cellular distribution of 2',3'-cyclic nucleotide 3'-phosphohydrolase in the central nervous system. J. Neurochem., 14, 1167-1174.
- Kurihara, T. and Tsukada, Y. (1968). 2',3'-cyclic nucleotide 3'-phosphohydrolase in the developing chick brain and spinal cord. J. Neurochem., 15, 827-832.
- Kurihara, T. and Takahashi, Y. (1973). Potentiometric and colorimetric methods for the assay of 2',3'-cyclic nucleotide 3'-phosphohydrolase. J. Neurochem., 20, 719-727.
- Kurihara, T., Nussbaum, J.L. and Mandel, P. (1969). 2',3'-cyclic nucleotide 3'-phosphohydrolase in the brain of the jimpy mouse, a mutant with deficient myelination. Brain Res., 13, 401-403.
- Kurihara, T., Nussbaum, J.L. and Mandel, P. (1970). 2',3'-cyclic nucleotide 3'-phosphohydrolase in brains of mutant mice with deficient myelination. J. Neurochem., 17, 993-997.

- Kurihara, T., Nussbaum, J.L. and Mandel, P. (1971). 2',3'-cyclic nucleotide 3'-phosphohydrolase in purified myelin from brains of Jimpy and normal young mice. *Life Sci.*, 10, 421-429.
- Kurtz, D.J. and Kanfer, J.N. (1973). Composition of myelin lipids and synthesis of 3-ketodihydrosphingosine in the vitamin B₆ - deficient developing rat. *J. Neurochem.*, 20, 963-968.
- Lewis, G., Terlecki, S. and Allcroft, R. (1967). Occurrence of swayback in the lambs of ewes fed a semipurified diet for low copper content. *Vet. Record*, 81, 415-416.
- Lowry, O.H., Rosebrough, N.J., Farr, A.L. and Randall, R.J. (1951). Protein measurement with the folin phenol reagent. *J. Biol. Chem.*, 193, 265-275.
- Lowry, O.H., Roberts, N.R., Leiner, K.Y., Wu, M., Farr, A.L. and Albers, R.W. (1954). The quantitative histochemistry of brain. III, Ammon's Horn. *J. Biol. Chem.*, 207, 39-49.
- Markus, M., Hess, B., Ottaway, J.H. and Cornish-Bowden, A. (1976). The analysis of kinetic data in biochemistry. A critical evaluation of methods. *FEBS lett.*, 63, 225-230.
- Martinez, M. and Ballabriga, A. (1978). A chemical study on the development of the human forebrain and cerebellum during the brain "growth spurt" period. I Gangliosides and plasmalogens. *Brain Res.*, 159, 351-363.

- McCaman, R.E. and Cook, K. (1966). Intermediary metabolism of phospholipids in brain tissue. III. Phosphocholine - Glyceride transferase. *J. Biol. Chem.*, 241, 3391-3394.
- McGavin, M.D., Ranby, P.D. and Tammemagi, L. (1962). Demyelination associated with low liver copper levels in pigs. *Australian Vet. J.*, 38, 8-14.
- McKhann, G.M. and Ho, W. (1967). The in vivo and in vitro synthesis of sulfatides during development. *J. Neurochem.*, 14, 717-724.
- Merat, A. and Dickerson, J.W.T. (1974). The effect of the severity and timing of malnutrition on brain gangliosides in rat. *Biol. Neonat.*, 25, 158-170.
- Michell, R.H. (1975). Inositol phospholipids and cell surface receptor function. *Biochim. Biophys. Acta.*, 415, 61-88.
- Mitchell, H.H. (1964). Comparative nutrition of Man and Domestic animals. Academic Press, New York, Vol. II, 117-280.
- Morell, P. and Norton, W.T. (1980). Myelin. *Scientific American*, 242, 74-89.
- Morgan, B.L.G. and Naismith, D.J. (1975). The effect of postnatal undernutrition on the activities of enzymes involved in the synthesis of brain lipids in the rat. *Proc. Nutr. Soc.*, 34, (2A), 40A.
- Nakhasi, H.L., Toews, A.D. and Horrocks, L.A. (1975). Effects of postnatal protein deficiency on the content and composition of myelin from brains of weanling rats. *Brain Res.*, 83, 176-179.

