

## Subject index

- A549 cells, microsphere uptake 57
- Abdominal constriction test  
paracetamol-related novel anti-inflammatory agents 1505  
*N*-substituted 4,6-dioxo-imidazo[3,4-*c*]thiazoles 1117  
Abietic acid from *Pimenta racemosa* var. *grisea*, anti-inflammatory activity 867
- Absorption  
carvone, stereoselective metabolism following topical application 637  
hexarelin oral bioavailability 1257  
intestinal  
centropazine, in-situ/in-vivo 901  
prediction from in-situ single-pass intestinal-perfusion (SPIP) 1007  
nasal cavity respiratory mucosa 4  
nasal drug delivery 7, 8, 9  
enhancement mechanisms 12  
experimental models 11, 12  
serosal surfaces, bolus/continuous microinstillation of phenosulphophthalein (phenol red) model drug 1341  
tocotrienol homologues, fed/fasted volunteers 67  
vanadyl insulinomimetic complexes, gastrointestinal pharmacokinetics 1247
- Absorption enhancers  
chitosan 1054  
Eudragit L100–55 co-administration with furosemide (frusemide) 433  
vigabatrin into brain 149
- Abuta* spp., curare production 427
- Acarbose 138
- Acetaldehyde-biogenic amine condensation products 121
- Acetic acid-induced chronic gastric ulcers, hyperprolactinaemia effects 1541
- Acetylcholine  
colonic mucosal cell secretory response 213  
cytosolic Ca<sup>2+</sup> mobilization in colonic crypts from cystic fibrosis mouse 371  
muscarinic receptors  
ileal longitudinal muscle desensitization 249  
vas deferens field stimulation-induced twitch response, inhibition by McN-A-343 487
- Acetylcholinesterase inhibition 1347
- N*-Acetyltransferases (AAC) 287
- Actinobacillus actinomycetemcomitans*, response to *Vaccinium vitis-idaea* L. tannins 187
- Adeno-associated virus DNA delivery systems 1170, 1171
- Adenosine AU2Bu receptor, NK- $\kappa$ B gene transcription inhibitory regulation 1153
- Adenosine deaminase deficiency, gene therapy 1169
- Adenovirus DNA delivery systems 1170, 1171
- O*-Adenyltransferases (ANT) 287
- Adhyperforin, *Hypericum perforatum* constituent 584
- Adrenergic  $\alpha$  receptors, nasal ciliary beating 7
- Adrenergic  $\alpha_1$  receptors  
aortic reserves, aged normo- and hypertensive rats 205  
myocardium, chronic isoproterenol treatment-related inotropic responsiveness 233  
selective antagonist/partial agonist effects on thoracic aorta/iliac artery contraction 103
- Adrenergic innervation, nasal cavity 5
- Adriamycin *see* Doxorubicin
- Aeromonas*, chitosan antimicrobial activity 1061, 1062
- Aerosols, nasal drug delivery 8
- African traditional medicine  
oxytocic plant extracts 1145  
*Trichilia roka* Chiov. (Meliaceae) 1569
- Agapanthus africanus* extract, oxytocic activity 1145
- Agathosma betulina*/*A. crenulata* (bushu) essential oils 579
- Age-related changes, spontaneously hypertensive rat  
 $\alpha_1$ -adrenoceptor reserve 205  
aortic 5-hydroxytryptamine potency/affinity constants and 5-HT<sub>2A</sub> receptor reserve 1403
- Aglaia elliptica* Bl. (Meliaceae) extract, anticancer activity 141
- Ajmaline, bioavailability with renal dysfunction 805
- Albumin  
5,6-dimethylxanthenone-4-acetic acid binding 463  
microencapsulation  
chemical modification for microsphere formulation 23  
poly(lactide-*co*-glycolide) microspheres, solid-in-oil-in-water technique 167, 1099  
structural perturbations 115  
Pluronic F127-poly(acrylic acid) copolymer tertiary structure stabilization 541
- Aldose reductase inhibitors  
flavonoid derivatives, structure–activity relationships in streptozotocin-induced diabetes 653  
synthesis based on minimum pharmacophore requirements 831
- Alginate–chitosan complex formation 1051
- Allergic rhinitis 6
- Allometric scaling, SU5416 1629
- D-Allose, spirohydantoin derivatives, glycogen phosphorylase inhibition 939
- Alloxan-induced diabetes, Diamed antihyperglycaemic activity 1139
- $\alpha$ -calcitonin gene-related peptide, salivary levels following anethole trithione treatment 1697
- Alpha-melanocyte stimulating hormone (alpha-MSH), COOH-terminal tripeptide Ac-Lys-Pro-Val-NH<sub>2</sub> conformational analysis 949
- N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based metalloprotease inhibitors 333
- $\alpha$ -pinene  
antioxidant activity 1347  
*Hypericum perforatum* constituent 585  
 $\alpha$ -terpineol, *Hypericum perforatum* constituent 585  
 $\alpha$ -tocopherol, lymphotropic carriage of lipophilic drugs 1439
- Aluminium chloride phthalocyanine photosensitizer, cancer therapy 155
- Alverine citrate, analgesic activity 1419
- Alzheimer's disease, anticholinesterase drug treatment 1347
- Amentoflavone  
anti-inflammatory/anti-ulcerogenic activity 587  
*Hypericum perforatum* constituent 584
- 5-Amino salicylic acid (5-ASA), colonic delivery

- bile acid conjugates in carageenan-induced colitis 1711  
chitosan capsules 1056  
Aminoglycosides, antimicrobial resistance 287  

*p*-Aminohippuric acid, secretory intestinal transport 73  
Aminopeptidase A, activity in vaginal homogenates 1499  
Aminopeptidase B, activity in vaginal homogenates 1499  
Aminopeptidase N  
activity in vaginal homogenates 1499  
chitosan-EDTA conjugate delivery 1053  
Amitriptyline, monoamine oxidase inhibitory activity 1125  
Amorphous drugs, glass transitional behaviour methodological study 41  
AmpC inhibitors 287  
Analgesic activity  
alverine citrate, rectal hyperalgesia model 1419  
clonidine, effects of dexamethasone pre-treatment 351  
fluoxetine and fluoxetine/morphine, formalin test evaluation 219  
paracetamol-related novel anti-inflammatory agents 1505  
*N*-substituted 4,6-dioxo-imidazo[3,4-*c*]thiazoles 1117  
U-50488H in streptozotocin-induced diabetic mice 521  
Anandamide, cocaine-induced/convulsant-induced toxic behavioural symptoms protective effects 1525  
Anethole trithione, salivary secretion/neuropeptide level responses 1697  
Angiotensin-converting enzyme, inhibition with enalaprilat encapsulated in intact erythrocytes 1281  
Anthraquinone derivatives, *Hypericum perforatum* constituents 584  
Anti-angiogenesis, SU5416 pharmacokinetics and interspecific scaling 1629  
Anti-arrhythmic activity  
disopyramide enantiomers 1621  
dofetilide (UK-68,798) selective Class III effects 1671  
tryptamine analogue 889  
Anti-cancer activity *see* Antitumour/anti-cancer activity  
Anticonvulsant activity, cannabimimetics 1525  
Antidepressant activity, *Hypericum perforatum* L. constituents 585, 588, 595  
Antidepressant drugs, monoamine oxidase inhibitory activity 1125  
Anti-diarrhoeal activity, *Croton lechleri* extract (SP-303) 431  
Anti-fibrotic activity, *Salvia miltiorrhiza* root extract 197  
Antifilarial activity, transition state phosphoramidate  $\beta$ -tubulin inhibitors 89  
Antifungal activity, 1,2,4-triazoles with pyrazine moiety 267  
Antigenotoxic activity, chitosan 1062  
Antihyperglycaemic activity, Diamed 1139  
Anti-inflammatory activity 1645  
abietic acid from *Pimenta racemosa* var. *grisea* 867  
alpha MSH COOH-terminal tripeptide Ac-Lys-Pro-Val-NH<sub>2</sub> 949  
*Bergenia ciliata* Sternb. rhizome extract 193  
bovine udder in-vitro model, eicosanoid synthesis study 743  
hexahydroimidazo[1,2-*c*]pyrimidines 1379  
*Hypericum perforatum* L. extract 587  
*Hyptis verticillata* lignans 430  
lupeol 1533  
*Ocimum micranthum* fruit polysaccharides 430  
paracetamol-based novel agents 1505  
*N*-pyridinyl(methyl)-1,2-dihydro-4-hydroxy-2-oxoquinoline-3-carboxamides 417  
*Salvia lavandulaefolia* Vahl. (Spanish sage) extracts 1347  
Antimalarial activity  
2-arylaminoquinoxalines 1409  
bis(9-amino-6-chloro-2-methoxyacridines) 935  
Anti-metastatic activity, *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based metalloprotease inhibitors 333  
Antimicrobial activity  
acetaldehyde-biogenic amine condensation products 121  
*Agathosma betulina*/*A. crenulata* (bushu) essential oils 579  
berberine 143  
chitosan 1061  
*Hypericum perforatum* L. extract 585, 586  
*Hyptis verticillata* lignans 430  
lactoferrin 1304, 1306  
1,2,4-triazoles with pyrazine moiety 267  
*Vaccinium vitis-idaea* L. tannins 187  
*see also* Bactericidal activity  
Antimicrobial peptides, bacterial outer membrane disruption/susceptibility enhancement 284  
Antimicrobial resistance 283  
aminoglycosides 287  
 $\beta$ -lactams 286  
chloramphenicol 288  
fluoroquinolones 285  
macrolides 284  
mechanisms 283  
antibiotic inactivation 286  
impermeability 283  
target site mutations/efflux 284  
outer membrane disruption as combating approach 284  
tetracyclines 286  
Anti-My9 immunotoxin, long-circulating monesin nanoparticle cytotoxicity potentiation 617  
Antioxidant activity  
*Bridelia furruginea* Benth. phenolic compounds 757  
desferrioxamine (desferoxamine) 1394  
*Echinacea* spp. extracts 849  
flavonoid aldose reductase inhibitors, actions in streptozotocin-induced diabetes 653  
fluvastatin inhibition of phospholipid liposome peroxidation 227  
*Ginkgo biloba* extract, neuronal oxidative stress-related damage prevention 387  
glutathione 1394  
melatonin/melatonin-classical antioxidant combinations 1394  
membrane-bound guanylate cyclase activation 243  
*Salvia lavandulaefolia* Vahl. (Spanish sage) extracts 1347  
*Vaccinium vitis-idaea* L. antimicrobial tannins 187  
vitamin C 1394  
vitamin E 1394  
Antiparasitic activity  
cryptofolione derivatives from *Cryptocarya alba* fruits 563  
*see also* Antimalarial activity  
Antiplatelet activity  
acetaldehyde-biogenic amine condensation products 121  
flavonoxypropanolamines 1601  
monooxygenated flavones 1601  
Antipsychotic activity, methylpiperazinopyridobenzoxazepine derivatives of JL13, brain pharmacokinetics 317  
Antipyretic activity, alpha MSH COOH-terminal tripeptide Ac-Lys-Pro-Val-NH<sub>2</sub> 949  
Antiretroviral activity, 1-methoxyisindoline azasaccharide mimic 945  
Antitubercular activity, 1,2,4-triazoles with pyrazine moiety 267  
Antitumour/anti-cancer activity  
bis-tacrine (bis-tetrahydroaminoacridine) 83  
*Calophyllum dispar* dibenzopyranic/furobenzopyranic compounds 955  
*see also* Cancer chemopreventive plant extracts; Cancer therapy; Cytotoxic agents  
Anti-ulcer activity, chitosan 1061  
Antiviral activity  
*Hypericum perforatum* L. extract 585, 586, 590  
lactoferrin 1305, 1306  
*see also* Antiretroviral activity  
Anxiolytic activity  
3-aryl-3-pyrrol-1-ylpropanamides 1561  
dihydrohonokiol-B 721

