

TABLE 1. Chemical composition of cell membranes

Membrane	Protein (%)	Lipid (%)	Carbo-hydrate (%)	Weight fraction of protein	Ratio of protein to lipid	Refs.
Myelin	18	79	3	0.18	0.23	1-3
Plasma membranes						
blood platelets	33-42	58-51	7.5	0.4	0.7	4
mouse liver cells	46	54	2-4	0.46	0.85	5
human erythrocyte amoeba	49	43	8	0.49	1.1	6
amoeba	54	42	4	0.54	1.3	7
rat liver cells	58	42	(5-10) ^a	0.58	1.4	8
L cells	60	40	(5-10) ^a	0.6	1.5	9
HeLa cells	60	40	2.4	0.6	1.5	10
nuclear membrane of						
rat liver cells	59	35	2.9	0.59	1.6	11
retinal rods, bovine	51	49	4	0.51	1.0	12
mitochondrial outer membrane						
membrane	52	48	(2-4) ^a	0.52	1.1	13
Sarcoplasmic reticulum						
reticulum	67	33		0.67	2.0	14
Chloroplast lamellae, spinach						
spinach	70	30	(6) ^a	0.7	2.3	15
Mitochondrial inner membrane						
membrane	76	24	(1-2) ^a	0.76	3.2	13
Gram-positive bacteria						
bacteria	75	25	(10) ^a	0.75	3.0	16
Halobacterium purple membrane						
membrane	75	25		0.75	3.0	17
Mycoplasma	58	37	1.5	0.58	1.6	18

^a Deduced from the analyses.

1. Lowden, J. A., Moscarello, M. A., Morecki, R. 1966. *Can. J. Biochem.* 44:567-77
2. O'Brien, J. S., Sampson, E. L. 1965. *J. Lipid Res.* 6:537-44
3. Gagnon, J., Finch, P. R., Wood, D. D., Moscarello, M. A. 1971. *Biochemistry* 10:4756-63
4. Barber, A. J., Jamieson, G. A. 1970. *J. Biol. Chem.* 245:6357-65
5. Evans, W. H. 1970. *Biochem. J.* 116: 833-42
6. Rosenberg, S. A., Guidotti, G. 1968. *J. Biol. Chem.* 243:1985-92
7. Ulsamer, A. G., Wright, P. L., Wetzel, M. G., Korn, E. D. 1971. *J. Cell Biol.* 51:193-215
8. Benedetti, E. L., Emmelot, P. 1968. *The Membranes*, ed. A. J. Dalton, F. Haguenau, 33-120. New York: Academic
9. Weinstein, D. B., March, J. B., Glick, M. C., Warren, L. 1970. *J. Biol. Chem.* 245:3928-37
10. Bosmann, H. B., Hagopian, A., Eylar, E. H. 1968. *Arch. Biochem. Biophys.* 128:51-69
11. Kashing, D. M., Kasper, C. B. 1969. *J. Biol. Chem.* 244:3786-92
12. Nielsen, N. C., Fleischer, S., McConnell, D. G. 1970. *Biochim. Biophys. Acta* 211:10-19
13. Parsons, D. F., Yano, Y. 1967. *Biochim. Biophys. Acta* 135:362-64
14. MacLennan, D. H., Seeman, P., Iles, G. H., Yip, C. C. 1971. *J. Biol. Chem.* 246:2702-10

15. Vernon, L. P., Shaw, E. R. 1971. *Methods Enzymol.* 23:277-89
16. Salton, M. R. J., Freer, J. H. 1965. *Biochim. Biophys. Acta* 107:531-38
17. Oesterhelt, D., Stoeckenius, W. 1971. *Nature New Biol.* 233:149-52
18. Razin, S. 1969. *Ann. Rev. Microbiol.* 23:317-56