

# **Crucial role of methylation in Acetylcholine Receptors**

## **Inhibition of methyltransferase reduces the turnover of acetylcholine receptors**

(phospholipid methylation/endocytosis/myasthenia gravis)

RALPH W. KUNCL, DANIEL B. DRACHMAN, AND ROBERT ADAMS

The Johns Hopkins University School of Medicine, Department of Neurology, 600 North Wolfe Street, Meyer 5-119, Baltimore, MD 21205

**endocytosis of AcChoRs. Activation of phospholipid methyltransferase reactions is thought to alter the translocation of a variety of other membrane components, including distribution of  $\beta$ -adrenergic receptors in erythrocytes (9), capping in lymphocytes (10), exocytosis in mast cells (11, 12), and endocytosis in fibroblasts (13), perhaps due to altered membrane microviscosity (14). Since phospholipid methyltransferases have been shown to be present in skeletal muscle (15, 16), we postulated that methyltransferase reactions may play a role in the turnover of AcChoRs. We used a rat muscle**

**accelerated degradation of AcChoRs. We found that specific inhibitors of methyltransferase reactions reduced the normal and pathologic turnover of AcChoRs and that this effect was partially reversed by the methyl donor methionine. This**

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inhibitors of methyltransferase reactions reduced the normal and pathologic turnover of AcChoRs and that this effect was partially reversed by the methyl donor methionine. This suggests an important role in skeletal muscle for phospholipid methyltransferases, the physiological function of which has previously been unknown.