- Hypericum perforatum* L. extract 587  
5-substituted 3,4-dihydro-3-amino-2H-1-benzopyran derivative 959
- Aorta, ageing-related changes in normo-/hypertensive rats  
 $\alpha_1$ -adrenoceptors 205  
5-hydroxytryptamine potency/affinity constants and 5-HT<sub>2A</sub> receptor reserve 1403
- Aortic contraction  
monooxygenated flavone and flavonoxypropanolamine actions 1601  
selective  $\alpha_1$  adrenoceptor antagonist/partial agonist actions 103
- Apoptosis  
cardiac ischaemia, in-vitro model (sealed flask cell culture) 379  
doxorubicin plus cinchonine induction in P388 multidrug-resistant cells 1029  
*Ginkgo biloba* extract prevention in neuronal oxidative stress in-vitro 387
- Arachidonic acid-induced mouse ear oedema  
lupeol anti-inflammatory activity 1533  
syringin immunomodulatory effects 1287
- Argemone mexicana*, ethnopharmacology 430
- L-Arginine, nitric oxide synthesis inhibition, cholestasis/hypodipsia model 277
- Arginine vasopressin  
3,4-methylenedioxyamphetamine (MDMA; ‘ecstasy’)-related release 1357  
synthesis/release in chronic salt-loaded rats 1703
- Artemether 138
- Aryl sulphonamides, solid phase synthesis/5-HT<sub>6</sub> receptor affinity 969
- 2-Arylaminoquinolines, synthesis/antimalarial activity 1409
- 3-Aryl-3-pyrrol-1-ylpropanamides, synthesis/behavioural evaluation 1561
- Aspergillus fumigatus*, signature tagged mutagenesis 1575
- Aspergillus niger*, 1,2,4-triazole in-vitro susceptibility 267
- Asthma 6
- Atherogenesis inhibition, chitosan 1060
- Atlantic Arc 921  
aims 921  
historical background 921
- Atomic force microscopy, monesin long-circulating nanoparticles 617
- ATP-sensitive potassium channels (KUATPu channels), 7-chloro-3-pyridyl(alkyl)amino-4H-1,2,4-benzothiadiazine 1,1-dioxide (BPDZ 73) inhibitory activity 973
- Atracurium, historical development 427
- Atrial natriuretic factor, membrane-bound guanylate cyclase stimulation, response to antioxidants 243
- Atrial responses  
g-strophanthin 859  
*Parquetina nigrescens* extract 859
- Attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectroscopy  
skin integrity assessment following iontophoresis 772, 774  
technique 770
- Azadirachta indica*, Diamed antihyperglycaemic activity 1139
- Azithromycin, potentiation by Erm inhibitors 284
- B lymphocyte proliferation stimulation, CVT-E002 from *Panax quinquefolium* 1515
- Bacillus cereus*, chitosan antimicrobial activity 1062
- Bacillus subtilis*, 1,2,4-triazoles in-vitro susceptibility 267
- Bacterial outer membrane, antimicrobial resistance mechanisms 283, 284
- Bactericidal activity, N-chlorotaurine-sodium, chlorine consumption effects with plasma as substrate, chloramine T comparison 689
- Bacteriorhodopsin, effect on drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477
- Bacteroides*, lactoferrin antimicrobial activity 1305
- Basic fibroblast growth factor (bFGF), tissue engineering applications 1431
- Benzamil (2',4'-dichlorobenzamil), role of intracellular calcium in spermicidal activity 1387
- Benzimidazole-tubulin complex phosphoramidate transition state analogue, antifilarial activity 89
- Benzohydroxamic acids, Tmolt<sub>4</sub> leukaemia cell type II inosine monophosphate dehydrogenase inhibition 749
- Berberine  
antibacterial activity 143  
chemical carcinogenesis inhibition 762
- Berberis freemontii* extract, compound synergisms 143
- Bergenia ciliata* Sternb. rhizome, anti-inflammatory activity 193
- Bertholletia excelsa*, ethnopharmacology 427
- 17 $\beta$ -estradiol-oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- $\beta$ -lactamase inhibitors 287
- $\beta$ -lactamases 286
- $\beta$ -lactams  
antimicrobial resistance 286  
antimicrobial susceptibility enhancement by outer membrane-perturbing agents 284
- $\beta$ -pinene  
antioxidant activity 1347  
*Hypericum perforatum* constituent 585
- Betulinic acid, anti-cancer activity 141
- Biapigenin, *Hypericum perforatum* constituent 584
- Bicuculline-induced toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525
- Biliary obstruction, rat models  
hypodipsia, role of nitric oxide 277  
*Salvia miltiorrhiza* root extract anti-fibrotic activity 197
- Bioadhesion  
glycerol monooleate liquid crystalline phase, role of water 629  
Pluronic-poly(acrylic acid) copolymers 109  
*see also* Mucoadhesive polymers
- Bioprospecting, ethnopharmacology comparisons 428
- Bis(9-amino-6-chloro-2-methoxyacridines), antimalarial activity/cytotoxicity relationships 935
- Bis-tacrine (bis-tetrahydroaminoacridine), synthesis/anticancer activity 83
- Bisphenol A-oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- Blood spot assay, theophylline 413
- Blood-brain barrier, large neutral amino acid transporters (LAT1/LAT2) 497
- Bolus instillation, continuous microinstillation comparison for serosal surface absorption of phenosulphophthalein (phenol red) model drug 1341
- Bone morphogenetic protein-2 (BMP-2), tissue engineering applications 1430
- Book reviews  
Cabri, W. and Di Fabio, R. *From Bench to Market: The Evolution of Chemical Synthesis* 1727  
Sharp, J. *Quality in the Manufacture of Medicines and other Healthcare Products* 133
- Botanical dietary supplements 143
- Bovine serum albumin  
encapsulation in poly(lactide-co-glycolide) microspheres, solid-in-oil-in-water technique 167, 1099  
structural perturbations during microencapsulation 115
- Brain  
capillary endothelial cells, blood-brain barrier large neutral amino acid transporter system L 497  
glucocorticoid receptors, dexamethasone reduction of clonidine effects 351  
JL13 methylpiperazinopyridobenzoxazepine derivatives distribution 317  
monoamine oxidase inhibition by antidepressant drugs 1125

- perazine pharmacokinetics, effects of selective serotonin reuptake inhibitors (SSRIs) 449
- polysorbate 80/sodium caprate enhancement of vigabatrin absorption 149
- Breast cancer**
- invasion model, *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based matrix metalloprotease (MMP) inhibitor activity 333
  - see also MCF 7 cells
- Bridelia furruginea* Benth. (Euphorbiaceae), phenolic compounds 757
- Bromocriptine mesilate, sustained release intravaginal dosage form 1721
- BT cells, nasal drug delivery 10
- Budesonide, colon-specific delivery from microencapsulated cellulosic cores 1207
- Burkholderia cepacia*, lactoferrin antimicrobial activity 1307
- Buserelin
- chitosan effects on transport 1053
  - nasal absorption 16
- Bushu (*Agathosma betulina*/*A. crenulata*) essential oils 579
- Butein, synthesis and effects on aldose reductase/sorbitol accumulation in streptozotocin-induced diabetes 653
- Butylbenzyl phthalate–oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- Byrsonima crassifolia*, medicinal use by Popoluca (Eastern Mexico) 1653
- Cachrys trifida* fucocoumarins, macrophage function inhibition 1163
- Caco-2 cells
- p*-aminohippuric acid secretory transport 73
  - chitosan enhancement of absorption 1054, 1055
  - 9-desglycinamide, 8-arginine vasopressin (DGAVP) transport, chitosan glutamate influence 1053
  - hexarelin permeability 1257
  - quinolone antimicrobials transport 699
- Caffeic acid, *Hypericum perforatum* constituent 585
- Calcium channels
- L-type calcium current (IUCa,Lu), dofetilide (UK-68,798) study in ventricular myocytes 1671
  - oxotremorine-induced ileal longitudinal muscle desensitization 249
- Calcium ions (Ca<sup>2+</sup>)
- acetylcholine-induced cytosolic mobilization in colonic crypts from cystic fibrosis mouse 371
  - acetylcholine-induced ileal longitudinal muscle desensitization under Ca<sup>2+</sup>-free conditions 249
  - ciliary beating involvement 7
  - colonic mucosal secretory activity dependence, imidazolines inhibition 213
  - intracellular, 2',4'-dichlorobenzamil spermicidal activity 1387
- Calcium metabolism, chitosan effects 1062
- Calophyllum dispar*, dibenzopyranic/furobenzopyranic compounds with anti-cancer activity 955
- Calu-3 cells, microsphere uptake 57
- Camellia sinensis* (tea) consumption, hepatic phase I/phase II enzyme activation 569
- Camostat, microsphere preparations 255
- Cancer chemopreventive plant extracts 138
- screening project 141
- Cancer magister* (Dungeness crab), chitin 1048
- Cancer therapy
- chitosan–doxorubicin combined treatment 1373
  - photodynamic, pH-responsive polymeric micelles 155
  - plant secondary metabolites 138, 139
  - screening project 139
  - see also Anti-tumour/anti-cancer activity
- Candida*
- chitosan antimicrobial activity 1062
  - lactoferrin antimicrobial activity 1307
- Cannabinoid receptor agonists, cocaine-induced/convulsant-induced toxic behavioural symptom protective effects 1525
- Capsaicin 138
- Capsules, chitosan for colonic drug delivery 1056
- Carageenan, bioadhesive properties 14, 15
- Carageenan-induced colitis, oral 5-amino salicylic acid–bile acid conjugates for drug delivery to large intestine 1711
- Carageenan-induced paw oedema
- abietic acid inhibition 867
  - Bergenia ciliata* rhizome inhibition 193
  - hexahydroimidazo[1,2-*c*]pyrimidine effects 1379
  - paracetamol-related novel anti-inflammatory agent effects 1505
- Carbamazepine, *Hypericum perforatum* L. interaction 595
- Carbapenemases 287
- Carbapenems,  $\beta$ -lactamase resistance 286
- Carbomer, bioadhesive properties 15
- Carbomer 934P, nasal cavity residence time 109
- Carbopol, bioadhesive properties 14, 15
- Carbopol 934P 14
- Carbopol 971P, associated nasal mucosal inflammation 16
- Carbopol EX507 matrix forming polymer, powder flow/compact mechanical properties 1193
- 3-Carboxy-1-methyl-1,2,3,4-tetrahydro- $\beta$ -carboline, liposomal membrane fluidity effects 121
- Carboxypeptidase A, chitosan–EDTA conjugate delivery 1053
- Cardiac hypertrophy
- aged spontaneously hypertensive rats 209
  - chronic isoproterenol treatment 233
- Cardiac ischaemia, in-vitro model (sealed flask cell culture) 379
- Cardiac tissue
- $\alpha_1$  adrenoceptors, inotropic responsiveness following chronic isoproterenol treatment 233
  - tryptamine analogue affinity 889
- Cardiotonic activity, *Parquetina nigrescens* extract 859
- Cardiotoxicity, doxorubicin/epirubicin differences 987
- Carnitine transporter functional defect,  $\gamma$ -butyrobetaine response 527
- Carvone, stereoselective metabolism following topical application 637
- Caryophyllene, *Hypericum perforatum* constituent 585
- Cassia auriculata*, Diamed antihyperglycaemic activity 1139
- Cassia quinquangulata* extract, cancer chemopreventive activity 142
- Catechins, *Hypericum perforatum* constituents 584
- Catharanthus* bisindole alkaloids 137
- Celecoxib, cyclooxygenase-1/cyclooxygenase 2 selectivity, screening in peripheral monocytes 1679
- Cellagen membrane CD-24, nasal primary culture system for drug delivery studies 1447
- Centropazine, intestinal absorption in-situ/in-vivo 901
- Cephalosporinases 286, 287
- Cephalosporins,  $\beta$ -lactamase resistance 286
- Cetyl alcohol, intragastric floating drug delivery system 49
- Cfr<sup>tm2Cam</sup>* transgenic model see Cystic fibrosis transgenic mouse model
- Chalcones
- 2'-hydroxychalcone derivatives, prostaglandin E<sub>2</sub> production inhibition 1295
  - synthesis and effects on aldose reductase/sorbitol accumulation in streptozotocin-induced diabetes 653
- Chamomile tea, liver microsome cytochrome P450 system effects 1323
- Chelators, bacterial outer membrane disruption/susceptibility enhancement 284
- Chemical carcinogenesis
- berberine inhibition 762

