Acetylcholinesterase, in isolated mem-		rat-kidney cortex slices (Segal et al.)	127
branes of rat-brain cortex (LAPETINA		Amino acid, — transport; change in	
et al.)	33	Na+ uptake during, (Schafer, Jac-	
Actinomycin D, —— inhibition of amino		QUEZ)	1081
acid transport in Streptococcus faecalis		Amino acid, — transport in Ehrlich	
(Holden, Utech)	351	ascites cells; competitive stimulation	
Actinomycin D, —— inhibition of estro-		in, (Schafer, Jacquez)	741
gen-stimulated sugar and amino acid		Amino acid, — transport by everted	
transport in rat uterus (Roskoski,		sacs of rat small intestine; effect of	
STEINER)	347	alcohols on, (Chang et al.)	1000
Adenosine triphosphatase, — activities	•	Amino acid, — transport by everted	
of rat epididymal adipose tissue (Mo-		segments of rat small intestine; effect	
dolell, Moore)	319	of S-(1,2-trans-dichlorovinyl)-L-cy-	
Adenosine triphosphatase, human ery-		steine on, (Chang et al.)	244
throcyte membrane —; reversible		Amino acid, —— transport in rat uterus;	
effect of sodium dodecyl sulfate on,		effect of estrogen on, (Roskoski,	
(CHAN)	53	STEINER)	727
Adenosine triphosphatase, latent dinitro-	33	Amino acid, — transport in Streptococ-	
phenol-stimulated —— in erythro-		cus faecalis; actinomycin D inhibition	
cyte ghosts (Wins, Schoffeniels) .	831	of, (Holden, Utech)	351
Adenosine triphosphatase, $(Na^+ - K^+)$ -	J-	Amino acid, — transport in vitamin-	50
activated; inhibition of, by be-		deficient Lactobacillus plantarum	
ryllium (Toda et al.)	570	(HOLDEN, UTECH)	517
Adenosine triphosphatase, (Na+ + K+)-	37-	Amino acids, dibasic; exchange dif-	,
dependent — activity; effect of salt		fusion of, in rat-kidney cortex slices	
regiments on development of, during		(SCHWARTZMAN et al.) 120	o. 136
growth of salt glands of ducklings		Amino acids, homo- and hetero-exchange	, ,
	682	diffusion of, in Ehrlich ascites tumour	
(ERNST et al.)		cells (GILLESPIE)	1016
dent retention of Na+ by erythrocyte		I-Aminocyclopentane carboxylic acid,	
membranes; effect of cysteine and		uptake and efflux of, by cut rat dia-	
K+ on, (Walz, Chan)	885	phragm (London, Segal)	179
Adenosine triphosphate, — synthesis	J	α-Aminoisobutyric acid, — transport	, ,
in human erythrocyte membranes		in rat kidney cortex slices; effect of	
(Schrier)	591	extracellular Na+ concentration on	
Adipose tissue, rat epididymal;	39-	kinetics of, (Thier et al.)	300
ATPase activities of, (Modolell,		α-Aminoisobutyric acid, uptake and	,
Moore)	319	efflux of, by cut rat diaphragm (Lon-	
Alanine, — transport across isolated	3-7	don, Segal)	179
rabbit ileum (FIELD et al.)	236	Aminopeptidase, — activity in micro-	,,
Alcohols, effect of, on transport of amino		villus membranes of hamster intesti-	
acids and glucose by everted sacs of		nal brush borders (Rhodes et al.)	959
rat small intestine (CHANG et al.)	1000	Aminopterin, active transport of, in Yo-	-0-
Aldosterone, action of, on sodium trans-		shida sarcoma cells (DIVEKAR et al.) .	927
port; role of tricarboxylic acid cycle		Aminopterin, defective transport of, in	
in, (Fimognari et al.)	89	relation to development of resistance	
Aldosterone, binding of, in toad bladder		in Yoshida sarcoma cells (Braganca	
(Snart)	1056	$et \ al.) \ \ldots \ \ldots \ \ldots \ \ldots \ \ldots$	937
Aldosterone, — stimulation of sodium		Amphotericin B, effects of, on permea-	
transport (Fanestil et al.)	74	bility of small and large intestines of	
Amino acid, active —— transport of,		Testudo hermanni (LIPPE, GIORDANA)	966
into bone cells (Rosenbusch et al.) .	732	Amylase, cold-induced leakage of, from	
Amino acid, estrogen-stimulated trans-		zymogen granule and sealing of its	
port of, in rat uterus; cycloheximide		membrane by specific lipids (SCHRAMM	
and actinomycin D inhibition of,		et al.)	44
(Roskoski, Steiner)	347	Aorta, rabbit —; cholesterol uptake in	
Amino acid, dibasic — transport in		vitro at endothelial cell surface of,	

(Jensen) 532, 544	cov) 00	21
(3 )		
Ascites, Ehrlich —— tumour cells; com-	Calcium ion, — transport in isolated	
petitive stimulation in amino acid	guinea-pig atria during metabolic in-	
petitive stimulation in annua acta		01
transport in, (JACQUEZ, SCHAFER) 741, 751		
