THE EFFECT OF GRAMICIDIN A ON THE TEMPERATURE DEPENDENCE OF WATER PERMEATION THROUGH LIPOSOMAL MEMBRANES PREPARED FROM PHOSPHATIDYLCHOLINES WITH DIFFERENT CHAIN LENGTHS. B.A. Boehler, J. De Gier and L.L.M. Van Deenen, *Biochim. Biophys. Acta* 512, 480–8 (1978). The permeation of water through liposomal membranes composed of various saturated phosphatidylcholines plus gramicidin A was studied as a function of temperature. It is concluded that the ability of gramicidin to form conducting channels in a gel state bilayer depends on the thickness of the paraffin core.

A RAPID BIOSYNTHETIC METHOD FOR THE PREPARATION OF RADIOACTIVE PHOSPHATIDYL-CMP-(CDP-DIACYLGLYCEROL) OF HIGH SPECIFIC ACTIVITY. J. Eichberg and G. Hauser, *J. Lipid Res.* 19, 778–83 (1978). A procedure is described for the preparation of (^{32}P)phosphatidyl-CMP-(CDP-diacylglycerol) from rat pineal glands incubated with (^{32}P)orthophosphate and DL-propranolol. The product is 95% radiopure and of high specific activity. The yield of liponucleotide is 0.4–0.9 μCi/mCi of (^{32}P)orthophosphate in the medium. The same method can also be used for the biosynthesis and purification of (^{3}H)-phosphatidyl-CMP when (^{3}H)cytidine is the precursor.

INCORPORATION OF OXYGEN-18 INTO THE 25-POSITION OF CHOLECALCIFEROL BY HEPATIC CHOLECALCIFEROL 25-HYDROXYLASE. T.C. Madhok, H.K. Schnoes and H.F. DeLuca, *Biochem. J.* 175, 479–82 (1978). The oxygen enzymically inserted as a hydroxy function by rat liver post-mitochondrial fraction into the 25-position of cholecalciferol to give 25-hydroxycholecalciferol is derived exclusively from molecular O_2. Therefore like the other two cholecalciferol hydroxylases, i.e. 25-hydroxycholecalciferol 1α-hydroxylase and 25-hydroxycholecalciferol 24-hydroxylase, the cholecalciferol 25-hydroxylase is also a monooxygenase (mixed-function oxidase).

DESIGN OF LIPOSOMES FOR ENHANCED LOCAL RELEASE OF DRUGS BY HYPERTHERMIA. M.B. Yatvin, J.N. Weinstein, W.H. Dennis and R. Blumenthal, *Science* 202, 1290–2 (1978). Liposomes can be designed to release an entrapped drug preferentially at temperatures attainable by mild local hyperthermia. In a test system in vitro, protein synthesis by *Escherichia coli* is inhibited and killing of the cells is enhanced by heating neomycin-containing liposomes to their phase transition temperature to maximize drug release. In the presence of serum the ratio of release at 44°C to that at 37°C can be made greater than 100:1, suggesting possible applications in the treatment of tumors or local infection. ●

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