- see also Antigenotoxic activity; Cancer chemopreventive plant extracts  
 Chenodeoxycholic acid–5-amino salicylic acid conjugate, drug delivery to large intestine in carageenan-induced colitis 1711  
 Chinese traditional medicines, Die-Huang-Wan 273  
 Chiral gas chromatography, carvone, stereoselective metabolism following topical application 637  
 Chitin 1047, 1048  
   sources 1048  
   wound healing acceleration 1061  
 Chitosan 1047  
   absorption enhancement 1054  
   antigenotoxic activity 1062  
   antimicrobial effects 1061  
   anti-ulcer activity 1061  
   biological properties 1059–1062  
   calcium metabolism effects 1062  
   doxorubicin combined treatment, antitumour activity/adverse reactions 1373  
   drug delivery 1049  
     colon targeting 1056  
     controlled release dosage forms 1050  
     fast release dosage forms 1052  
     peptides 1053  
   gene delivery 1056  
   hypcholesterolaemic effects 1059  
   manufacture 1047, 1048  
   pharmaceutical applications 1049, 1057  
   physicochemical properties 1048  
   renal effects 1060  
   structure 1047, 1048  
   toxicity 1059  
   wound healing acceleration 1061  
 Chloramine T, bactericidal activity/chlorine consumption effect with plasma as substrate, *N*-chlorotaurine-sodium comparison 689  
 Chloramphenicol  
   activity enhancing outer membrane-perturbing agents 284  
   antimicrobial resistance 288  
 Chloramphenicol acetyltransferase 288  
 7-Chloro-3-pyridyl(alkyl)amino-4*H*-1,2,4-benzothiadiazine 1,1-dioxide (BPDZ 73) 973  
 Chlorogenic acid, *Hypericum perforatum* constituent 585  
*N*-Chlorotaurine-sodium, bactericidal activity/chlorine consumption effect with plasma as substrate, chloramine T comparison 689  
 Chlorpromazine, release from chitosan–pectin/acacia interpolymer complex 1051  
 Cholesterol, effect on drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477  
*Chondrodendron* spp., curare production 426  
*Chondrodendron tomentosum*, tubocurarine production 426  
 CHSRsC5 cells, multidrug resistance reversal by Triton-X-100-modified polymers 779  
 Ciclosporin  
   *Hypericum perforatum* L. interaction 594, 595  
   secretory-directed intestinal grepafloxacin transport influence 699  
 Ciliary beating 6  
 Cinafloxacin, antimicrobial activity 285  
*Cinchona succirubra* pav (*C. pubescens*), quinine production 427  
 Cinchonine, apoptosis induction in P388 doxorubicin-resistant cells 1029  
 1,8-Cineole  
   antioxidant activity 1347  
   hepatoprotective activity in D-galactosamine/lipopolysaccharide-induced shock 505  
   near-infrared (NIR) spectroscopic assay in eucalyptus oils 95  
 Ciprofloxacin, macrophage uptake in-vitro 735  
 Cisapride–paracetamol interaction 1041  
 Cisplatin microspheres, pharmacokinetics following intraperitoneal administration 1331  
 Citalopram, monoamine oxidase inhibitory activity 1125  
 Clarithromycin, antimicrobial susceptibility enhancement by antimicrobial peptides 284  
 Clavulanate,  $\beta$ -lactamase inhibition 287  
*Clivia miniata* extract, oxytocic activity 1145  
 Clobetasol-17-propionate, effects on eicosanoid synthesis in bovine udder in-vitro model 743  
 Clofibrac acid, 5,6-dimethylxanthenone-4-acetic acid interaction study 463  
 Clomipramine, monoamine oxidase inhibitory activity 1125  
 Clonidine  
    $\alpha_1$  adrenergic receptor subtype-mediated thoracic aorta/iliac artery contraction 103  
   antinociception/locomotor hypoactivity, reduction by dexamethasone 351  
   colonic mucosal cell anti-secretory activity 213  
*Clostridium*, lactoferrin antimicrobial activity 1305  
 Clozapine, brain pharmacokinetics 317  
 Cocaine-induced toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525  
 Codeine, ethnopharmacology 427  
 Colchicine, ethnopharmacology 427  
*Colchicum autumnale* L. (Colchicaceae), colchicine production 427  
 Coliforms, chitosan antimicrobial activity 1062  
 Collagen matrix-based nasal primary culture systems: Cellagen membrane CD-24, Vitrogen gel/Vitrogen film comparison for drug delivery studies 1447  
 Colonic crypt preparation, acetylcholine-induced cytosolic Ca<sup>2+</sup> mobilization in cystic fibrosis mouse 371  
 Colonic drug delivery  
   azo-containing urethane analogues 895  
   budesonide from microencapsulated cellulosic cores 1207  
   insulin-containing chitosan capsules 1056  
   orally administered 5-amino salicylic acid–bile acid conjugates in carageenan-induced colitis 1711  
   pressure-controlled capsules for orally administered glycyrrhizin 441  
 Colonic mucosa 213  
 Common cold 6  
 Conformational analysis, alpha-melanocyte stimulating hormone COOH-terminal tripeptide Ac-Lys-Pro-Val-NH<sub>2</sub> 949  
 Continuous microinstillation, bolus instillation comparison for serosal surface absorption of phenosulphophthalein (phenol red) model drug 1341  
 Contramid matrix forming polymer, powder flow and compact mechanical properties 1193  
 Convention on Biological Diversity (Rio Convention) 428  
 Convulsant-induced toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525  
 Cortical synaptoneurosome Cl<sup>-</sup> uptake, dihydrohonokiol-B effects 721  
 Cotton pouch-induced granuloma, *Bergenia ciliata* rhizome anti-inflammatory activity 193  
*p*-Coumaric acid, *Hypericum perforatum* constituent 585  
 CP 55940, cocaine-induced/convulsant-induced toxic behavioural symptoms protective effect 1525  
 Cremophor EL formulation, photodynamic cancer therapy 155  
*Croton cajucara* Benth., *trans*-dehydrocrotonin lipid-lowering activity 535  
*Croton lechleri* (Euphorbiaceae), normal stool formula (NSF) extract 431  
 Croton oil ear oedema model  
   syringin immunomodulatory effects 1287  
   *Thymus wilddenowii* topical anti-inflammatory activity 1645  
*Cryptocarya alba*, cryptofolione derivatives 563  
 Cryptofolione derivatives, isolation from *Cryptocarya alba* 563  
 Curare, historical aspects 426