Ascites, Ehrlich — tumour cells; ho-	Candida utilis, protoplast membrane of;	
mo- and hetero-exchange diffusion of	preparation and composition of,	_
amino acids in, (GILLESPIE) 1016	(Mendoza, Villanueva) 13	89
	Carbon dioxide, effect of, on thiocyanate	
Ascites, Ehrlich — tumour cells; trans-		
port of myo-inositol in, (Johnstone,	inhibition of HCl excretion in frog	
Sung) 1052	gastric mucosa (Imamura)	55
Ascites, Ehrlich mouse —— tumour cells;	Carotenoids, in bacterial membranes;	
	effects of diphenylamine on, (Salton,	
$Ca^{2+}$ exchange in, (Levinson) 921		~ 6
Ascites, Ehrlich mouse —— tumour cells;	Schmitt)	96
role of ion transport in regulation of	Cattle, —— erythrocyte membranes, see	
respiration in, (Levinson, Hempling) 306	Membranes	
Atria, isolated guinea-pig ——; calcium	Cell wall, of Micrococcus lysodeikticus;	
transport in, during metabolic inhibi-	phosphorus content of, (Montague,	
tion (LAHRTZ et al.) 701	Moulds) 5	565
	Cell wall, of Pseudomonas aeruginosa; re-	
Axonal conduction, see Conduction	Cell Wall, Of 1 Sendomonds dering mood, 10	
Axons, giant ——; Ca <sup>2+</sup> efflux in, (Luxo-	lease of lipopolysaccharide during	
RO, RISSETTI)	preparation of, (Roberts et al.) 10	068
Bacillus megatherium, phospholipids and	Chloride, — shift in human erythrocy-	
		784
morphology of protoplasts of, (Op		704
DEN KAMP et al.) 862	Chloroplast membrane, see Membrane	
Bacterial membranes, see Membranes	Cholesterol, —— content of outer and	
Beryllium, inhibition of (Na <sup>+</sup> - K <sup>+</sup> )-	inner membranes of guinea-pig liver	
		162
activated ATPase by, (Toda et al.) . 570		362
Bicarbonate, special type of transport of,	Cholesterol, free energy of mixing of phos-	
in isolated colonic mucosa of Bufa	pholipids and, at air-water interface	
	f f	557
arenarum (LEW, CARLISKY) 793		).) [
Bile, ileal —— salt transport system;	Cholesterol, monolayer interactions of	
effect of charged state of substrate on	phospholipids and, (Demel et al.)	ΙI
activity of, (LACK, WEINER) 1065	Cholesterol, — uptake in vitro at endo-	
	thelial cell surface of rabbit aorta	
Biotin, effect of deficiency of, on amino	thelial tell sulface of fabble dorea	
acid transport in Lactobacillus planta-	(JENSEN)	544
		544
rum (Holden, Utech) 517	Choline, and Na+ interactions in ouabain-	544
rum (Holden, Utech) 517 Bladder, isolated toad ———; dose-res-	Choline, and Na+ interactions in ouabain- treated and eserine-treated frog skins	
rum (Holden, Utech) 517	Choline, and Na <sup>+</sup> interactions in ouabain- treated and eserine-treated frog skins (Koblick, Thompson)	544 903
rum (Holden, Utech) 517 Bladder, isolated toad ——; dose-response characteristics of deoxycorti-	Choline, and Na+ interactions in ouabain- treated and eserine-treated frog skins	
rum (Holden, Utech) 517  Bladder, isolated toad ——; dose-response characteristics of deoxycortisone-stimulated Na+ transport by,	Choline, and Na+ interactions in ouabain- treated and eserine-treated frog skins (Koblick, Thompson)	
rum (Holden, Utech) 517  Bladder, isolated toad ——; dose-response characteristics of deoxycortisone-stimulated Na+ transport by,  (Dalton, Snart) 1062	Choline, and Na+ interactions in ouabain- treated and eserine-treated frog skins (Koblick, Thompson)	903
rum (Holden, Utech) 517  Bladder, isolated toad ——; dose-response characteristics of deoxycortisone-stimulated Na+ transport by, (Dalton, Snart) 1062  Bladder, toad ——; binding of aldoste-	Choline, and Na <sup>+</sup> interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	903
rum (Holden, Utech) 517  Bladder, isolated toad ——; dose-response characteristics of deoxycortisone-stimulated Na+ transport by,  (Dalton, Snart) 1062	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	903
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	903
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	903
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	903
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	90 <b>3</b> 008 669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	90 <b>3</b> 008
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008 669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008 669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	90 <b>3</b> 008 669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 6669 347
