

between oncogenes and cell growth. Shih²³ reported an oncogene with associated GTP-binding (guanosine triphosphate) activity; the SRC gene product is homologous to cyclic AMP kinase²⁴ and certain oncogenes code for protein kinases which can phosphorylate tyrosine residues. Transferrin-receptors have been often identified in association with tumours (Greaves, personal communication, 1981) and Goubin²⁵ have described a possible homology between transferrin and the Blym gene product.

The recognition of these oncogenes and their manifold relationship to cell growth is thus beginning to be unravelled. It appears reasonable to predict that the information now being discovered will eventually transform oncotherapy.

18 July 1984; Revised 17 September 1984

1. Antoniades, H. N. and Hunkapiller, M. W., *Science*, 1983, 220, 963.
2. Doolittle, R. F., Hunkapiller, M. W., Devare, S. G., Robbins, K. C., Aaronson, S. A. and Antoniades, H. N., *Science*, 1983, 221, 275.
3. Waterfield, M. D., Scrace, G. T., Whittle, N., Stroobant, P., Johnsson, A., Wasteson, Å., Westermark, B., Heldin, C. H., Huang, J. S. and Deuel, T. F., *Nature (London)*, 1983, 304, 35.
4. Tabin, C. J., Bradley, S. M., Bargmann, C. I. and Weinberg, R. A., *Nature (London)*, 1982, 300, 143.
5. Theilen, G. H., Goudd, D., Fowler, M. and Dungworth, D. L., *J. Natl. Cancer Inst.*, 1971, 47, 881.
6. Antoniades, H. N., Scher, C. D. and Stiles, C. D., *Proc. Natl. Acad. Sci. U.S.A.*, 1979, 76, 1809.
7. Heldin, C. H., Westermark, B. and Wasteson, Å., *Proc. Natl. Acad. Sci., U.S.A.*, 1979, 76, 3722.
8. Laemmli, U. K., *Nature (London)*, 1970, 227, 680.
9. Deuel, T. F., Hunag, J. S., Proffitt, R. T., Baenziger, J. U., Chang, D. and Kennedy, B. B., *J. Biol. Chem.*, 1981, 256, 8896.
10. Heldin, C. H., Westermark, B. and Wasteson, Å., *Proc. Natl. Acad. Sci., U.S.A.*, 1981, 78, 3664.
11. Ek, B., Westermark, B., Wasteson, Å. and Heldin, C. H., *Nature (London)*, 1982, 295, 419.
12. Robbins, K. C., Antoniades, H. N., Devare, S. C. et al., *Nature (London)*, 1983, 305, 605.
13. Niman, H. L., *Nature (London)*, 1984, 307, 180.
14. Heldin, C. H., Westermark, B. and Wasteson, Å., *Biochem. J.*, 1981, 193, 907.
15. Bourne, H. R. and Rozengurt, E., *Proc. Natl. Acad. Sci., U.S.A.*, 1976, 73, 4555.
16. Dicker, P., Pohjanpelto, P., Pettican, P. and Rozengurt, E., *Expl. Cell Res.*, 1981, 135, 221.
17. Pressman, D., *J. Immunol.*, 1949, 63, 375.
18. Mach, J. P., Carrel, S., Merenda, C., Sordat, B. and Cerottini, J. C., *Nature (London)*, 1974, 248, 704.
19. Hazra, D. K. and Sharma, R. C., *Nuclear Medicine Communication*, 1982, 3, 210.
20. Sherbet, G. V., *The Biology of Tumour Malignancy*. Academic Press, London, New York, 1982, pp. 66.
21. Wortzel, R. D., Phillips, C. and Schreiber, H., *Nature (London)*, 1983, 304, 165.
22. Hamlyn, P. and Sikora, K., *Lancet*, 1983, II, 326.
23. Shih, T. Y., Weeks, M. O., Young, H. A. and Scolnick, E. M., *Virology*, 1979, 96, 64.
24. Barker, W. C. and Dayhoff, M. O., *Proc. Natl. Acad. Sci. U.S.A.*, 1982, 79, 2836.
25. Goubin, G., Goldman, D. F., Luce, J., Neiman, P. E. and Cooper, G. M., *Nature (London)*, 1983, 302, 114.

NEWS

‘TEST-TUBE’ SKIN

. . . “A medical team has helped save two severely burned young brothers by taking tiny patches of skin from their bodies, growing the patches into large sheets and grafting them back over the burns. Researchers say the new technique in which such skin patches are induced to grow first in test tubes and later on large strips of gauze in a laboratory, could represent a major advance in the treatment of extensive burns . . . Doctors at Massachusetts General Hosp.

who developed the treatment said . . . that they had used it to replace more than half the skin area of each of the young brothers, who were burned over 97% of their bodies.” [(Lawrence K. Altman in *New York Times*, 16 Aug 84, p. A1, A18) (Reproduced with permission from Press Digest, *Current Contents*®, No. 50, December 10 1984. Published by the Institute for Scientific Information®, Philadelphia, PA, USA)]