- Curarea* spp., curare production 426  
 Curcumin, cancer chemopreventive activity 141  
 CVT-E002 immunomodulatory activity 1515  
 Cycloheximide, blockage of dexamethasone-mediated reduction of clonidine-induced antinociception/locomotor hypoactivity 351  
 Cyclooxygenase-1 (COX-1) inhibition  
   fucocoumarins from *Cachrys trifida* 1163  
   2'-hydroxychalcone derivatives 1295  
   non-steroidal anti-inflammatory drug (NSAID) screening in peripheral monocytes 1679  
 Cyclooxygenase-2 (COX-2) inhibition  
   fucocoumarins from *Cachrys trifida* 1163  
   2'-hydroxychalcone derivatives 1295  
   non-steroidal anti-inflammatory drug (NSAID) screening in peripheral monocytes 1679  
 CYP1A1, tea (*Camellia sinensis*) consumption effects 569  
 CYP1A2  
   GW420867X defluorination 403  
   herbal tea consumption effects 1323  
   nefiracetam metabolism to 5-hydroxynefiracetam 795  
   tea (*Camellia sinensis*) consumption effects 569  
 CYP2E1  
   expression following lipopolysaccharide administration, role of hepatocyte nuclear factor 1 nuclear protein binding 1365  
   herbal tea consumption effects 1323  
 CYP3A, enterocyte-based verapamil metabolism 1611  
 CYP3A4, nefiracetam metabolism to 5-hydroxynefiracetam 795  
 Cystic fibrosis transgenic mouse model  
   acetylcholine-induced cytosolic Ca<sup>2+</sup> mobilization in colonic crypts 371  
   taurocholic acid-induced intestinal secretion 711  
   ursodeoxycholic acid effects on small intestinal transport 1457  
 Cytochrome P450 system  
   GW420867X defluorination 403  
   herbal tea consumption effects 1323  
   nefiracetam metabolism to 5-hydroxynefiracetam 795  
   selective serotonin reuptake inhibitor (SSRI)-perazine interactions 449  
   tea (*Camellia sinensis*) consumption effects 569  
 Cytotoxic agents  
   bis-tacrine (bis-tetrahydroaminoacridine) congener screening 83  
   long-circulating monesin nanoparticle potentiation 617  
   see also Antitumour/anti-cancer activity
- Dandelion tea, liver microsome phase I/phase II enzyme effects 1323  
 Dansylamide, 5,6-dimethylxanthenone-4-acetic acid binding effect 463  
 Dansylsarcosine, 5,6-dimethylxanthenone-4-acetic acid binding effect 463  
*trans*-Dehydrocrotonin, lipid-lowering activity 535  
 4'-Demethoxy-3',4'-methylenedioxyethyl rosciglate, anticancer activity 141  
 Desferrioxamine (desferoxamine), antioxidant activity 1394  
 9-Desglycinamide, 8-arginine vasopressin (DGAVP) transport, chitosan glutamate influence 1053  
 Desmopressin, nasal absorption 16  
 Dexamethasone  
   clonidine-induced antinociception/locomotor hypoactivity reduction 351  
   hepatoprotective activity in D-galactosamine/lipopolysaccharide-induced shock 505  
   spike-and-wave spindling response in DBA/2J mice 883  
 Dextran  
   bioadhesive properties 15  
   Triton-X-100-modified microspheres, multidrug resistance reversal 779  
 Diabetes, animal models  
   antinociceptive effect of U-50488H 521  
   Diamed actions 1139  
   Die-Huang-Wan actions 273  
   flavonoids effects on aldose reductase/sorbitol accumulation 653  
 5-Dialkylaminomethyl-2-amino-2-oxazolines, synthesis/H<sub>1</sub> antagonist activity evaluation 923  
 Diamed antihyperglycaemic activity 1139  
 Diaspirin cross-linked haemoglobin, pharmacokinetics in rat hepatic cirrhosis model 179  
 Diazepam-5,6-dimethylxanthenone-4-acetic acid interaction 463  
 Dibenzopyranic compound from *Calophyllum dispar*, anti-cancer activity 955  
 2',4'-Dichlorobenzamil (benzamil), role of intracellular calcium in spermicidal activity 1387  
 Diclofenac, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679  
 Die-Huang-Wan, plasma glucose response in animal models 273  
 Dielectric spectroscopy, indometacin thermal transitions 41  
 Differential scanning calorimetry, UC-781 solid dispersions with polyvinylpyrrolidone (PVP K30) 1109  
 Digitalis glycosides, ethnopharmacology 427  
*Digitalis* spp. (Scrophulariaceae), ethnopharmacology 427  
 Digoxin, *Hypericum perforatum* L. interaction 594, 595  
 3,4-Dihydro-3-amino-2*H*-1-benzopyran derivatives, 5-substituted, synthesis/5-HT receptor activity 959  
 3,7-Dihydroflavone, vancomycin-resistance reversal in enterococci 129  
 Dihydrohonokiol-B, anxiolytic-like effects 721  
 4,5-Dihydro-3(2*H*)-pyradazinones, synthesis on Wang resin 981  
 Diltiazem  
   multidrug-resistance reversal, pH-dependence 1021  
   release from chitosan matrix 1050, 1051  
 6,7-Dimethoxy-4-ethyl- $\beta$ -carboline-carboxylate (DMCM)-induced toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525  
 5,6-Dimethylxanthenone-4-acetic acid, plasma protein binding/distribution in blood cells 463  
 Dimeticone (poly(dimethylsiloxane)) vaginal ring, bromocriptine mesilate sustained release 1721  
 4,6-Dioxo-imidazo[3,4-c]thiazoles, *N*-substituted, synthesis/analgesic activity 1117  
 Diphenhydramine hydrochloride, ion-pairing reverse-phase liquid chromatographic method for control of impurities 332  
 Disopyramide, stereoselective  
   pharmacokinetics/pharmacodynamics 1621  
 Dissado-Hill modelling, indometacin thermal transitions 41  
 Dithiothreitol, membrane-bound guanylate cyclase activation 243  
 DNA contaminants, hyaluronic acid preparations pro-inflammatory activity 555  
 DNA gyrase, fluoroquinolone resistance mutations 285  
 DNA topoisomerase IV, fluoroquinolone resistance mutations 285  
 DNA-lipid complex vector systems 1172  
 Docetaxel 138  
 Dofetilide (UK-68,798), L-type calcium current (I<sub>Ca,L</sub>) study in ventricular myocytes 1671  
 Doxepine, monoamine oxidase inhibitory activity 1125  
 Doxorubicin  
   chitosan combined treatment, antitumour activity/adverse reactions 1373  
   epirubicin comparisons  
     blood component interactions 815  
     pharmacokinetics/cardiotoxicity 987  
   long-circulating monesin nanoparticle cytotoxicity potentiation 617  
   multidrug-resistant P388 cells, cinchonine reversal by apoptosis induction 1029  
 Doxycycline  
   antibacterial activity 286

- antimicrobial susceptibility enhancement by antimicrobial peptides 284
- Dronabinol 138
- Drug delivery
- chitosan applications 1049
  - colon *see* Colonic drug delivery
  - Eudragit P-4135F for ellagic acid delivery to small intestine 1079
  - growth factors for tissue regeneration 1427
  - intra-gastric floating systems, hydroxypropylmethyl cellulose (HPMC) hydrogel matrices, fluorescein isothiocyanate-dextran release 49
  - liposomes *see* Liposomes
  - mycophenolate mofetil topical formulation 1581
  - nasal *see* Nasal drug delivery
  - oral insulin, influence of ovomucoids on jejunal transport 1131
  - pH-sensitive polymeric micelles vs. Cremophor EL preparation, photodynamic cancer therapy 155
  - Pluronic F127-poly(acrylic acid) copolymer properties 541
  - polymer development strategies 1177
  - pulmonary, cell culture models 57
  - transdermal *see* Transdermal drug delivery
  - see also* Fast release dosage forms; Sustained delivery
- Drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477
- Drug-facilitated sexual assault, gamma-hydroxybutyric acid urine levels 399
- Dungeness crab (*Cancer magister*), chitin 1048
- Duodenal ulcers, hyperprolactinaemia effects 1541
- Echinacea angustifolia*, chemical composition of extracts 849
- Echinacea pallida*, chemical composition of extracts 849
- Echinacea purpurea*, chemical composition of extracts 849
- Editorials 1, 921
- Efavirenz, *Hypericum perforatum* L. interaction 595
- Effective permeability coefficients (P<sub>Ueff</sub>), determination by single-pass intestinal-perfusion (SPIP) 1007
- Efflux pump inhibitors 285
- Efflux-mediated resistance 284
- fluoroquinolones 285
  - macrolides 284
  - tetracyclines 286
  - vancomycin 286
- Electrocorticogram, DBA/2J mice, actions of arachidonic acid and metabolites 883
- Electroencephalographic effects of gamma-hydroxybutyrate (GHB), plasma levels relationship 1687
- Electron spin resonance (ESR), vanadyl insulinomimetic complexes gastrointestinal absorption monitoring 1247
- Electrospray mass spectrometry, *Echinacea* spp. extracts 849
- Elevated plus-maze test, dihydrohonokiol-B anxiolytic-like activity 721
- Ellagic acid
- cancer chemopreventive activity 141
  - small intestinal delivery in Eudragit P-4135F microspheres 1079
- EMT-6 tumours/tumour cells, photodynamic cancer therapy evaluation 155
- EmulsifierFlex homogenizer-extrusion device, long-circulating monesin nanoparticles preparation for cytotoxic agent potentiation 617
- Enalaprilat encapsulation in intact erythrocytes, angiotensin-converting enzyme inhibition 1281
- Endosulfan-oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- Endotoxaemic shock, 1,8-cineole protective activity 505
- Entacapone prodrugs, synthesis/oral bioavailability 1489
- Enterobacter cloacae*, antimicrobial susceptibility enhancement by outer membrane-perturbing peptides 284
- Enterococcus faecalis*, vancomycin-resistance reversal by flavonoids 129
- Enterococcus faecium*
- antibiotic susceptibility 285, 286
  - vancomycin-resistance reversal by flavonoids 129
- Epidermal growth factor (EGF), tissue engineering applications 1430, 1432
- Epirubicin, doxorubicin comparisons
- blood component interactions 815
  - pharmacokinetics/cardiotoxicity 987
- Eriodictyol-7-O-glucoside, *Thymus wilddenowii* extract 1645
- Erythrocytes
- doxorubicin/epirubicin comparative binding study 815
  - enalaprilat encapsulation, angiotensin-converting enzyme inhibition 1281
- Erythromycin
- activity enhancing outer membrane-perturbing agents 284
  - midazolam interaction, in-vivo kinetics 643
- Erythromycin resistant methylase (Erm) 284
- inhibitors 284
- Escherichia coli*
- antimicrobial susceptibility 286
  - enhancement by outer membrane-perturbing peptides 284
  - chitosan antimicrobial activity 1062
  - N-chlorotaurine-sodium bactericidal activity 689
  - lactoferrin antimicrobial activity 1304, 1305
  - 1,2,4-triazoles in-vitro susceptibility 267
- Estradiol, skin delivery from liposomes, non-occlusive/occlusive application 1311
- Estrone-oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- Ethanol-induced gastric ulcers, hyperprolactinaemia effects 1541
- Ethnobotanical knowledge 138
- Ethnopharmacology 425
- 19th century 426
  - 20th century 427
  - bioprospecting comparisons 428
  - Convention on Biological Diversity (Rio Convention) 428
  - definition 425
  - Popoloca (Eastern Mexico) 1653
  - potential health risks 430
  - research
    - aims 429
    - industry based 431
- Etodolac, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679
- Eucalyptol *see* 1,8-Cineole
- Eucalyptus oil, near-infrared (NIR) spectroscopic 1,8-cineole (eucalyptol) assay 95
- Eudragit L30D, naltrexone controlled-release system, effectiveness on morphine analgesia 1201
- Eudragit L100-55, furosemide (frusemide) absorption augmentation 433
- Eudragit P-4135F, ellagic acid delivery to small intestine 1079
- Evaporative light-scattering detection (ELSD), *Panax notoginseng* saponins quantitation 1637
- Extent of bioavailability (EBA) estimation for insulin from pharmacological data 1235
- <sup>19</sup>F NMR spectroscopy, fluorinated meso-tetra(hydroxyphenyl)porphyrins tissue distribution 1469
- Fast release dosage forms, chitosan 1052
- Fat digestion inhibition, chitosan 1059
- Fatigue, *Hypericum perforatum* L. extract actions 591
- Fatty acid metabolism, gamma-butyrobetaine, effects in juvenile visceral steatosis (JVS) mice 527
- Fenoterol 7
- Ferrugin, *Bridelia furruginea* extract, radical scavenging activity 757
- Ferulic acid, *Hypericum perforatum* constituent 585

