

## *Index*

- acetyl CoA, 30  
*Acholeplasma laidlawii*, 92  
 adhesiveness, 5, 10, 18, 67–70  
 albumin, 11  
 allosteric effector, 9  
*Amphioxus*, 25  
*Annelida*, 27  
 anthracyclines, 78  
 antigen (oncofetal), 53  
 Arthropoda, 27  
 atherosclerosis, 22
- bacteria  
   cholerae, 32, 54, 63  
   citrobacter, 25  
   *Clostridia welchii*, 54  
   *Escherichia coli*, 25, 28, 57  
   *Neisseria meningitidis*, 25, 28, 35, 36  
   salmonella, 25  
 basic fibroblast growth factor, 61  
 Beccaria, G., 3  
 Blix, G., 23  
 blood group substance, 5, 19  
 Bostock, J., 3  
 bromoconduritol, 44, 45  
 Bryozoa, 27  
 butyrate, sodium, 17
- cadherin, 10  
 calmodulin inhibitor, 91  
 cardiolipin, 88, 90, 93  
 castanospermine, 13, 45  
 cells in culture  
   BHK<sub>21</sub>/C<sub>13</sub>, 7, 62, 65  
   C<sub>13</sub>/B<sub>4</sub>, 64, 65
- CEM, 75–7, 79–83  
 CEM/VLB<sub>100</sub>, 75, 76, 100  
 CEM/VM-1, 75–7  
 chick embryo chondroblasts, 15, 66  
 CHO, 95  
 fathead minnow, 17  
 F9 embryo carcinoma, 17, 18  
 HL60, 18, 19, 69  
 Insect, 15  
 KB-3-1, 75, 79  
 KB-V1, 75, 79  
 K562, 75, 86  
 K562 ADM, 75  
 L-cell, 10  
 mouse, 3T3, 17, 64, 67, 75, 77, 78, 95, 97  
 mosquito cell, 26  
 NPLC, 95, 97  
 pHaMDRCA23, 78  
 PLC, 95, 97
- cerebrospinal fluid, 28  
 chick embryo, 55  
 cholesterol, 92  
 chondroblasts, 15, 16  
 chondroitin A,B,C, 5  
 chymotrypsin, 11  
 colchicine, 75  
 colomonic acid, 57  
 colonic adenocarcinoma, 69  
 colostrum (goat), 28  
 Ctenophora, 27  
 cyanogen, 1  
 cyclic AMP, 17  
 cystic fibrosis, 74, 75  
 cytotoxicity, 13

- daunomycin(daunorubicin), 73, 94, 95, 98–100  
 deamination, 30  
 2-deoxyglucose, 17  
 1-deoxynojirimycin, 44, 49  
 diabetes, 22  
 diatom, 25  
 dimethylnitrosamine, 65  
 dioleoylphosphatidic acid, 88, 89, 93  
 Dolichoglossus, 25  
 dolichol, 41–3  
 doxorubicin, 76  
*Drosophila*, 74
- echinoderms, 25, 27  
 Eichwald, K. E. I., 3  
 ELAM-1, 70  
 endo- $\beta$ -acetylglucosaminidase, 12, 59  
 endo- $\beta$ -galactosidase, 18, 59, 68, 69  
 endoglycosidase D, F, 59  
 endoplasmic reticulum, 43, 49, 59  
 endosialidase, 57  
 endothelial cells, 70  
 epidermal growth factor and receptor, 56, 61, 95, 97  
 erythrocytes, 56  
 ethidium bromide, 17
- feedback inhibition, 39  
 fetuin, 67  
 fibroblast growth factor, 10  
 fibronectin, 10, 17, 18, 69  
 formaldehyde, 1
- ganglioside, 19, 53  
 gene amplification, 74  
 gene expression, 39, 41  
 genetic disease, 50  
 glycoaldehyde, 1  
 glycolipid, 20, 21, 28, 54, 70  
 glycolytic pathway, 31  
 glycophorin, 7, 99  
 glycosidic linkage, 2  
 Golgi apparatus, 9, 38, 39, 45, 47, 49, 50, 52, 59
- growth factor and receptor, 10
- hemataminic acid, 23  
 heparan sulfate, 5  
 heparin, 5  
 heterogeneity (carbohydrates), 4, 13, 15  
 Hoppe-Seyler, F., 4  
 hyaluronic acid, 5  
 hydrogen bond, 8
- influenza virus, 5, 55  
 interferon, 12  
 interleukin-1, 70
- keratan sulfate, 5  
 Klenk, E., 23
- lactosylaminoglycan, 18  
 LAMP-1, 69  
 lectin, 2, 56  
 Leloir, L., 4  
 leukemia, 64  
 liposomes, 86, 88–90, 100  
 liver, 13, 52, 56  
 lobster (*Homarus americanus*), 27  
 lymphocytes, 56, 64, 66  
 lymphosarcoma, 64  
 lysosomal enzymes, 21, 49, 50, 58, 61, 76–8  
 lysosomes, 55, 75
- macrophage, 18  
 malignant cells, 47, 62, 64, 67, 69  
 mammary carcinoma, 64  
 matrix, extracellular, 10  
 melanoma, 53, 64  
 metabolic acidosis, 57  
 metastases, 67, 69, 70  
 Meyer, K., 4  
 microheterogeneity, 6, 7  
 microsomes, 55  
 molluscs, 27  
 monoclonal antibody, 13  
 Morgan, W. T. J., 5