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669 347
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669 347
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 6669 347
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 6669 347
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (Koblick, Thompson)	9903 9008 96669 347 8885
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 96669 347 8885
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 96669 347 8885
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 96669 347 8885
rum (Holden, Utech)	Choline, and Na+ interactions in ouabaintreated and eserine-treated frog skins (KOBLICK, THOMPSON)	9903 9008 96669 347 8885

carboxylic acid by, (London, Segal)	179	Eserine, —— treated frog skins; choline	
S-(1,2-trans-Dichlorovinyl)-L-cysteine, ef-		and Na+ interactions in, (Koblick,	
fect of, on transport of amino acids		THOMPSON)	903
and glucose by everted segments of		Estrogen, effect of, on amino acid trans-	
rat small intestine (CHANG et al.)	244	port in rat uterus (Roskoski, Stei-	
Dinitrophenol, latent —— -stimulated	• •	NER)	727
ATPase in red-cell ghosts (Wins,		Estrogen, effect of, on sugar transport in	
Schoffeniels)	831	rat uterus (Roskoski, Steiner)	717
Diphenylamine, effects of, on carotenoids	•	Estrogen, — stimulated sugar and	
and menaquinones in bacterial mem-		amino acid transport in rat uterus;	
branes (Salton, Schmitt)	196	cycloheximide and actinomycin D in-	
Duckling, — salt gland, see Salt gland	-	hibition of, (Roskoski, Steiner)	347
Endothelial cell, — surface of rabbit		Fat globules, milk; membranes of,	
aorta; cholesterol uptake in vitro at,		(Dowben et al.)	1
(7	, 544	Filipin, and derivatives; hemolytic ac-	
Epididimal adipose tissue, see Adipose		tion of, (Kinsky et al.)	835
tissue		Filipin, and derivatives; interaction of,	
Epithelial cells, intestinal; enzyme		with erythrocyte membranes and lipid	
activities and chemical composition		dispersions (Kinsky et al.)	844
of various fractions of tri-disrupted		Frog, — gastric mucosa, see Mucosa	
brush borders of, (Eichholz)	475	Frog, — gastric mucosa, see Mucosa Frog, — skin, see Skin	
Erythrocyte, bovine - membranes;	,,,	Frog, — urinary bladder, see Urinary	
purification and properties of protein		bladder	
phosphokinase from, (BURNETT, CON-		$\beta$ -Galactosidase, — transport; inhibi-	
KLIN)	358	tion of, by substrates of glucose trans-	
Erythrocyte, ghosts; latent dinitro-	•	port system in E. coli (WINKLER,	
phenol-stimulated ATPase in, (WINS,		Wilson)	1030
Schoffeniels)	831	Gangliosides, in isolated membranes of	
Erythrocyte, human — membrane		rat-brain cortex (LAPETINA et al.)	33
ATPase; reversible effect of sodium		Glucose, affinity of yeast membrane car-	
dodecyl sulfate on, (Chan)	53	rier for, (Kotyk, Kleinzeller)	106
Erythrocyte, human — membranes;		Glucose, — binding by human erythro-	
ATP synthesis in, (Schrier)	591	cyte membranes; techniques for ana-	
Erythrocyte, human — membranes;		lysis of, (Levine, Stein)	710
techniques for analysis of glucose		Glucose, — transport by everted sacs	
binding by, (Levine, Stein)	710	of rat small intestine; effect of alco-	
Erythrocyte, — membranes; effects of		hols on, (Chang et al.)	1000
cysteine and K+ on ATP-dependent	_	Glucose, transport of, by everted seg-	
retention of Na+ by, (WALTZ, CHAN).	885	ments of rat small intestine; effect	
Erythrocyte, — membranes; interac-		of S-(1,2-trans-dichlorovinyl)-L-cy-	
tion of filipin and derivatives with,		steine on, (Chang et al.)	244
(Kinsky et al.)	844	D-Glutamic acid, uptake of, by Mycobac-	- 0 -
Erythrocytes, hereditary spherocytic hu-		terum avium (YABU)	181
man —; effect of ouabain ondeoxy-		Guinea-pig, —— atria, see Atria	
nucleoside metabolism in, (WILEY)	1071	Guinea-pig, —— liver mitochondria	
Erythrocytes, human —; facilitated		membranes, see Membranes	
diffusion in chloride shift in, (Hun-	0	Gut, rat —; phlorizin-sugar interac-	
TER)	7 <sup>8</sup> 4	tions in, (Lyon)	496
Erythrocytes, human —; hypoxan-		Halobacterium halobium, basis of specific	
thine transport in, (LASSEN)	146	sodium requirement for morphological	-6