- FGIN-1–27 analogues 1561  
 FGIN-1–43 analogues 1561  
 Fibrin-based tissue engineering scaffolds, growth factor delivery 1431  
 Fibroblast growth factor (FGF), tissue engineering applications 1430  
 FK-506 (tacrolimus) 138  
 Flavones, synthesis and antiplatelet/aortic vasorelaxant activity 1601  
 Flavonoids  
   *Bridelia furruginea* Benth., xanthine oxidase inhibitory activity 757  
   *Hypericum perforatum* constituents 584  
     antidepressant activity 586  
     antiviral activity 586  
     synthesis and effects on aldose reductase/sorbitol accumulation in streptozotocin-induced diabetes 653  
   *Thymus willdenowii* extract 1645  
     vancomycin-resistance reversal in enterococci 129  
 Flavonoxypropanolamines, synthesis and antiplatelet/aortic vasorelaxant activity 1601  
 Flunixin meglumine, effects on eicosanoid synthesis in bovine udder in-vitro model 743  
 Fluorescein isothiocyanate-dextran, release from hydroxypropylmethyl cellulose hydrogel matrices 49  
 Fluorescein-isothiocyanate-induced ear oedema model, syringin immunomodulatory effects 1287  
 Fluorinated *meso*-tetra(hydroxyphenyl)porphyrin photosensitizers 1469  
 Fluoroquinolones  
   antimicrobial resistance 285  
   antimicrobial susceptibility enhancement by outer membrane-perturbing agents 284  
   monocyte-derived macrophage uptake in-vitro 735  
 5-Fluorouracil  
   gene delivered enzyme prodrug therapy 1171  
   skin delivery from liposomes 1069  
 Fluoxetine  
   antidepressant activity, hypericin comparisons 585, 589, 596  
   antinociceptive effect in chronic inflammatory pain 219  
   monoamine oxidase inhibitory activity 1125  
   perazine pharmacokinetics effects 449  
 Fluvastatin, phospholipid liposome peroxidation inhibition 227  
 Fluvoxamine  
   effects on perazine pharmacokinetics 449  
   monoamine oxidase inhibitory activity 1125  
 Formalin nociceptive sensitivity test, fluoxetine and fluoxetine/morphine effects 219  
 Forskolin, colonic mucosal cell secretory response 213  
 Fourier-transform infrared spectroscopy  
   poly(lactide-*co*-glycolide) microsphere encapsulation  
     bovine serum albumin secondary structure monitoring 1099  
     lysozyme unfolding/aggregation 1217  
   UC-781 solid dispersions with polyvinylpyrrolidone (PVP K30) 1109  
 Free radical scavenging *see* Antioxidant activity  
 Freeze-drying, long-circulating meso-sin nanoparticle preparation for cytotoxic agent potentiation 617  
 Fucocoumarins, macrophage functions inhibition 1163  
 Fudosteine, effect on mucociliary transport 911  
 Furobenzopyranic compound from *Calophyllum dispar*, anti-cancer activity 955  
 Furosemide (frusemide) absorption, augmentation with Eudragit L100–55 co-administration 433  
 G-strophanthin, atrial contractile responses 859  
 D-Galactosamine/lipopolysaccharide-induced shock  
   1,8-cineole hepatoprotective activity 505  
   dexamethasone hepatoprotective activity 505  
 Galangin, vancomycin-resistance reversal in enterococci 129  
 Galanthamine 138  
 Gamma scintigraphy, gastrointestinal transit study in pig 33  
 Gamma-aminobutyric acid GABA<sub>A</sub> receptor-gated Cl<sup>-</sup> channel complex, dihydrohonokiol-B anxiolytic-like activity 721  
 Gamma-butyrobetaine, effects on fatty acid metabolism in juvenile visceral steatosis (JVS) mice 527  
 Gamma-hydroxybutyrate  
   plasma concentration–electroencephalographic effects relationship 1687  
   urinary excretion 399  
 Gastric acid secretion, hyperprolactinaemia effects 1541  
 Gastric fluid simulated hydrolysis, glycerol-1,2-diibuprofenate-3-nitrate pro-drug 345  
 Gastric ulcers, hyperprolactinaemia effects 1541  
 Gastrointestinal tract  
   absorption  
     prediction by single-pass intestinal-perfusion (SPIP) 1007  
     valproic acid inhibition by imipenem 823  
     vanadyl insulinomimetic complexes, pharmacokinetics 1247  
   cystic fibrosis mouse model  
     taurocholic acid-induced intestinal secretion 711  
     ursodeoxycholic acid effects on intestinal transport 1457  
   pH regulation, Eudragit L100–55 augmentation of furosemide bioavailability 433  
   pig model of transit 33  
   secretory-directed transport of quinolone antimicrobials 699  
 Gastrotoxicity, paracetamol-related novel anti-inflammatory agents 1505  
 Gelatinase A (matrix metalloprotease-2; MMP-2), *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based metalloproteases inhibition 333  
 Gelatinase B (matrix metalloprotease-9; MMP-9), *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based metalloproteases inhibition 333  
 Gelrite, bioadhesive properties 15  
 Gelsemium, potentiation of nerve growth factor-induced neurite elongation 915  
 Gene delivered enzyme prodrug therapy 1170  
 Gene delivery vectors 1170  
   chitosan–DNA complexes 1056  
   non-viral 1172  
   physical 1173  
   viral 1170  
 Gene therapy 1169  
   ethical issues 1173  
   growth factor releasing tissue engineering scaffolds 1433  
   historical background 1169  
 Genistein, *p*-aminohippuric acid intestinal secretory transport reduction 73  
 Geraniol  
   antioxidant activity 1347  
   *Hypericum perforatum* constituent 585  
   oestrogenic activity 1347  
*Ginkgo biloba* extract, neuronal oxidative stress-related damage prevention 387  
 Glass solutions, poorly water-soluble drug/polymer production by melt extrusion 303  
 Glass transitional behaviour, dielectric spectroscopy 41  
 Glibenclamide, Diamed antihyperglycaemic activity comparison 1139  
 Glucose, plasma response to Die-Huang-Wan in animal models 273  
 Glucose tolerance, Diamed activity 1139  
 GLUT1 glucose transporter, effect on drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477  
 Glutamate, role in post-sigh apnoeas during REM sleep 1555  
 L-Glutamic acid-induced toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525  
 Glutathione, antioxidant activity/melatonin synergism 1394



- Glutathione-S-transferase, tea consumption effects 569
- Glycerol monooleate, liquid crystalline phase mucoadhesion, role of water 629
- Glycerol-1,2-diibuprofenate-3-nitrate, synthesis/hydrolytic behaviour 345
- Glycerol-1-nitrate, glycerol-1,2-diibuprofenate-3-nitrate pro-drug synthesis 345
- Glycogen phosphorylase inhibitors, D-ribose spirohydantoin derivatives 939
- Glycosidase inhibition, 1-methoxyisoindoline azasaccharide mimic 945
- Glycylcyclines, antimicrobial activity 286
- Glycyrrhizin, pressure-controlled colon delivery capsules 441
- Goldenseal (*Hydrastis canadensis*) herbal remedy 143
- GP2A *see* Atlantic Arc
- GR71251 analogues, substance P receptor antagonism 929
- Gram-negative bacteria
- fluoroquinolone resistance 285
  - glycylcyclines susceptibility 286
  - macrolides susceptibility 284
  - outer membrane in antimicrobial resistance 283
- Gram-positive bacteria
- fluoroquinolone resistance 285
  - glycylcyclines susceptibility 286
- Granulation, microcrystalline cellulose behaviour 609
- Grepafloxacin, secretory-directed intestinal transport 699
- Griseofulvin, release from chitosan fast release dosage form 1052
- Growth factor releasing tissue engineering scaffolds 1427
- degradation 1428
  - DNA delivery 1433
  - encapsulation by double emulsion methods 1432
  - fibrous construct fabrication strategies 1428
  - growth factors 1430
  - heparin-binding growth factor delivery 1431
  - hydrogel systems 1431
  - materials 1428, 1429
  - properties 1428
  - supercritical carbon dioxide processing 1432
- Guanylate cyclase, membrane bound, activation by vitamin C/dithiothreitol 243
- Guest editorial 921
- GW420867X, cytochrome P450 1A2 defluorination 403
- gyrA* mutations, fluoroquinolone resistance 285
- Haemoglobin
- diaspirin cross-linked, pharmacokinetics in rat hepatic cirrhosis model 179
  - doxorubicin/epirubicin comparative binding study 815
  - Pluronic F127-poly(acrylic acid) copolymers tertiary structure stabilization 541
- Haemophilus influenzae*, antibiotic susceptibility 284
- Haemostatic activity, chitosan 1061
- Hallucinogenic fungi/plants 427
- Hamelia patens*, medicinal use by Popoluca (Eastern Mexico) 1653
- Heart failure, ageing-related in spontaneously hypertensive rats 205
- Heparin-binding growth factor, tissue engineering scaffold delivery 1431
- Hepatic cirrhosis, diaspirin cross-linked haemoglobin pharmacokinetics in rat model 179
- Hepatitis C, hypericin actions 590
- Hepatocyte nuclear factor 1, nuclear protein binding following lipopolysaccharide administration 1365
- Hepatoprotective activity
- 1,8-cineole 505
  - dexamethasone 505
  - ruscogenin/ruscogenin glycoside (Lm-3) 681
  - Trichilia roka* 1569
- Hepatotoxic plant extracts 430
- Herbal remedies (phytomedicines) 135, 142
- synergistic biological effects 143
- Herpes simplex virus, hypericin/pseudohypericin actions 586
- Hexahydroimidazo[1,2-c]pyrimidines 1379
- Hexarelin oral bioavailability 1257
- High performance liquid chromatography (HPLC)
- 5,6-dimethylxanthenone-4-acetic acid plasma levels 463
  - diphenhydramine hydrochloride, control of impurities 332
  - drug/polymer glass solutions produced by melt extrusion 303
  - Echinacea* spp. extracts 849
  - gammahydroxybutyrate plasma levels 1687
  - glycerol-1,2-diibuprofenate-3-nitrate hydrolytic degradation 345
  - glycyrrhizin plasma levels 441
  - GW420867X metabolites 403
  - JL13 methylpiperazinopyridobenzoxazepine derivatives 317
  - lipid peroxidation products detection 263
  - LJP 920 octomeric Gal ( $\alpha$ 1-3) Gal conjugate 999
  - lysozyme, turbidimetric assay comparison 549
  - mycophenolate mofetil topical formulation 1581
  - paracetamol metabolites 1041
  - perazine/perazine metabolites in brain/plasma 449
  - ranitidine determination in small-volume paediatric samples 1265
  - saponins from *Panax notoginseng* 1637
  - sulphobromophthalein monoglutathione conjugate positional isomers 1015
- High-shear mixer, microcrystalline cellulose wet granulation 609
- High-throughput screening systems for bioprospecting 428
- Histamine, colonic mucosal cell secretory response 213
- Histamine H<sub>1</sub> receptor antagonists, 5-dialkylaminomethyl-2-amino-2-oxazolines 923
- Hot-plate test, clonidine-induced antinociception/locomotor hypoactivity, reduction by dexamethasone 351
- Human immunodeficiency virus (HIV)
- hypericin/pseudohypericin actions 586, 590
  - indinavir effects on rifampicin pharmacokinetics in infected patients 409
- Human parathyroid hormone (1-34), iontophoretic pulsatile transdermal delivery 1217
- Humulene, *Hypericum perforatum* constituent 585
- Hyaluronic acid, pro-inflammatory activity of DNA-contaminated preparations 555
- Hydrastis canadensis* (goldenseal) herbal remedy 143
- Hydrogel tissue engineering scaffolds 1428, 1431
- 6-Hydroxy-1-methyl-1,2,3,4-tetrahydro- $\beta$ -carboline, liposomal membrane fluidity effects 121
- p*-Hydroxybenzoic acid, *Hypericum perforatum* constituent 585
- 2'-Hydroxychalcone derivatives, prostaglandin E<sub>2</sub> production inhibition 1295
- Hydroxypropyl cellulose (Klucel EXF), Contramid/Carbopol EX507 comparative study 1193
- Hydroxypropylmethylcellulose
- Contramid/Carbopol EX507 comparative study 1193
  - hydrogel matrices, fluorescein isothiocyanate-dextran release 49
- Hydroxypropylmethylcellulose acetate succinate (AS-MF), furosemide (frusemide) bioavailability study 433
- Hydroxypropylmethylcellulose phthalate (HP-55), furosemide (frusemide) bioavailability study 433
- 9-Hydroxysemperside aglucone, potentiation of nerve growth factor-induced neurite elongation 915
- 5-Hydroxytryptamine (5-HT)
- potency/affinity constants, age-related aortic changes 1403
  - rectal hypersensitivity, alverine citrate analgesic activity 1419
- 5-Hydroxytryptamine (5-HT)-induced paw oedema, *Bergenia ciliata* rhizome anti-inflammatory activity 193
- 5-Hydroxytryptamine 5-HT<sub>1A</sub> receptor