- Nakhasi, H.L., Sharma, M. and Singh, H. (1977). Effects of prenatal and neonatal deficiencies on the 2',3'-cyclic nucleotide 3'-phosphohydrolase activity in the brain and spinal cord of rats. *Exp. Neurol.*, 57, 659-663.
- NAS - NRC (1962). Nutrient requirement of laboratory animals. No. 10. Publication 990. National Academy of Sciences, National Research Council, Washington D.C.
- Nelson, M.M. and Evans, H.M. (1953). Relation of dietary protein levels to reproduction in the rat. *J. Nutr.*, 57, 71-84.
- Neskovic, N.M., Sarlieve, L., Nussbaum, J.L., Kostic, D.M. and Mandel, P. (1972). Quantitative thin layer chromatography of glycolipids in animal tissues. *Chin. Chem. Acta.*, 38, 147-153.
- Nixon, R.A. (1976). Neurotoxicity of a non-metabolizable amino acid, 1-aminocyclopentane-1-carboxylic acid : regional protein levels and lipid composition of nervous tissue. *J. Neurochem.*, 27, 237-244.
- Norton, W.T. (1976). Formation, structure and biochemistry of myelin. In : *Basic Neurochemistry*. Second edition. Eds. G.J. Siegel, R.W. Albers, R. Katzman and B.W. Agranoff. Little, Brown and Company, Boston. pp. 74-99.
- Norton, W.T. and Autilio, L.A. (1966). The lipid composition of purified bovine brain myelin. *J. Neurochem.*, 13, 213-222.

- Norton, W.P. and Poduslo, S.F. (1973). Myelination in rat brain : Changes in myelin composition during brain maturation. *J. Neurochem.*, 21, 759-773.
- O'Brein, J.S. and Sampson, E.L. (1965). Lipid composition of the normal human brain : gray matter, white matter and myelin. *J. Lipid. Res.*, 6, 537-544.
- Olafson, R.W., Drummond, G.I. and Lee, J.F. (1969). Studies on 2',3'-cyclic nucleotide, 3'-phosphohydrolase from brain. *Can. J. Biochem.*, 47, 963-966.
- Owen, E.C., Proudfoot, R., Robertson, J.M., Barlow, B.W., Butler, E.J. and Smith, S.W. (1965). Pathological and biochemical studies of an outbreak of sway back in goats. *J. Comp. Pathol.*, 75, 241-251.
- Paoletti, R. and Galli, C. (1972). Effects of essential fatty acid deficiency on the central nervous system in the growing rat : In : lipids, malnutrition and the developing brain. Associated Scientific Publishers, Amsterdam, pp. 121-132.
- Patel, A.J., Balazs, R. and Johnson, A.L. (1973). Effect of undernutrition on cell formation in the rat brain. *J. Neurochem.*, 20, 1151-1165.
- Platt, B.S. (1958). Clinical features in endemic beriberi. *Fed. Proc.*, 17, 8-20.
- Poduslo, S.E. (1975). The isolation and characterization of plasma membrane and a myelin fraction derived from oligodendroglia of calf brain. *J. Neurochem.*, 24, 647-654.

