spleen exonuclease attack, only a limited amount of hydrolysis took place.

These results suggest that chemically methylated regions of DNA are not readily hydrolysed by the acid nucleases of lysosomal origin (Beaufay *et al.*, 1959) and that they may be afforded some protection from nuclease attack *in vivo*. Since acid deoxyribonuclease activity has been found in nuclei during active growth periods (Lesca, 1968), these findings may be of significance in the metabolism of chemically methylated DNA.

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Inhibition by Ascorbic Acid of the Sodium-plus-Potassium Ion-Stimulated Adenosine Triphosphatase in Rat Brain

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The $\text{Na}^+ + \text{K}^+$ -stimulated ouabain-sensitive adenosine triphosphatase activity of a homogenate (10%, w/v) of rat cerebral cortex prepared in 0.32M-sucrose containing 10mM-tris-HCl buffer, pH7.4, and 0.5mM-EDTA is found exclusively in the particles obtained by centrifugation at $6 \times 10^4 g_{av}$ for 90 min. The enzyme activity was determined by resuspending the washed particles in buffered sucrose so that the protein concentration was 1–2mg/ml and an appropriate sample was taken for assay (Wheeler & Whittam, 1970). Under these conditions the activity of the enzyme was $13.0 \mu\text{mol}$ of P_i/h per mg of protein. However, if the particles were resuspended in the supernatant obtained by centrifuging a brain homogenate (10%, w/v) prepared in buffered sucrose, the activity of the enzyme was $3.8 \mu\text{mol}$ of P_i/h per mg of protein. The addition of 0.5mM-EDTA abolished this inhibition. These results suggest that rat brain contains an inhibitor of $\text{Na}^+ + \text{K}^+$ -stimulated adenosine triphosphatase whose effects are antagonized by 0.5mM-EDTA.

The inhibitory activity of brain supernatant is apparently not due to metal ions because it was destroyed by strong acid and mild alkaline hydrolysis and by treatment with activated charcoal. It remained after boiling for 10 min at pH7.4, and after centrifugation to remove the precipitated protein the material was applied to a column of DEAE-Sephadex A-25 equilibrated with 25mM-tris-HCl buffer, pH7.4. The column was eluted with a linear NaCl concentration gradient, and inhibitory activity was eluted in a fraction that contained a single peak of material absorbing at 267 nm at pH7.4. This fraction did not contain nucleotides (Bendich, 1957) and contained only traces of organic phosphorus. In 0.01M-HCl the absorption maximum shifted to 245 nm and in 0.01M-NaOH the spectrum slowly disappeared. Ascorbic acid has similar spectroscopic properties, and it was found that the ascorbic acid content of the active fraction measured by the method of Roe & Kuether (1943) agreed well with that calculated from the spectroscopic data. The ascorbic acid content of rat brain is about $2 \mu\text{mol/g}$ wet wt. (Rajalakshmi & Patel, 1968). Ascorbic acid added to brain supernatant co-chromatographed on the DEAE-Sephadex A-25 column with the inhibitory factor.

Finally, 0.5mM-L-ascorbic acid inhibited $\text{Na}^+ + \text{K}^+$ -stimulated adenosine triphosphatase by 70% and this inhibition was abolished by 0.5mM-EDTA.

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The Metabolism of some Anionic Surface-Active Compounds in the Rat

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Previous work in these laboratories on the metabolism of alkyl sulphate esters (Denner *et al.*, 1969) has shown that dodecyl sulphate is degraded in the liver of the rat by ω -oxidation and subsequent β -oxidation. The end product, butyric acid 4-sulphate, is eliminated in the urine.

This study has been extended to include the potassium salts of decyl sulphate, octadecyl sulphate and undecyl sulphate.

Free-ranging male and female rats received intraperitoneal injections of ^{35}S -labelled decyl sulphate, octadecyl sulphate and undecyl sulphate (1 mg/200 g body wt.), and urine and faeces were collected over