- rectal hypersensitivity, alverine citrate selective antagonism 1419  
 5-substituted 3,4-dihydro-3-amino-2*H*-1-benzopyran derivative actions 959
- 5-Hydroxytryptamine 5-HT<sub>2A</sub> receptor, age-related aortic reserve changes 1403
- 5-Hydroxytryptamine 5-HT<sub>6</sub> receptor, aryl sulphonamide affinity 969
- 5-Hydroxytryptamine 5-HT<sub>7</sub> receptor, 5-substituted 3,4-dihydro-3-amino-2*H*-1-benzopyran derivative actions 959
- Hyperforin  
 antidepressant activity 585, 586, 589, 590, 595  
*Hypericum perforatum* constituent 584
- Hypericin  
 antidepressant activity 585, 586, 590, 595  
 antiviral activity 586, 590  
 clinical pharmacokinetics 587  
*Hypericum perforatum* constituent 584  
 photoactivating effect 587, 592
- Hypericum* see *Hypericum perforatum* L.  
*Hypericum brasiliense* extracts 1273  
*Hypericum caprifoliatum* extracts, monoamine oxidase inhibitory activity 1273  
*Hypericum carinatum* extracts 1273  
*Hypericum connatum* extracts 1273  
*Hypericum cordatum* extracts 1273  
*Hypericum myrianthum* extracts 1273  
*Hypericum perforatum* L. (St John's wort) 583  
 adverse effects 591  
 chemistry 584  
 clinical pharmacokinetics 587  
 drug interactions 594  
 genotoxic potential 593  
 pharmacology 585  
 photosensitivity (hypericium) 592  
 therapeutic activity 588  
 traditional uses 584  
 use in pregnancy 594
- Hypericum piriiai* extracts, monoamine oxidase inhibitory activity 1273
- Hypericum polyanthemum* extracts, monoamine oxidase inhibitory activity 1273
- Hypericum* spp. extracts, monoamine oxidase inhibitory activity 1273
- Hyperoside, *Hypericum perforatum* constituent 584
- Hyperosmolality, arginine vasopressin response 1703
- Hypodipsia, role of nitric oxide, cholestasis model 277
- Hypromellose acetate succinate, camostat microsphere preparations 255
- Hyptis verticillata* (Lamiaceae), ethnopharmacology 427, 429
- Ibuprofen  
 cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679  
 5,6-dimethylxanthenone-4-acetic acid interaction study 463  
 glycerol-1,2-diibuprofenate-3-nitrate pro-drug, synthesis/degradation in simulated gastric fluid 345
- Idazoxan, colonic mucosal cell anti-secretory activity 213
- Iliac artery contraction, selective  $\alpha_1$  adrenoceptor antagonist/partial agonist actions 103
- Imidazolines, colonic mucosal cell anti-secretory activity 213
- Imipenem, valproic acid intestinal absorption inhibition 823
- Imipramine  
 antidepressant activity, hypericin comparison 589, 590  
 monoamine oxidase inhibitory activity 1125
- Immobilized-liposome chromatography, drug partitioning into lipid bilayers 1477
- Immunomodulatory activity, CVT-E002 from *Panax quinquefolium* (North American ginseng) 1515
- Impedance spectroscopy (IS)  
 skin integrity assessment following iontophoresis 772, 774  
 technique 771
- Imperatorin, arachidonate metabolism inhibition 1163
- Impurity profiles, diphenhydramine hydrochloride 332
- Indinavir  
 effects on rifampicin pharmacokinetics in HIV-infected patients 409  
*Hypericum perforatum* L. interaction 594, 595
- Indometacin  
 chitosan preparations release 1050, 1053  
 cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679  
 drug/polymer glass solutions production by melt extrusion 303  
 eicosanoid synthesis effects in bovine udder in-vitro model 743  
 spike-and-wave spindling response in DBA/2J mice 883  
 thermal transitions, modulated temperature differential scanning calorimetry 41
- Indometacin-induced gastric ulcers, hyperprolactinaemia effects 1541
- Influenza virus, hypericin/pseudohypericin actions 586
- Infrared spectroscopy, drug/polymer glass solutions produced by melt extrusion 303
- Inosine monophosphate dehydrogenase type II, inhibition in Tmol<sub>4</sub> cells by benzohydroxamic acids/malonic acids/maleic hydrazide 749
- Insulin  
 chitosan delivery  
 colonic delivery in capsules/liposomes 1056  
 nasal absorption from nanoparticles 1056  
 release from microspheres 1054  
 7-chloro-3-pyridyl(alkyl)amino-4*H*-1,2,4-benzothiadiazine 1,1-dioxide (BPDZ 73)-related compounds release 973  
 extent of bioavailability (EBA) estimation from pharmacological data 1235  
 jejunal transport in the presence of ovomucoids 1131  
 pharmacokinetic-pharmacodynamic modelling 1235  
 Pluronic F127-poly(acrylic acid) copolymers tertiary structure stabilization 541  
 spray-dried particles, in-vitro assay of activity 1415
- Insulin-mimetic vanadyl complexes, pharmacokinetics of gastrointestinal absorption 1247
- Interactions  
 cisapride-paracetamol 1041  
*Hypericum perforatum* L. (St John's wort) 594  
 imipenem-valproic acid, intestinal absorption inhibition 823  
 midazolam-erythromycin in-vivo kinetics 643
- Interleukin-2 (IL-2), liposomal delivery 295
- Interleukin-12 (IL-12), induction by DNA contaminated hyaluronic acid preparations 555
- Interpolymer complex formation, chitosan-pectin/acacia 1051
- Intestinal P-glycoprotein efflux, influence on verapamil metabolism 1611
- Intestinal spasmogenic/spasmolytic activity, *Agathosma betulina*/*A. crenulata* (bushu) essential oils 579
- Intestinal transport  
*p*-aminohippuric acid secretory transport 73  
 insulin in the presence of ovomucoids 1131  
 ursodeoxycholic acid effects in cystic fibrosis mice 1457
- Intragastric floating drug delivery system 49
- Intravaginal sustained release, bromocriptine mesilate 1721
- Inulin, Triton-X-100-modified microspheres, multidrug resistance reversal 779
- Iontophoresis  
 evaluation of effects on skin in-vivo 769  
 attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectroscopy 770, 772, 774  
 impedance spectroscopy (IS) 771, 772, 774