- Poduslo, S.E. and Norton, W.T. (1972). Isolation and some chemical properties of oligodendroglia from calf brain. *J. Neurochem.*, 19, 727-736.
- Prasanna, K.C. (1978). Effect of thiamine deficiency on the thiamine content and transketolase activity of different tissues of albino rats. *Baroda J. Nutr.*, 5, 13-15.
- Prohaska, J.R. and Wells, W.W. (1974). Copper deficiency in the developing rat brain. A possible model for Menkes' & steely-hair disease. *J. Neurochem.*, 23, 91-98.
- Purpura, D.P., Shofer, R.J., Housepian, E.W. and Noback, C.R. (1964). In: *Prog. Brain Res.* Eds. D.R. Purpura and J.P. Schade. Elsevier Publ. Co., New York. Vol. 4, 187.
- Puro, K., Maury, P. and Muttunen, J.K. (1969). Qualitative and quantitative patterns of gangliosides in extraneural tissues. *Biochim. Biophys. Acta.*, 187, 230-235.
- Pysh, J.J., Perkins, R.E. and Singer Beck, L. (1979). The effect of postnatal undernutrition and the development of the mouse purkinje cell dendritic tree. *Brain Res.*, 163, 165-170.
- Radomska-pyrek, A. and Horrocks, L.A. (1972). Enzymatic synthesis of 1-alkyl 2-acyl sn-glycero-3-phosphoryl ethanolamines by the CDP-ethanolamine : 1-acyl 2-acyl. Sn glycerol ethanolamine phosphotransferase from microsomal fraction of rat brain. *J. Lipid Res.*, 13, 580-587.

- Radomska - Pyrek, A., Strosznajder, J., Dabrowiecki, Z.,
Chojnacki, T. and Horrocks, L.A. (1976). Effects of
free fatty acids on the enzymic synthesis of diacyl and
ether types of choline and ethanolamine phosphoglycerides.
J. Lipid Res., 17, 657-662.
- Radomska - Pyrek, A., Strosznajder, J., Dabrowiecki, Z.,
Goracci, G., Chojnacki, T. and Horrocks, L.A. (1977).
Enzymic synthesis of ether types of choline and ethanolamine
phosphoglycerides by microsomal fractions from rat brain
and liver. *J. Lipid Res.*, 18, 53-58.
- Rahmann, H. (1977). The possible functional role of ganglio-
sides in synaptic transmission and memory formation.
Proceedings of symposium on biochemical aspects of behaviour
and learning. pp. 22. Institute of Neurobiology, Faculty
of Medicine, University of Goteberg, Sweden.
- Rajalakshmi, R. (1980). Nutrition and development of the
nervous tissue. In "CRC Handbook series in Nutrition and
Food". (In press), CRC Press, Inc. USA.
- Rajalakshmi, R. and Nakhasi, H.L. (1974). Effects of prenatal
and postnatal nutritional deficiency on brain lipid
composition in rats. *Exp. Neurol.*, 44, 103-112.
- Rajalakshmi, R. and Nakhasi, H.L. (1974a). Effects of post-
weaning protein deficiency on brain lipid composition in
different regions of brain in rats. *Ind. J. Biochem.
Biophys.*, 11, 307-309.

- Rajalakshmi, R. and Nakhasi, H.L. (1975). Effects of neonatal pantothenic acid deficiency on brain lipid composition in rats. *J. Neurochem.*, 24, 979-981.
- Rajalakshmi, R. and Nakhasi, H.L. (1976). Effects of neonatal undernutrition on the lipid composition of the spinal cord in rats. *Exp. Neurol.*, 51, 330-336.
- Rajalakshmi, R. and Telang, S.D. (1975). Effects of postweaning deficiencies and subsequent rehabilitation on brain enzymes in neonatally undernourished rats. *Baroda J. Nutr.*, 2, 37-41.
- Rajalakshmi, R., Nakhasi, H.L. and Ramakrishnan, C.V. (1974). Effects of preweaning and postweaning deficiencies on the composition of brain lipids in rats. *Ind. J. Biochem. Biophys.*, 11, 57-60.
- Ramsey, R.B. and Fischer, V.W. (1978). Effect of 1-amino-cyclopentane-1-carboxylic acid (Cycloleucine) on developing central nervous system phospholipids. *J. Neurochem.*, 30, 447-457.
- Rao, M.V.R. (1936). cf : Sondergaard, D.H. (1964). Fat soluble vitamins. In : *Nutrition - A comprehensive Treatise*". Eds. G.H. Beaton and E.W. McHenry, Academic Press, New York, Vol. II, 2-90.
- Reddy, P.V. and Sastry, P.S. (1978). Effects of undernutrition on the metabolism of phospholipids and gangliosides in developing rat brain. *Br. J. Nutr.*, 40, 403-410.

