

Sulphatide content in a membrane fraction isolated from rabbit gastric mucosal: Its possible role in the enzyme involved in H⁺ pumping

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The sulphatide content of vesicular membrane fraction from rabbit mucosal gastric microsomes was analyzed. This vesicular membrane fraction, in addition to a high sulphatide content, was enriched in an ouabain-insensitive (H⁺ + K⁺)-ATPase, a (Mg²⁺ + K⁺)-activated phosphatase, and a H⁺ pumping activity. The enzyme system involved in the process of acid secretion and the translocation of K⁺ was studied in these membrane preparations treated with arylsulphatase A, an enzyme that specifically hydrolyzes sulphatide. The results indicate that the breakdown of sulphatides of the vesicular membrane fraction inactivated both the (H⁺ + K⁺)-ATPase activity and the H⁺ pumping. Both activities were partially restored by the sole addition of sulphatide. The K⁺-stimulated ouabain-insensitive phosphatase activity, suggested as a partial reaction of the (H⁺ + K⁺)-ATPase sequence, was unaffected by arylsulphatase. These results suggest that sulphatides may play a function in the high activity binding si