- laser Doppler flowmetry (LDF) 772, 775  
 transepidermal water loss 770, 772, 774  
 human parathyroid hormone (1–34), pulsatile transdermal delivery 1217
- Irinotecan 138
- Isohypericin, *Hypericum perforatum* constituent 584
- Isoimperatorin, arachidonate metabolism inhibition 1163
- Isoprenaline 7
- Isoproterenol  
 cardiac hypertrophy 233  
 myocardial inotropic responsiveness to  $\alpha_1$  adrenoceptor stimulation following chronic pre-treatment 233
- Isoquercitrin, *Hypericum perforatum* constituent 584
- JL13 methylpiperazinopyridobenzoxazepine derivatives, brain pharmacokinetics 317
- Juvenile visceral steatosis (JVS) mice, gamma-butyrobetaine effects on fatty acid metabolism 527
- Kaempferol, *Hypericum perforatum* constituent 584
- Kanamycin A, inactivating enzyme resistance 287
- Kartagener's syndrome 6, 8
- King crab (*Paralithodes camschatica*), chitin 1048
- Klebsiella pneumoniae*, antimicrobial susceptibility enhancement by outer membrane-perturbing peptides 284
- Klucel EXF (hydroxypropyl cellulose), Contramid/Carbopol EX507 comparative study 1193
- L-type calcium current, dofetilide (UK-68,798) study in ventricular myocytes 1671
- Labrasol, glycyrrhizin colonic bioavailability enhancement 441
- Lacidipine, drug/polymer glass solutions production by melt extrusion 303
- Lactam derivatives, synthesis for tachykinin NK<sub>1</sub> receptor antagonism 929
- Lactoferrin 1303  
 antimicrobial activity 1304, 1306  
 bacterial iron acquisition 1307  
 concentration in body fluids 1305  
 exogenous administration 1306  
 antibody response 1307  
 hazards 1307  
 iron-binding in secretions 1304  
 nutritional iron transport 1304  
 structure 1303
- Lactose excipient, spray-dried insulin particles 1415
- Large neutral amino acid transporters (LAT1/LAT2), blood–brain barrier 497
- Laser Doppler flowmetry (LDF)  
 skin integrity assessment following iontophoresis 773, 775  
 technique 772
- Lectin-mediated mucoadhesion, nasal drug delivery 13
- Leishmania* spp., cryptofolione derivative actions 563
- Leucine aminopeptidase, activity in vaginal homogenates 1499
- Leucocytes  
 hexahydroimidazo[1,2-c]pyrimidine migration inhibition 1379  
*see also* Peripheral blood mononuclear cells
- Levofloxacin, secretory-directed intestinal transport 699
- Light–dark test, 5-substituted 3,4-dihydro-3-amino-2H-1-benzopyran derivative anxiolytic activity 959
- Lignans, *Hyptis verticillata* extracts 430
- Ligularia hodgsonii* herbal compounds, hepatotoxicity 143
- Limonene, *Hypericum perforatum* constituent 585
- Lipid bilayer drug partitioning, immobilized-liposome chromatography 1477
- Lipid peroxidation  
 detection method for tissue samples 263  
 fluvastatin inhibition in liposomes 227
- Lipid-lowering activity  
 chitosan 1059  
*trans*-dehydrocrotonin 535
- Lipopolysaccharide  
 hepatocyte nuclear factor 1 nuclear protein binding following administration, CYP2E1 expression response 1365  
 peripheral monocyte stimulation, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity screening of non-steroidal anti-inflammatory drugs 1679  
*see also* D-Galactosamine/lipopolysaccharide-induced shock
- Liposomes  
 chitosan, colonic insulin delivery 1056  
 drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477  
 fluvastatin inhibition of peroxidation 227  
 membrane fluidity, acetaldehyde-biogenic amine condensation product effects 121  
 recombinant interleukin-2 (IL-2) delivery 295  
 stability to jet nebulization, effects of freeze-drying 393  
 tilisolol prodrug ocular delivery 1157  
 ultra-deformable/standard for skin delivery  
 estradiol 1311  
 5-fluorouracil 1069
- 5-Lipoxygenase, inhibition by *Cachrys trifida* fucocoumarins 1163
- Liquid chromatography-mass spectrometry, theophylline blood spot assay 413
- Liquid formulations, gastrointestinal transit in pig 33
- Liriope muscari* ruscogenin, hepatoprotective activity 681
- Listeria monocytogenes*, lactoferrin antimicrobial activity 1304
- Liver failure/liver damage  
 P-glycoprotein expression/function following carbon tetrachloride treatment 873  
*see also* Hepatoprotective activity
- Liver fibrosis, *Salvia miltiorrhiza* root extract anti-fibrotic effects 197
- Liver microsomes  
 nefiracetam metabolism 795  
 phase I/phase II enzyme activation  
 following herbal teas consumption 1323  
 following tea (*Camellia sinensis*) consumption 569  
 vitamin K<sub>1</sub> 2,3 epoxide reductase purification 481
- LJP 920 octomeric Gal ( $\alpha$ 1–3) Gal conjugate, pharmacokinetics/xenotransplant rejection inhibition 999
- LLC-GA5-COL150 cells, secretory-directed intestinal quinolone antimicrobials transport 699
- Lm-3 (ruscogenin glycoside), hepatoprotective activity 681
- Locomotor hypoactivity, clonidine-induced, effects of dexamethasone pre-treatment 351
- Low frequency dielectric spectroscopy, indometacin thermal transitions 41
- Lu28–179,  $\alpha$ -tocopherol-mediated lymphotropic carriage 1439
- Lupeol, anti-inflammatory activity 1533
- Luteolin, *Hypericum perforatum* constituent 584
- Luteolin-3'-O-glucuronide, *Thymus willdenowii* extract 1645
- Lymphatic transport of lipophilic drugs,  $\alpha$ -tocopherol/sesame oil comparative study 1439
- Lysozyme  
 high performance liquid chromatography (HPLC), turbidimetric assay comparison 549  
 unfolding/aggregation prevention during encapsulation into poly(lactide-co-glycolide) microspheres 1217
- Macrolide–lincosamide–streptogramin B (MLS<sub>B</sub>) target site 284
- Macrolides  
 antimicrobial susceptibility enhancement by outer membrane-perturbing agents 284  
 resistance targeting methods 284
- Macrophages  
 abietic acid effects 867  
*Cachrys trifida* fucocoumarins inhibition 1163

- CVT-E002 from *Panax quinquefolium* effects 1515  
 fluoroquinolones uptake in-vitro 735  
 hexahydroimidazo[1,2-c]pyrimidine effects 1379  
 2'-hydroxychalcone derivatives inhibition 1295  
 lupeol inhibition 1533
- Maleic hydrazide, Tmolt<sub>4</sub> leukaemia cell type II inosine monophosphate dehydrogenase inhibition 749
- Malonic acids, Tmolt<sub>4</sub> leukaemia cell type II inosine monophosphate dehydrogenase inhibition 749
- Mannitol lyoprotectant, long-circulating monesin nanoparticle preparation for cytotoxic agent potentiation 617
- Mass spectrometry  
 GW420867X defluorination 403  
 vigabatrin/GABA assay in brain 149  
*see also* Liquid chromatography-mass spectrometry
- Matrix forming polymers, powder flow/compact mechanical properties 1193
- Matrix metalloprotease (MMP) inhibitors, *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based, anti-invasive properties 333
- MCF-7 cells  
 long-circulating monesin nanoparticle cytotoxic agent potentiation 617  
 oestrogenic compound combination responses 1549
- McN-A-343, vas deferens field stimulation-induced twitch response inhibition 487
- MDA-MB-231 cells, *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based matrix metalloprotease (MMP) inhibitors, anti-invasive activity 333
- MDL73005EF,  $\alpha_1$  adrenergic receptor subtype-mediated thoracic aorta/iliac artery contraction 103
- mdr1a/1b knockout mice, secretory-directed intestinal grepafloxacin transport 699
- Melatonin antioxidant activity 1394  
 glutathione synergism 1394  
 vitamin C synergism 1394  
 vitamin E synergism 1394
- Meloxicam  
 cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679  
 eicosanoid synthesis effects in bovine udder in-vitro model 743
- Melt extrusion, drug/polymer glass solutions formulation 303
- Menopausal symptoms, *Hypericum perforatum* L. extract actions 591
- Mepacrine, pH-dependent multidrug-resistance reversal 1021
- Mercaptamine hydrochloride-induced duodenal ulcers, hyperprolactinaemia effects 1541
- Metabolism  
 doxorubicin/epirubicin differences in-vivo 987  
 paracetamol following cisapride administration 1041  
 sulphobromophthalein 1 1015
- Metallo- $\beta$ -lactamases 286, 287
- Metered-dose inhalers 8
- Methacoline 7
- Methicillin-resistant *Staphylococcus aureus* 288
- Methocel K100LV (hydroxypropyl methylcellulose), Contramid/Carbopol EX507 comparative study 1193
- Methoxychlor-oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- 5-Methoxyhydrocarpin D, berberine synergism 143
- 1-Methoxyisoindoline synthesis 945
- N*-Methyl-D-aspartate (NMDA), toxic behavioural symptoms, protective effects of cannabinoid-receptor agonists 1525
- Methyl-2-decane, *Hypericum perforatum* constituent 585
- 3,4-Methylenedioxymethamphetamine (MDMA; 'ecstasy'), arginine vasopressin release response 1357
- Methyl-2-octane, *Hypericum perforatum* constituent 585
- 3-*O*-Methylquercetin, *Bridelia ferruginea* extract, radical scavenging activity 757
- 1-Methyl-1,2,3,4-tetrahydro- $\beta$ -carboline, liposomal membrane fluidity effects 121
- Methyltransferase-mediated antibiotic resistance 284
- Metronidazole, amino acid prodrugs with enhanced water solubility 841
- Microbiology  
 chitosan antimicrobial activity 1061, 1062  
 lactoferrin antimicrobial activity 1304, 1306  
 signature tagged mutagenesis 1575
- Microcrystalline cellulose, wet granulation using high-shear mixer 609
- Microspheres  
 albumin (bovine serum albumin)  
 encapsulation in poly(lactide-co-glycolide) microspheres, solid-in-oil-in-water technique 167, 1099  
 structural perturbations during microencapsulation 115  
 budesonide colon-specific delivery from microencapsulated cellulosic cores 1207  
 camostat biodegradable/enteric-coated microsphere preparations 255  
 cisplatin, pharmacokinetics following intraperitoneal administration 1331  
 enalaprilat encapsulation in intact erythrocytes, angiotensin-converting enzyme inhibition 1281  
 Eudragit P-4135F for ellagic acid delivery to small intestine 1079  
 growth factor encapsulation by double emulsion methods 1432  
 poly(lactide-co-glycolide) 167, 1099  
 containing chemically modified protein 23  
 lysozyme unfolding/aggregation prevention 1217  
 respiratory epithelium in-vitro cell culture uptake 57  
 tissue distribution of radioactivity following intranasal radioactive microspheres administration 601  
 Triton-X-100-modified polymers, multidrug resistance reversal 779
- Midazolam-erythromycin interaction, in-vivo kinetics 643
- Mifepristone, spike-and-wave spindling response in DBA/2J mice 883
- Millepertuis *see Hypericum perforatum* L.
- Mixed metal hydroxy-carbonate compounds, phosphate binders 361  
 in-vivo study in rat 513
- MMT test, fluorinated *meso*-tetra(hydroxyphenyl)porphyrin photosensitizer activity 1469
- Modulated temperature differential scanning calorimetry, indometacin thermal transitions 41
- Momordica charantia*, Diamed antihyperglycaemic activity 1139
- Monesin long-circulating nanoparticles, cytotoxic agents potentiation 617
- Monoamine oxidase  
 antidepressant drug inhibitory activity 1125  
*Hypericum* spp. extracts inhibitory activity 1273
- Moroccan folk medicine, *Thymus willdenowii* topical anti-inflammatory activity 1645
- Morphine analgesia  
 antagonism by oral naltrexone-Eudragit L controlled-release system 1201  
 ethnopharmacology 427  
 fluoxetine potentiation in chronic inflammatory pain 219
- Mucin 5
- Mucoadhesion, tensile strength method of measurement 1589
- Mucoadhesive polymers  
 chitosan-mucus glycoprotein interactions 1051, 1052  
 nasal drug delivery enhancement 13  
 mucoadhesion determinants 14  
 safety 16  
 polymer gel preparations 1589
- Mucociliary clearance 5