- Reddy, P.V., Das, A. and Sastry, P.S. (1979). Quantitative and compositional changes in myelin of undernourished and protein malnourished rat brains. *Brain Res.*, 161, 227-235.
- Reddy, T.S., Sharma, M. and Horrocks, L.A. (1980). Effects of cycloleucine on rat CNS lipids. *Baroda J. Nutr.*, 7, 21-26.
- Rigdon, R.H. (1952). *Arch. Pathol.* 53, 239. of : Rajalakshmi, R. (1980). Nutrition and development of the nervous tissue. In : CRC Handbook series in Nutrition and Food. (In press) CRC Press, Inc. USA.
- Roukema, P.A., Van den eijnden, D.H., Heijlman, J. and Van derberg G. (1970). Sialoglycoproteins, gangliosides and related enzymes in developing rat brain. *FEBS lett.*, 9, 267-270.
- Rouser, G. and Yamamoto, A. (1969). Lipids. In : Handbook of Neurochemistry. Ed. A. Lajtha. Plenum Press, New York, Vol. 1, 121-169.
- Sabri, M.I. and Davison, A.N. (1977). The synthesis of myelin in developing rat brain. *J. Neurochem.*, 29, 321-328.
- Shah, S.N. (1971). Glycosyl transferases of microsomal fractions of brain : synthesis of glucosyl ceramide and galactosyl ceramide during development and the distribution of glucose and galactose transferase in white and gray matter. *J. Neurochem.*, 18, 395-402.
- Sharma, M.B. (1979). Studies on the rat spinal cord. Ph.D. Thesis, M.S. University of Baroda, Baroda.
- Sharma, M., Swaminathan, U. and Aiyer, M. (1980). Effects of neonatal undernutrition on rat brain. Phosphoinositides. *Ind. J. Biochem. Biophys.*, 17, 246-247.

- Shoemaker, W.J. and Bloom, F.E. (1976). Effect of under-nutrition on brain morphology. In : Nutrition and the Brain. Eds. R.J. Wurtman and J.J. Wurtman. Raven Press, New York, pp. 147-192.
- Siassi, F. and Siassi, B. (1973). Differential effects of protein - calorie restriction and subsequent repletion on neuronal and nonneuronal components of cerebral cortex in newborn rats. *J. Nutr.*, 103, 1625--1633.
- Sima, A. and Persson, L. (1975). The effects of pre and post-natal undernutrition on the development of the rat cerebellar cortex 1. Morphological observations. *Neurobiology*, 5, 23-34.
- Simons, S.D. and Johnston, P.V. (1976). Prenatal and postnatal protein restriction in the rat : Effects on some parameters related to brain development and prospects for rehabilitation. *J. Neurochem.*, 27, 63-69.
- Singh, H.S. and Sharma, M. (1980). Development of rat during neonatal undernutrition. *Baroda J. Nutr.*, 7, 11-20.
- Skoza, L. and Mohos, S. (1976). Stable TBA chromophore with Dimethyl sulphoxide (Application to sialic acid in analytical De-O-acylation). *Biochem. J.*, 159, 457-462.
- Smart, J.L., Dobbing, J., Adlard, B.P.F., Lynch, A. and Sands, J. (1973). Vulnerability of the developing brain : Relative effects of growth restriction during the fetal and suckling periods on behavior and brain composition of adult rats. *J. Nutr.*, 103, 1327-1338.

