in activity during greening. It appears that the development of chloroplast and peroxisomal enzyme activities may respond to illumination in the same way.

The development of the activities of all of these enzymes of glycolate metabolism was unaffected by D-threo-chloramphenicol, in contrast with essentially complete and specific inhibition of the development of ribulose diphosphate carboxylase and phosphoribulokinase activities by this compound (Ireland & Bradbeer, 1971). This implies that the synthesis of these enzymes occurs on cytoplasmic ribosomes and not on chloroplast ribosomes. Codd & Merrett (1970) reported that D-threo-chloramphenicol inhibited the development of phosphoglycollate phosphatase in greening *Euglena*, but omitted the essential control experiment with one of the other chloramphenicol isomers.

We thank the Science Research Council for a grant.

- Bradbeer, J. W. (1969). *New Phytol.* **68**, 233.
 Bradbeer, J. W. (1970). *New Phytol.* **69**, 635.
 Codd, G. A. & Merrett, M. J. (1970). *Planta*, **95**, 127.
 Ireland, H. M. M. & Bradbeer, J. W. (1971). *Planta*, **96**, 254.
 Thompson, C. M. & Whittingham, C. P. (1967). *Biochim. biophys. Acta*, **143**, 642.
 Tolbert, N. E., Yamazaki, R. K. & Oeser, A. (1970). *J. biol. Chem.* **245**, 5129.

The Chemical Composition of Dogfish Myelin

By H. C. AGRAWAL, N. L. BANIK, A. H. BONE, M. L. CUZNER, A. N. DAVISON and R. F. MITCHELL. (Department of Biochemistry, Charing Cross Hospital Medical School, Chandos Place, London WC2N 4HH, U.K.)

Purified myelin of most vertebrates hitherto investigated is characterized by the presence of basic encephalitogenic protein, by the marker enzyme 2':3'-cyclic nucleotide 3'-phosphohydrolase and by a relatively high concentration of glycolipid.

Dogfish (*Scyliorhinus caniculus*) myelin prepared and purified by the method of Norton (1971) gave electron micrographs closely resembling those of myelin from other species with a clearly defined intraperiod line. Gel electrophoresis in phenol-acetic acid-water (Takayama, MacLennan, Tzagoloff & Stoner, 1966) gave a double band of basic protein resembling those of myelin from the mouse and the rat, with a mobility slightly less than that of cytochrome c. The basic protein has also been examined in dilute-acid (pH 3) extracts of white matter, a procedure giving similar basic-protein patterns to extracts of isolated myelin (Martenson, Deibler & Kies, 1969). This preparation from dogfish on electrophoresis in 1M-acetic

acid (Martenson, Deibler & Kies, 1970) gave one main band and also two minor bands that migrated ahead of those seen with preparations from all other vertebrates examined, with mobilities similar to that of lysozyme. Electrophoresis at pH 10.6 (Martenson *et al.* 1969) gave three diffuse bands, a pattern again unlike that obtained with preparations from any other species. Not only was the protein electrophoretically different, but it failed to produce experimental allergic encephalomyelitis when injected with Freund's complete adjuvant into guinea pigs.

Also unlike that of other vertebrates, dogfish myelin was found to have no detectable phosphohydrolase activity. Although Cuzner, Davison & Gregson (1965) found similarity in the lipid patterns of vertebrate myelin preparations, further analysis has shown that the concentrations of sulphatide and cerebroside in dogfish myelin are equal whereas in other species the cerebroside concentration is 3-4 times that of sulphatide. The enhanced myelin sulphatide concentration in the dogfish is accompanied by a relatively low brain sulphatase activity. Our findings suggest a greater species variation in myelin composition than had previously been suspected. Further, it now appears that encephalitogenic activity is not an essential property of the basic protein thought to be localized in the intraperiod line of the myelin sheath (Dickenson, Jones, Aparicio & Lumsden, 1970; Adams, Bayliss, Hallpike & Turner, 1971).

We are grateful to Dr J. R. Sargent for supplying us with dogfish used in this study.

- Adams, C. W. M., Bayliss, O. B., Hallpike, J. F. & Turner, D. R. (1971). *J. Neurochem.* **18**, 389.
 Cuzner, M. L., Davison, A. N. & Gregson, N. A. (1965). *J. Neurochem.* **12**, 469.
 Dickenson, J. P., Jones, K. M., Aparicio, S. R. & Lumsden, C. E. (1970). *Nature, Lond.*, **227**, 1133.
 Martenson, R. E., Deibler, G. E. & Kies, M. W. (1969). *J. biol. Chem.* **244**, 4261.
 Martenson, R. E., Deibler, G. E. & Kies, M. W. (1970). *Biochim. biophys. Acta*, **200**, 353.
 Norton, W. T. (1971). *Adv. exp. Med. & Biol.* **13**, 329.
 Takayama, K., MacLennan, D. H., Tzagoloff, A. & Stoner, C. D. (1966). *Archs Biochem. Biophys.* **114**, 223.

Relationship between Ribonucleic Acid Synthesis and the Mechanism of Enzyme Induction in Mammalian Liver

By M. K. AGARWAL. (Institut Pasteur, 28 rue du Docteur Roux, Paris XV^e, France).

The early, precise and orderly manner in which biogenesis of selected proteins is amplified after a corticosteroid hormone administration affords an