Erythrocytes, human —; repair of ra-		integrity of, (Soo-Hoo, Brown)	164
diation damage to membrane sulfhy-	60	Hamster, — intestines, see Intestines	
dryl groups of, (SUTHERLAND, PIHL).	568	Hormones, effect of, on permeability of	T 0 50
Escherichia coli, nucleoside transport in; energy requirements and interactions		toad bladder (Dalton, Snart)	1059
and distinctions in mechanisms for,		Hydrochloric acid, —— secretion in frog	
(Peterson et al.)		gastric mucosa; effect of CO <sub>2</sub> on thio-	75,
Escherichia coli, potassium transport mu-	77 I	cyanate inhibition of, (IMAMURA)	155
tant of; abnormal phosphorus meta-		Hydrodictyon reticulatum, oscillations of trans-membrane potential difference	
bolism in, (DAMADIAN)	278	in, (Metlicka, Rybová)	563
Escherichia coli, substrates of glucose	37 <sup>8</sup>	Hydrolases, effects of, on muscle resting	505
transport system in; inhibition of $\beta$ -		potentials (GAINER)	560
galactoside transport by, (Winkler,		Hypoxanthine, — transport in human	<i>J</i> = 1
Wilson)	1030	erythrocytes (Lassen)	146

Ileum, isolate rat ——; alanine transport across, (FIELD et al.)	236	Ion transport, role of, in regulation of respiration in Ehrlich mouse ascites-tu-	
myo-Inositol, transport of, in Ehrlich as-	Ū	mour cell (Levinson, Hempling)	306
cites tumour cells (JOHNSTONE, SUNG)		Iron, transport of, by rat intestine (HEL-	
Insulin, inability of anti-insulin serum to		BOCK, SALTMAN)	979
neutralize — after its bonding to		Iron, transport of, by rat intestine (HeL-	
muscle (Wohltmann, Narahara) .	173	BOCK, SALTMAN)	979
Insulin, —— secretion and sodium pump		Kidney, anaerobic —— slices; efflux of	
(MILNER, HALES)	375	Na <sup>+</sup> from, (Wiggins)	894
Insulin, stimulation by, of accumulation		Kidney, rat — microsomes; water and	
and incorporation into protein of L-		$Na^+$ and $K^+$ in, $(MAUDE)$	365
proline in intact levator ani muscle		Kidney cortex, rat —— slices; effect of	
from rat (Adolfsson et al.)	176	extracellular Na+ concentration on	
Intestine, everted sacs of rat small —;		kinetics of $\alpha$ -aminoisobutyric acid	
effect of ethanol and other alcohols on		transport in, (THIER et al.)	300
transport of amino acids and glucose		Kidney cortex, rat —— slices; exchange	
_ *1 *	1000	diffusion of dibasic amino acids in,	
Intestine, rat ——; transport of iron by,			130
(HELBOCK, SALTMAN)	979	Kidney cortex, rat —— slices; dibasic	
Intestine, rat small —; effect of $S$ -(1,2-		amino acid transport in, (SEGAL et al.)	127
trans-dichlorovinyl)-L-cysteine on		Kidney cortex cells, steady-state level of	
transport of amino acids and glucose		water and electrolytes in; effect of	
by everted segments of, (Chang et al.)	244	saline osmolarity on, (KLEINZELLER	286
Intestine, rat small ——; effect of pene- trating ions on magnesium efflux		et al.)	286
from, in vitro (Nunn, Ellert)	073	Lactobacillus plantarum, amino acid	
Intestine, rat small —; K <sup>+</sup> inhibition	973	transport in vitamin-deficient ——	517
of Na+-dependent transmural poten-		(HOLDEN, UTECH)	517
tial of, (Lyon, Crane)	61		46 T
Intestines, bile transport system of;	01	(HILL) 454, Lipid, — dispersions; interaction of filipin	401
effect of charged state of substrate on		and derivatives with, (KINSKY et al.)	844
activity of, (LACH, WEINER)	1064	Lipid, — protein interaction at air-	~44
Intestines, common step in absorption		water interface (VILALLONGA et al.) .	406
mechanism of D- and L-methionine by,		Lipids, specific —; sealing of mem-	7
(LERNER, TAYLOR)	991	brane of zymogen granule by,	
Intestines, epithelial cells of; enzymic ac-	33-	(SCHRAMM et al.)	44
tivities and chemical composition of		Lipopolysaccharide, release of, during	
various fractions of tris-disrupted		preparation of cell wall of Pseudomo-	
brush borders of, (Eichholz)	475	nas aeruginosa (Roberts et al.)	1068
Intestines, hamster; aminopepti-	170	Lithium ion, effect of on intestinal sugar	
dase activity in microvillus mem-		transport (Bihler, Adamic)	466
branes of brush borders of, (Rhodes		Liver, — cell plasma membrane; fluo-	
et al.)	959	rescent chemical marker for, (MARI-	
Intestines, relationships between absorp-		NETTI, GRAY)	580