- Smith, M.E. (1967). The metabolism of myelin lipids.
Adv. Lipid Res., 5, 241-276.
- Smith, M.E. (1969). An in vitro system for the study of myelin synthesis. J. Neurochem., 16, 83-92.
- Smith, M.E. (1973). A regional survey of myelin development : some compositional and metabolic aspects. J. Lipid Res., 14, 541-551.
- Sobotka, J.T., Cook, P.M. and Brodie, E.R. (1974). Neonatal malnutrition : neurochemical, hormonal and behaviour manifestation. Brain Res., 65, 443-457.
- Stephens, M.C. and Dakshinamurti, K. (1975). Brain lipids in pyridoxine - deficient young rats. Neurobiology, 5, 263-269.
- Stephens, M.C., Havlicek, V. and Dakshinamurti, K. (1971). Pyridoxine deficiency and development of the central nervous system. J. Neurochem., 18, 2407-2416.
- Stewart, R.J.C., Merat, A. and Dickerson, J.W.T. (1974). Effects of a low protein diet in mother rats on the structure of the brains of the offspring. Biol. Neonat., 25, 125-134.
- Strosznajder, J., Radomska - Pyrek, A., Lazarewicz, J. and Horrocks, L.A. (1977a). Synthesis in vitro of 1-alkyl-2-acyl and 1,2-diacyl-Sn-glycerol-3-phosphoryl choline and ethanolamines by neuronal, glial and synaptosomal fractions from adult rabbit brain. Bull. Acad. Pol. Sci., 25, 363-370.

- Svennerholm, L. (1956). The quantitative estimation of cerebrosides in nervous system. *J. Neurochem.*, 1, 42-53.
- Svennerholm, L. and Vanier, M.T. (1972). The distribution of lipids in the human nervous system. II. Lipid composition of human fetal and infant brain. *Brain Res.*, 47, 457-468.
- Svennerholm, L., Alling, C., Bruce, A., Karlsson, I. and Sapia, O. (1972). Effects on offspring of maternal malnutrition in the rat. In : *Lipids. Malnutrition and Developing Brain. A CIBA Foundation symposium. Associated Scientific Publishers, Amsterdam*, pp. 141-157.
- Sugita, N. (1918). Comparative studies on the growth of the cerebral cortex. VII. On the influence of starvation at an early age upon the development of the cerebral cortex in albino rat. *J. Comp. Neurol.*, 29, 177-242.
- Sun, G.Y. and Tumbleson, M.E. (1972). Levels of brain lipids in white matter from undernourished Sinclair (S-1) miniature swine. *J. Neurochem.*, 19, 909-912.
- Suzuki, K. (1965a). The pattern of mammalian brain gangliosides. II. Evaluation of the extraction procedures, postmortem changes and the effects of formalin preservation. *J. Neurochem.*, 12, 629-638.
- Suzuki, K. (1965b). The pattern of mammalian brain gangliosides. III. Regional and developmental differences. *J. Neurochem.*, 12, 969-979.
- Suzuki, K. (1967). Formation and turnover of major brain gangliosides during development. *J. Neurochem.*, 14, 917-925.