112 *Index*

- MRK-16 antibody, 90, 97  
 mucin, 3, 4, 50  
 multienzyme process, 8  
 mung bean nuclease, 1  
 myxovirus, 55
- N-CAM, 18, 57  
 Nemertea, 27  
 neuraminic acid, 23  
 neuraminidase, 5, 53, 54, 57, 58  
 neuraminlactose, 28  
 neutrophils, 70  
 nigericin, 79, 84  
 nuclease P1, 12  
 nucleus, 10, 21
- oncogene, 61  
 orthovanadate(Na), 84, 85  
 ovalbumin, 4, 7  
 ovarian cyst, 3, 5, 50  
 ovine submaxillary gland, 9, 50
- paramyxovirus, 55  
 PDMP, 19  
 pH effects, 8, 16, 22, 40, 55, 58, 71  
 pheromone, 74  
 phorbol ester, 18  
 phosphatidylcholine, 88  
 phosphatidyl ethanolamine, 88  
 phosphatidyl inositol, 88, 89, 92, 93  
 phosphatidyl serine, 89  
 photoaffinity labeling, 73  
 plasma membrane, 21, 55, 77, 92  
*Plasmodium berghei*, 25  
*Plasmodium falciparum*, 74  
*Polychoerus carmalensis*, 27  
 polylactosamine, 18, 41, 68, 69  
 polymorphism, 21  
 polyoma virus, 64, 65, 67  
 polysialic acid, 28, 57, 68  
 Pronase, 16, 64  
 proteolytic enzymes, 7  
 Prussian carp, 17  
 pseudo-Hurler polydystrophy, 50
- Q<sub>10</sub>, 79, 81  
 quinidine, 71, 73
- Rabies virus, 25, 99  
 retinoic acid, 17  
 rhodopsin, 99  
 ribonuclease, 7  
 Rous sarcoma virus, 25, 64
- S-adenosylmethionine, 53  
 Salla's disease, 58  
 secretion, 10, 50, 77  
 Sendai virus, 95  
 Sephadex G50, 16, 64, 65  
 serum, 12, 13, 60, 61  
 S-glycosides, 6  
 sialic acid, 23  
 sialidase, 55, 57, 61, 67, 69  
 sialidosis, 58  
 sialuria, 28, 29  
 sialyllactose, 55  
 sialyl-Lewis-X, 70  
 Sinbis virus, 15  
 Sipunculoidea, 27  
 Sorensen, S. P. L., 4  
 spleen, 56  
 sponges, 27  
 squid, 27  
*Streptomyces lysosuperficus*, 43  
 Suzuki, S., 23  
 SV40, 64, 65  
 swainsonine, 44, 45, 49, 69
- template, 13  
 teratocarcinoma cells, 69  
 tetracyclines, 86  
 thiobarbituric acid assay, 54  
 thrombin, 61  
 thyroid, 69  
 thyroxine-binding globulin, 12  
 L-thyroxine, 12  
 topoisomerase II, 76  
 transformation growth factor, 61  
 transmembrane segments, 72, 73, 93–5, 99, 100

*Index*

113

- trout eggs, 28  
*Trypanosoma cruzi*, 25  
trypsin, 6, 10, 11  
tumor antigen, 19  
tumorigenicity, 67  
tumors, 64, 65  
tumor necrosis factor, 61, 70  
tunicamycin, 17, 42, 43, 49  
tunicates, 25  
turnover (metabolic), 10, 58  
Tween80, 91
- urine, 28, 58  
Urochordates, 25
- vanadate, 84, 85
- verapamil, 71, 73, 74, 79, 84, 85, 89  
vertebrates, 25  
vesicular stomatitis virus, 15, 25, 26  
*Vibrio cholerae*, 32, 54, 63  
vinblastine, (VLB), 73, 76, 78, 83, 85,  
95, 99, 100  
vinca alkaloids, 71  
vincristine, 73
- Watkins, W. M., 5  
whole fish embryo (MEDAKA), 19  
Wilm's tumor, 68
- Yamakawa, T., 23  
yeast, 7