tion by, of actively transported or		Liver, — mitochondria, see Mitochon-	
diffusing substances and concentra-		dria	
tion or transport of Na+ (Lauter-		Liver, normal and regenerating rat ——;	
	, 273	comparison of surfaces of nuclei from,	_
Intestines, small and large — of Testu-		(Vassar et al.)	218
do hermanni; effects of amphotericin		Liver, rat ——; purified plasma mem-	
B on permeability of, (LIPPE, GIOR-		brane fraction isolated from, under	
DANA)	<b>9</b> 66	isotonic conditions (COLEMAN et al.).	573
Intestines, sugar transport by; effect of		Liver, rat ——; sub-mitochondrial loca-	
Li+ on, (Bither, Adamic)	466	lization of monoamine oxidase in,	0.10
Intestines, temporal stability of trans-		(TIPTON)	910
port systems of, (BINDER et al.) Ion, metabolism-linked —— extrusion in	350	Magnesium ion, —— efflux from rat small intestine <i>in vitro</i> ; effect of penetrating	
liver mitochondria (Azzı, Azzone)	444	ions on, (Nunn, Ellert)	973
Ion, —— transport in limonium (HILL) 454	444 461	Membrane, biological —— excitability	7/3
Ions, penetrating —; effect of, on mag-	, 401	and anethesia; possible role of phos-	
nesium efflux from rat small intestine		pholipids in, (BLAUSTEIN)	653
in vitro (Nunn, Ellert)	973	Membrane, — carriers for sugar; inter-	., 3
Ions, permeability of thin phospholipid	,, J	action of phlorizin and phloretin with,	

Membrane, cell — junction; metabolism and permeability of, (Politoff	701	Membranes, biological ——; asymetric polymeric membranes as possible model of, (Botré et al.)	162
et al.)	791	Membranes, bovine erythrocyte —;	102
· · · · · · · · · · · · · · · · · · ·	427	purification and properties of protein	
Membrane, — fraction obtained by	<b>-</b> /	phosphokinase from, (BURNETT, Con-	
desintegration of cells in Pseudomonas		KLIN)	358
: " (G	947	Membranes, erythrocyte; effects of	30
Membrane, human erythrocyte —	277	cysteine and K+ on ATP-dependent	
ATPase; reversible effect of sodium		retention of Na+ by, (WALZ, CHAN).	885
dodecyl sulfate on, (CHAN)	53	Membranes, erythocyte —; interaction	
Membrane, interaction of permeases as	33	of filipin and derivatives with, (KINS-	
tool to find their relationship on,		KY et al.)	844
(T) TT )	756	Membranes, human erythrocyte;	
Membrane, lipid-free plasma pro-	15-	ATP synthesis in, (Schrier)	591
tein; isolation of, by gel filtration		Membranes, human erythrocyte —;	.,,
(7 317)	371	techniques for analysis of glucose	
Membrane, liver cell plasma —; fluo-	<i>31</i> -	binding by, (LEVINE, STEIN)	710
rescent chemical marker for, (MARI-		Membranes, isolated —— of rat-brain	′
	58o	cortex; gangliosides and acetylcho-	
Membrane, mitochondria outer;	<i>J</i>	linesterase in, (LAPETINA et al.)	33
biochemical and X-ray diffraction		Membranes, microvillus — of hamster	55
study of, (Thompson et al.) 10	074	intestinal brush borders; aminopep-	
Membrane, outer — of mitochondria;	-/-	tidase activity in, (Rhodes et al.).	959
purification and enzymatic characte-		Membranes, milk fat globule —— (Dow-	,,,,
T: -4: -C (T (: ( 1)	599	BEN et al.)	I
Membrane, — phospholipids; d.c. elec-	J99	Membranes, outer and inner —— of	
7 (T)	797	guinea-pig liver mitochondria; cho-	
Membrane, plasma — of Mycoplasma	191	lesterol content of, (Parsons, Yano).	362
laidlawii; characterization of, (En-		Membranes, phospholipid model —;	J
GELMAN et al.)	201	permeability of, (PAPAHADJOPOULOS,	
Membrane, protoplast — of Candida	391	MILLER)	639
utilis; preparation and composition		Menaquinones, in bacterial membranes;	- 3 3
2 /3 = "	189	effects of diphenylamine on, (SALTON,	
Membrane, purified plasma — fraction	109	Schmitt)	196
isolated from rat liver under isotonic		Methionine, D- and L- —; common step	
- 1111 (6)	573	in intestinal absorption mechanism	
Membrane, — structure; effect of sol-	313	of, (Lerner, Taylor)	991
vent treatment on, (Cunningham et		Methionine permease, specific — in	
* 5	614	Saccharomyces cerevisiae (GITS, GREN-	
Membrane, —— sulfhydryl groups of hu-	•	son)	507
man erythrocytes; repair of radiation		Micrococcus lysodeikticus, cell wall of;	
	568	phosphorus content of, (MONTAGUE,	
Membrane, thin phospholipid ——; per-		Moulds)	565
meability of, to ions and TMV and		Microsomes, brain —; ESR signal in,	