- Suzuki, K. (1976). Chemistry and Metabolism of brain lipids.
In : Basic Neurochemistry. Second edition. Eds. G.J.
Siegel, R.W. Albers, R. Katzman and B.W. Agranoff,
Little, Brown and Company, Boston, pp. 308-328.
- Suzuki, K., Poduslo, J.F. and Poduslo, S.E. (1968). Further
evidence for a specific ganglioside fraction closely
associated with myelin. *Biochim. Biophys Acta.*, 152,
576-586.
- Telang, S.D. (1980). Effects of variations in the severity
and duration of neonatal undernutrition on brain
glutamate dehydrogenase and decarboxylase in rat.
Baroda J. Nutr., 7, 27-35.
- Thomas, M.R. and Kirksey, A. (1976). Postnatal patterns of
brain lipids in progeny of vitamin B-6 deficient rats
before and after pyridoxine supplementation. *J. Nutr.*,
106, 1404-1414.
- Toews, A.D. and Horrocks, L.A. (1976). Developmental and
aging changes in protein concentration and 2',3'-cyclic
nucleotide monophosphate phosphodiesterase activity
(EC 3.1.4.16) in human cerebral white and gray matter and
spinal cord. *J. Neurochem.*, 27, 545-550.
- Trostler, N., Guggenheim, K., Havivi, E. and Sklan, D. (1977).
Effects of thiamine deficiency in pregnant and lactating
rats on the brain of their offspring. *Nutr. Metab.*, 21,
294-304.
- Vanier, M.F., Holm, M., Ohman, R. and Svennerholm, L. (1971).
Development profiles of gangliosides in human and rat brain,
J. Neurochem., 18, 581-592.

- Warren, L. (1959). Thiobarbituric assay of sialic acids. *J. Biol. Chem.*, 234, 1971-1975.
- Warwick, R. and Williams, P.L. (1973). In : *Grays Anatomy*. 35th Edn. Longman, pp. 746-1159.
- Wells, M.E. and Dittmer, J.C. (1967). A comprehensive study of the postnatal changes in the concentration of the lipids of developing rat brain. *Biochemistry*, 6, 3169-3175.
- White, H.B. Jr., Galli, C. and Paoletti, R. (1971). Brain recovery from essential fatty acid deficiency in developing rats. *J. Neurochem.*, 18, 869-882.
- Wiegandt, H. (1968). Struktur und Funktion der ganglioside. *Angew. Chem.*, 80, 89-96.
- Wiggins, R.G. and Fuller, G.N. (1979). Relative synthesis of myelin in different brain regions of postnatally undernourished rats. *Brain Res.*, 162, 103-112.
- Wiggins, R.C., Benjamins, J.A., Krigman, M.R. and Morell, P. (1974). Synthesis of myelin proteins during starvation. *Brain Res.*, 80, 345-349.
- Wiggins, R.C., Miller, S.L., Benjamins, J.A., Krigman, M.R. and Morell, P. (1976). Myelin synthesis during postnatal nutritional deprivation and subsequent rehabilitation. *Brain Res.*, 107, 257-273.
- Winick, M. and Noble, A. (1965). Quantitative changes in DNA, RNA and protein during prenatal and postnatal growth in the rat. *Dev. Biol.*, 12, 451-466.

- Winick, M. and Noble, A. (1966). Cellular response in rats during malnutrition at various ages. *J. Nutr.*, 89, 300-306.
- Woelk, H., Geracci, G., Gaiti, A. and Porcellati, G. (1973). Phospholipase A₁ and A₂ activities of neuronal and glial cells of the rabbit brain. *Hoppe - Seyler's Z. Physiol. Chem.*, 353, 1111-1119.
- Yonezawa, T., Mori, T. and Nakatani, Y. (1969). Effects of pyridoxine deficiency in nervous tissue maintained *in vitro*. *Ann. N.Y. Acad. Sci.*, 160, 146-157.
- Yusuf, H.K.M. and Dickerson, J.W.T. (1977). The effect of growth and development on the phospholipids of the human brain. *J. Neurochem.*, 28, 783-788.
- Zamenhof, S., Marthens, E.V. and Margolis, F.L. (1968). DNA (Cell number) and protein in neonatal brain : Alteration by maternal dietary protein restriction. *Science*, 160, 322-323.
- Zamenhof, S., Marthens, E.V. and Gruel, L. (1973). Prenatal nutritional factors effecting brain development. *Nutr. Rep. Int.*, 7, 371-382.
- Zeman, W. and Innes, J.R.M. (1963). *Craigie's Neuroanatomy of the rat*. Academic Press, New York, pp. 50-61.