Coxsackie B2 virus (PETKAU, CHE-		(ZOMETIANI, CAGAN)	1083
LACK) 812,	825	Microsomes, rat-kidney —; water and	-
Membrane, trans- — potential differ-	5	Na+ and K+ in, (MAUDE)	365
ence in Hydrodictyon reticulatum; os-		Microsomes, sheep brain; water-	
711	563	insoluble proteins from subfractions	
Membrane, of zymogen granule; sealing		of, (Gor et al.)	225
of, by specific lipids (Schramm et al.)	44	Microvillus membranes, of hamster in-	
Membrane, yeast —— carrier; affinity of,		testinal brush borders; aminopepti-	
for glucose and its role in Pasteur		dase activity in ,(Rhodes et al.)	959
	106	Milk, —— fat globule membranes (Dow-	
Membrane electrodes, behaviour of		BEN et al.)	1
coupled ion-exchange —— in biopoly-		Mitochondria, guinea-pig liver;	
	208	cholesterol content of outer and inner	
Membranes, bacterial —; effects of di-		membranes of, (Parsons, Yano)	362
phenylamine on carotenoids and me-		Mitochondria, liver; inhibition of	_
	196	K+ transport in, (Azzi, Scarpa)	1087
Membranes, bimolecular phospholipid		Mitochondria, liver —; metabolism-	
; electrical properties of, (LÄu-		linked ion extrusion in, (Azzı,	
GER et al.)	20	Azzone)	444

IIOO SUBJECT INDEX

Mitochondria, outer membrane of; bio-		BLICK, THOMPSON)	903
chemical and X-ray diffraction studies		Pantothenic acid, —— deficiency; effect	
of, (Thompson et al.) $\dots$	1074	of, on amino acid transport in Lacto-	
Mitochondria, outer membrane of; puri-		bacillus plantarum (HOLDEN, UTECH)	517
fication and enzymatic characteriza-		Pasteur effect, role of yeast membrane	
tion of, (Lévy et al.)	599	carrier in, (Kotyk, Kleinzeller)	106
Monoamine oxidase, sub-mitochondrial		Peptides, neurohypophyseal ——; inde-	
localization of, in rat liver and brain		pendent action of, on water permea-	
(TIPTON)	910	bility and sodium active transport in	
Monosaccharide, free and loaded		in frog urinary bladder (Bourguet,	
carrier; mobility of, in Saccharomyces		Morel)	693
cerevisiae (Kotyk)	112	Permeases, interaction between, as tool	
Mouse, — ascites, see Ascites		to find their relationship on mem-	
Mucosa, frog gastric ——; effect of CO2		brane (Boniface, Koch)	$75^{6}$
on thiocyanate inhibition of HCl se-		Phloretin, interaction of, with membrane	
cretion in, (IMAMURA)	155	carriers for sugar (Alavarado)	483
Mucosa, isolated colonic — of Bufo		Phlorizin, interaction of, with membrane	
arenarum; special type of bicarbonate		carriers for sugars (ALAVARADO)	483
transport in, (Lew, Carlisky)	793	Phlorizin, —— -sugar interactions in rat	
Muscle, binding of insulin to; inability of		gut (Lyon)	496
anti-insulin serum to neutralize in-		Phosphate, permeability of yeast cells to,	
insulin after, (WOHLTMANN, NARA-		(Schönherr, Borst Pauwels)	787
HARA)	173	Phospholipid, bimolecular — mem-	
Muscle, intact levator ani —— from rat;	, 0	branes; electrical properties of, (Läu-	
stimulation by insulin of accumula-		GER et al.)	20
tion and incorporation into protein of		Phospholipid, —— liquid crystals; struc-	
L-proline in, (ADOLFSSON et al.)	178	ture of, (Papahadjopoulos, Miller)	624
Muscle, — resting potentials; effects	•	Phospholipid, — model membranes;	
of hydrolases on, (GAINER)	560	permeability of, (PAPAHADJOPOULOS,	
Mycobacterium avium, uptake of D-glu-	J	$\mathbf{\hat{M}_{ILLER}})$	639
tamic acid by, (YABU)	181	Phospholipid, — spherules containing	
Mycoplasma laidlawii, characterization		varying amounts of charged compo-	
of plasma membrane of, (ENGELMAN		nents; effect of polyene antibiotics on,	
et al.)	, 391	(Sessa, Weissmann)	416
Nerve, — stimulation; release of nor-		Phospholipid, —— splitting as factor	
adrenalin under, (Gonzáles S. et al.).	167	responsible for increased permeability	
Neurospora crassa, sorbose transport in,		and block of axonal conduction in-	
(CROCKEN, TATUM)	100	duced by snake venom (Condrea	
Nicotinic acid, effect of deficiency of, on		$et \ al.) \ . \ . \ . \ . \ . \ . \ . \ . \ .$	669
amino acid transport in Lactobacillus		Phospholipid, swollen —— suspensions;	
plantarum (HOLDEN, UTECH)	517	osmotic properties of, (Rendi)	332
Nitella translucens, voltage-controllable		Phospholipid, thin — membrane; per-	
negative differential resistance in,		meability of, to ion and TMV and	
(BRADLEY, WILLIAMS)	1078	Coxsackie B2 virus (Petkau, Che-	
Noradrenalin, release of, under nerve sti-	•	LACK) 812	, 825
mulation and its effect on potential		Phospholipids, free energy of mixing of,	
difference in toad nerve-skin prepara-		and cholesterol at air-water interface	
tion (Gonzáles S. et al.)	167	(VILALLONGA et al.)	557
Nuclei, from normal and regenerating		Phospholipids, as ion exchangers; possi-	
rat liver; comparison of surfaces of,		ble role of, in biological membrane	
(Vasser et al.)	218	excitability and anesthesia (Blau-	
Nucleoside, — transport in E. coli;		STEIN)	653
energy requirements and interactions		Phospholipids, membrane —; d.c. elec-	
and distinctions in mechanisms for,		trical conductivity properties of,	
(Peterson et al.)	77 I	(Leslie et al.)	797
Osmolarity, saline ——; effect of, on		Phospholipids, monolayer interactions of,	
steady-state level of water and elec-		and cholesterol (DEMEL et al.)	11
trolytes in kidney cortex cells (KLEIN-		Phospholipids, of Bacillus megatherium	06:
ZELLER et al.)	286	(OP DEN KAMP et al.)	862
Ouabain, effect of, on deoxynucleoside		Phosphorus, abnormal — metabolism	
metabolism in hereditary spherocytic		in potassium transport mutant of	20
human erythrocytes (WILEY)	1071	E. coli (DAMADIAN)	378
Ouabain, ——— -treated frog skins; cho-		Phosphorus, — content of cell wall of	
line and Na+ interactions in, (Ko-		Micrococcus lysodeikticus (Montague,	

Moulds)	565	Rat, — kidney cortex, see Kidney cor-	
Plasma membrane, see Membrane		tex	
Polyene antibiotics, effect of, on phos-		Rat, —— levator ani muscle, see Muscle	
pholipid spherules containing varying		Rat, —— liver, see Liver	
amounts of charged components		Rat, —— small intestine, see Intestine	
(Sessa, Weissmann)	416	Rat, —— uterus, see Uterus	
Potassium ion, effect of, on ATP-depen-		Respiration, in Ehrlich mouse ascites-	
dent retention of Na+ by erythrocyte		tumour cell; role of ion transport in	
membranes (Walz, Chan)	885	regulation of, (Levinson, Hempling)	306
Potassium ion, —— inhibition of Na+-		Saccharomyces cerevisiae, mobility of free	
dependent transmural potential of		and loaded monosaccharide carrier in,	
rat small intestine (Lyon, Crane)	61	(Котук)	112
Potassium, —— transport in liver mito-		Saccharomyces cerevisiae, specific methio-	
chondria; inhibition of, (Azzı,		nine permease in, (Gits, Grenson) .	507
Scarpa)	1087	Salt gland, of ducklings; effect of salt re-	
Potassium ion, — transport mutant of		giments on development of (Na+ -	
E. coli; abnormal phosphorus meta-		K+)-dependent ATPase activity	
bolism in, (Damadian)	378	during growth of, (Ernst et al.)	682
Potassium ion, water and, and Na+ in rat-		Sarcoma cells, Yoshida —; active	
kidney microsomes (Maude)	365	transport of aminopterin in, (DIVE-	
Proline, —— transport; regulation of		KAR $et$ $al.$ )	927
collagen synthesis by pertubation of,		Sarcoma cells, Yoshida ——; defective	
(Finerman et al.)	1008	transport of aminopterin in relation	
L-Proline, accumulation and incorpora-		to development of resistance in, (Bra-	
tion into protein of, in intact levator		GANCA $et$ $al.$ )	937
ani muscle from rat; stimulation by		Sheep, —— brain, see Brain	
insulin of, (Adolfsson et al.)	176	Skin, frog —; NMR evidence for com-	
Protein, accumulation and incorporation		plexing of sodium in, (Rotunno et al.)	170
into, of L-proline in intact levator ani		Skins, ouabain-treated and eserine-	
muscle from rat; stimulation by insu-		treated frog ——; choline and Na+	
lin of, (Adolfsson et al.)	176	interactions in, (Koblick, Thompson)	903
Protein, lipid—— interaction at air—		Snake, — venom, see Venom	
water interface (VILALLONGA et al.) .	406	Sodium dodecyl sulfate, reversible effect	
Protein phosphokinase, from bovine red		of, on human erythrocyte membrane	
blood cell membrane; purification		ATPase (Chan)	53
and properties of, (BURNETT, Con-		Sodium ion, —— active transport in frog	
KLIN)	358	urinary bladder; independent action	
Proteins, lipid-free plasma membrane		of neurohypophyseal peptides on,	
; isolation of, by gel filtration		(Bourguet, Morel)	693
(ZAHLER, WALLACH)	37 <sup>1</sup>	Sodium ion, change in uptake of, during	
		amino acid transport (Schafer, Jac-	0.
fractions of sheep brain microsomes		QUEZ)	1081
(Got et al.)	225	Sodium ion, and choline interactions in	
Protoplast, — membrane of Candida		ouabain-treated and eserine-treated	000
utilis; preparation and composition	- 00	frog skins (Koblick, Thompson)	903
of, (MENDOZA, VILLANUEVA) Protoplasts, of Bacillus megatherium;	189	Sodium ion, complexing of, in frog skin; NMR evidence for, (ROTUNNO et al.).	177
morphology of, (OP DEN KAMP et al.)	862		170
Pseudomonas aeruginosa, membrane frac-	002	Sodium ion, deoxycorticosterone-stimu-	
tion obtained by disintegration of cells		lated transport of, by isolated toad bladder; dose-response characteristics	
in, (Gray, Thurman)	047	of, (Dalton, Snart)	1063
Pseudomonas aeruginosa, release of lipo-	947	Sodium ion, ————————————————————————————————————	1002
polysaccharide during preperation of		potential of rat small intestine; K+	
cell walls of, (Roberts et al.)	то68	inhibition of, (Lyon, Crane)	61
Rabbit, — aorta, see Aorta	.000	Sodium ion, efflux of, from anaerobic kid-	
Rabbit, —— ileum, see Ileum		ney slices (Wiggins)	894
Rat, — brain, see Brain		Sodium ion, extracellular concentration	
Rat, — brain cortex, see Brain cortex		of; effect of, on kinetics of $\alpha$ -amino-	
Rat, —— diaphragm, see Diaphragm		isobutyric acid transport in rat kid-	
Rat, —— epididymal adipose tissue, see		ney cortex slices (Thier et al.)	300
Adipose tissue		Sodium ion, specific —— requirement for	
Rat, — gut, see Gut		morphological integrity of Hallobac-	
Rat, — intestine, see Intestine		terium halobium; basis of, (Soo-Hoo,	
Rat, — kidney, see Kidney		Brown)	164

IIO2 SUBJECT INDEX

Sodium ion, transport of; aldosterone		effect of CO <sub>2</sub> on, (IMAMURA)	155
stimulation of, (FANESTIL et al.)	74	Toad, —— bladder see Bladder	
Sodium ion, transport of; role of tricar-		Tobacco, — mosaic virus, see Virus	
boxylic acid cycle in action of, (FI-	0	Tricarboxylic acid cycle, role of, in action	
MOGNARI et al.)	89	of aldosterone on sodium transport	0
Sodium ion, water and, and K <sup>+</sup> in rat-		(FIMOGNARI et al.)	89
kidney microsomes (MAUDE)	365	Tumour, ascites —— cells, see Ascites	
Sodium ions, ATP-dependent retention		Urinary bladder, frog —; independent	
of, by erythrocyte membranes; effects	00.	action of neurohypophyseal peptides	
of cysteine and K <sup>+</sup> on, (WALZ, CHAN)	885	on water permeability and sodium	
Sodium ions, concentration or transport		active transport in, (Bourguet, Mo-	
of; relationships between intestinal		REL)	693
absorption of actively transported or		Uterus, rat —; cycloheximide and ac-	
diffusing substances and, (LAUTER-		tinomycin D inhibition of estrogen-	
	, 272	stimulated sugar and amino acid	
Sodium pump, and insulin secretion		transport in, (Roskoski, Steiner)	347
(MILNER, HALES)	375	Uterus, rat —; effect of estrogen on	
Sorbose, — transport in Neurospora	T.0.0	amino acid transport in, Roskoski,	
crassa (Crocken, Tatum)	100	STEINER)	727
Sphingomyelin monolayers, ionic struc-	- 9 .	Uterus, rat —; effect of estrogen on	
ture of, (Shah, Schulman)	184	sugar transport in, (Roskoski,	- T-
Steroids, cardiotonic ——; effect of, on intestinal absorption of actively		STEINER)	717
transported and diffusing substances		ting as factor responsible for increased	
and on their relationship to concen-		permeability and block of axonal con-	
tration and transport of Na+ (Lau-		duction induced by, (Condrea et al.)	669
TERBACH)	272	Virus, coxsackie B <sub>2</sub> —; permeability	009
Streptococcus faecalis, amino acid trans-	273	of thin phospholipid membrane to,	
port in; actinomycin D inhibition of,		(Petkau, Parker)	825
(Holden, Utech)	251	Virus, tobacco mosaic —; permeability	023
Sugar, estrogen-stimulated transport of,	351	of thin phospholipid membrane to,	
in rat uterus; cycloheximide and		(Petkau, Chelack)	812
actinomycin D inhibition of, (Ros-		Water, and Na <sup>+</sup> and K <sup>+</sup> in rat-kidney	0.4
KOSKI, STEINER)	347	microsomes (MAUDE)	365
Sugar, intestinal transport of; effect of	347	Water, — permeability of frog urinary	<b>J</b> - J
Li+ on, (Bihler, Adamic)	466	bladder; independent action of neuro-	
Sugar, phlorizin—— interactions in rat	400	hypophyseal peptides on, (Bourguet,	
gut (Lyon)	496	Morel)	693
Sugar, —— transport; analog program	72-	Water, — transport in limonium	
for Widdas model of, (HEMPLING).	355	(HILL) 454	, 461
Sugar,—transport in rat uterus; effect	333	Widdas model, of sugar transport, analog	
of estrogen on, (Roskoski, Steiner)	717	program for, (HEMPLING)	355
Sugars, membrane carriers for; inter-	, ,	Yeast, — membrane carrier; affinity	
action of phlorizin and phloretin with,		of, for glucose and its role in Pasteur	
(ALVARADO)	483	effect (KOTYK, KLEINZELLER)	106
Sulfhydryl groups, membrane — of		Yeast cells, permeability of, to phosphate	
human erythrocytes; repair of radia-		(Schönherr, Borst Pauwels)	787
tion damage to, (SUTHERLAND, PHIL)	568	Yoshida sarcoma cells, see Sarcoma cells	•
Testudo hermanni, small and large in-	-	Zymogen granule, cold-induced leakage	
stines of; effects of amphotericin B on		of amylase from, and sealing of its	
permeability of, (LIPPE, GIORDANA)	966	membrane by specific lipids	
Thiocyanate, — inhibition of HCl		(Schramm et al.)	44
secretion in frog gastric mucosa;			