- ciliary beating 6
- fudosteine effects 911
- nasal absorption enhancer toxicity 16
- nasal drug absorption 8, 9, 13
- nasal mucoadhesion influence 16
- Mucolytic agents, nasal drug absorption enhancement 13
- Mucus
  - glycoprotein–chitosan interactions 1051, 1052
  - nasal cavity 5
    - drug absorption enhancement 13
- Multidrug resistance reversal
  - apoptosis induction by cinchonine in doxorubicin-resistant cells 1029
  - Triton-X-100-modified polymers 779
  - tumour reverse pH gradient influence 1021
- Murine cytomegalovirus, hypericin actions 586
- Muscarinic receptors
  - ileal longitudinal muscle desensitization 249
  - M<sub>1</sub> subtype, vas deferens field stimulation-induced twitch response inhibition by McN-A-343 487
- Mycobacteria, fluoroquinolone resistance 285
- Mycobacterium tuberculosis*, signature tagged mutagenesis 1577
- Mycobacterium vaccae*, PS4 $\alpha$ , acute cardio-respiratory effects 907
- Mycophenolate mofetil, topical formulation 1581
- Myocardial  $\alpha_1$  adrenoceptors, inotropic responsiveness
  - following chronic isoproterenol treatment 233
- Myrcene, *Hypericum perforatum* constituent 585
- Myricetin, *Bridelia ferruginea* extract, radical scavenging activity 757
- Nabumetone, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679
- Naltrexone, Eudragit L oral controlled-release system, effectiveness on morphine analgesia 1201
- Nanoparticles
  - long-circulating monesin nanoparticles, cytotoxic agents potentiation 617
  - nasal absorption from insulin-loaded chitosan nanoparticles 1056
- Naphthodianthrone, *Hypericum perforatum* constituent 584
- Narrow molecular weight distribution homopolymeric precursor 1178, 1179
- NAS 2BL cells, nasal drug delivery 10
- Nasal absorption enhancers
  - classification 17
  - hydrophobically modified polyelectrolytes 109
  - safety 16
- Nasal cavity 3
  - advantages for drug delivery 7
  - anatomy, comparative aspects 11, 12
  - blood flow regulation 4
  - innervation 4
  - mucociliary clearance 5
  - respiratory mucosa 4
  - seromucous/mucous secretions 5
- Nasal drug delivery 3, 7
  - administration devices 8
  - advantages 7
  - collagen matrix-based nasal primary culture systems 1447
  - disease conditions influencing 6, 8
  - drug attributes 10
  - experimental models 10
  - insulin-loaded chitosan nanoparticles 1056
  - limitations 9
  - mucoadhesive polymers 13
  - nasal toxicology 9
  - tissue distribution of radioactivity following intranasal radioactive microspheres administration 601
- Nasal epithelial cell culture 10
- Nasal polyposis 6
- Nasal septum 3
  - deviation 6
- Natural products *see* Pharmacognosy
- Near-infrared (NIR) spectroscopy, 1,8-cineole (eucalyptol) assay in eucalyptus oils 95
- Nebulization
  - freeze-dried liposome stability 393
  - nasal drug delivery 8
- Needle-free injectors, DNA delivery systems 1173
- Nefiracetam, liver microsome metabolism 795
- Neisseria gonorrhoeae*, antibiotic susceptibility 284, 285
- Neisseria meningitidis*, signature tagged mutagenesis 1577
- Nelfinavir, *Hypericum perforatum* L. interaction 595
- Nerve growth factor (NGF), tissue engineering applications 1430, 1432
- Neurite elongation, nerve growth factor-induced, gelsemiol/9-hydroxysemperoside aglucone potentiation 915
- Neuroprotective activity, *Ginkgo biloba* extract 387
- Neutrophil function
  - hexahydroimidazo[1,2-c]pyrimidine effects 1379
  - lupeol actions 1533
- Nevirapine, *Hypericum perforatum* L. interaction 595
- Nifedipine
  - drug/polymer glass solutions production by melt extrusion 303
  - L-type calcium current (I<sub>Ca,L</sub>) inhibition in ventricular myocytes 1671
  - release from chitosan fast release dosage form 1052
- Nigrescinin, cardiotoxic activity 859
- Nitric oxide
  - hexahydroimidazo[1,2-c]pyrimidine effects 1379
  - syringin immunomodulatory effects 1287
  - thirst inhibition, cholestasis model 277
- Nitric oxide synthase, imperatorin inhibition 1163
- Nitric oxide-releasing non-steroidal anti-inflammatory drugs (NO-NSAIDs) 345
- NSGs-Nitro-L-arginine (L-NNA), nitric oxide synthesis inhibition in cholestasis/hypodipsia model 277
- NK- $\kappa$ B gene transcription, inhibitory regulation by adenosine A<sub>2B</sub> receptor 1153
- Non-steroidal anti-inflammatory drugs (NSAIDs)
  - cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679
  - paracetamol-related novel agents 1505
- n*-Nonane, *Hypericum perforatum* constituent 585
- North American ginseng *see* *Panax quinquefolium*
- Nose
  - anatomy 3
  - physiology 4
  - see also* Nasal cavity
- Notoginseng *see* *Panax notoginseng*
- Nuclear magnetic resonance spectrography
  - GW420867X defluorination 403
  - see also* <sup>19</sup>F NMR spectroscopy
- Ocimum micranthum* (Lamiaceae), ethnopharmacology 430
- Ocular delivery, tilisolol prodrug in liposomes 1157
- Oestrogenic compound combinations, effects on MCF-7 breast cancer cells 1549
- Oestrogenic effects, *Salvia lavandulaefolia* Vahl. (Spanish sage) extracts 1347
- Ofloxacin, macrophage uptake in-vitro 735
- Oleanolic acid, topical anti-inflammatory activity in *Thymus willdenowii* extract 1645
- Olfactory epithelium 4
- Ondansetron, shed snake skin model for transdermal delivery 789

- Opioid  $\kappa$  receptors, function in streptozotocin-induced diabetic mice 521
- Oral contraceptives, *Hypericum perforatum* L. interaction 594, 595
- Otosenine-based herbal teas, hepatotoxicity 143
- Ovomucoids, influence on jejunal insulin transport 1131
- Oxacillinases 286
- Oxotremorine
  - ileal longitudinal muscle desensitization 249
  - vas deferens field stimulation-induced twitch response inhibition 487
- 15-Oxozoapatlin, anticancer activity 141
- Oxytocic activity
  - Agapanthus africanus* extract 1145
  - Clivia miniata* extract 1145
- P388 cells, apoptosis induction by doxorubicin plus cinchonine 1029
- P-glycoprotein
  - efflux influence on verapamil enterocyte residence time 1611
  - expression/function following carbon tetrachloride-induced acute hepatic failure 873
  - intestinal transport of quinolone antimicrobials 699
- Pacific shrimp (*Pandalus borelais*), chitin 1048
- Pacific yew (*Taxus brevifolia*) extract 138
- Paclitaxel 138, 139
- Panax notoginseng* (notoginseng), quantitative determination of saponins 1637
- Panax quinquefolium* (North American ginseng), CVT-E002 immunomodulatory activity 1515
- Pandalus borelais* (Pacific shrimp), chitin 1048
- Papaver somniferum* L. (Solanaceae), ethnopharmacology 427
- Papaverine, ethnopharmacology 427
- Paracetamol
  - cisapride interaction 1041
  - related novel anti-inflammatory agents 1505
- Paralithodes camschatica* (King crab), chitin 1048
- Parathyroid hormone *see* Human parathyroid hormone (1–34)
- ParC/grl* mutations, fluoroquinolone resistance 285
- Parinari curatellifolia* Benth. (Chrysobalanaceae) extract, anticancer activity 141
- Parquetina nigrescens* (Afzel.) Bullock (Periplocaceae) extract, cardiotoxic activity 859
- PC12 cells, membrane-bound guanylate cyclase activation 243
- PC12D cells, nerve growth factor-induced neurite elongation, potentiation by gelsemiol/9-hydroxysemperoside aglucone 915
- Pellet formulations, gastrointestinal transit in pig 33
- Penicillin-binding protein (PBP) 2a 288
- Penicillinases 286
- Pentachlorophenol–oestrogenic compound mixtures, effects on MCF-7 breast cancer cells 1549
- Peppermint tea, liver microsome cytochrome P450 system effects 1323
- Peptide delivery, chitosan applications 1053
- Perazine pharmacokinetics, effects of selective serotonin reuptake inhibitors (SSRIs) 449
- Periodontal pathogens, *Vaccinium vitis-idaea* L. antimicrobial tannins 187
- Peripheral blood mononuclear cells
  - mitogen-induced blastogenesis suppression by prednisolone/prednisolone sodium succinate 727
  - non-steroidal anti-inflammatory drug cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity screening 1679
- Pernylated phloroglucinols, *Hypericum perforatum* constituents 584
- pH gradient, influence on multidrug resistance reversal 1021
- pH regulation, Eudragit L100–55 augmentation of furosemide gastrointestinal bioavailability 433
- pH-sensitive polymeric micelles, photodynamic cancer therapy 155
- Pharmacodynamics
  - disopyramide enantiomers 1621
  - insulin bioavailability modelling 1235
- Pharmacognosy 135
  - bioassays development 137
  - natural product drugs 137
  - see also* Plant extracts
- Pharmacokinetics
  - carvone, stereoselective metabolism following topical application 637
  - cisplatin-loaded microspheres following intraperitoneal administration 1331
  - diaspirin cross-linked haemoglobin, rat hepatic cirrhosis model 179
  - 5,6-dimethylxanthene-4-acetic acid, plasma protein binding/distribution in blood cells 463
  - disopyramide enantiomers 1621
  - doxorubicin/epirubicin differences 987
  - insulin bioavailability modelling 1235
  - JL13 methylpiperazinopyridobenzoxazepine derivatives distribution in brain 317
  - LJP 920 octomeric Gal ( $\alpha$ 1–3) Gal conjugate 999
  - metronidazole amino acid prodrugs 841
  - midazolam–erythromycin interaction in-vivo 643
  - perazine, effects of selective serotonin reuptake inhibitors (SSRIs) 449
  - radioactivity distribution following intranasal radioactive microspheres administration 601
  - rifampicin, effects of indinavir in HIV-infected patients 409
  - SU5416 1629
  - tocotrienol homologues, fed/fasted volunteers 67
- Pharmacological availability (PA), estimation for insulin from pharmacological data 1235
- Phenethyl isothiocyanate, cancer chemopreventive activity 141
- Phenobarbitone, *Hypericum perforatum* L. interaction 595
- Phenolic compounds
  - Bridelia furruginea* Benth. (Euphorbiaceae) 757
  - Hypericum perforatum* constituents 585
- Phenosulphophthalein (phenol red), absorption from serosal surfaces, effect of instillation method 1341
- Phenoxybenzamine
  - age-related aortic serotonergic response changes 1403
  - aortic responses in aged normo-/hypertensive rats 205
- Phentolamine, colonic mucosal cell anti-secretory activity 213
- Phenylbenzoquinone-induced abdominal constriction test, *N*-substituted 4,6-dioxo-imidazo[3,4-*c*]thiazoles analgesic activity 1117
- Phenylbutazone
  - anti-inflammatory activity 193
  - 5,6-dimethylxanthene-4-acetic acid interaction study 463
- Phenytoin, *Hypericum perforatum* L. interaction 595
- Pheophorbide *a*, berberine synergism 143
- Phorbol myristate acetate (PMA)-induced ear swelling test, *N*-pyridinyl(methyl)-1,2-dihydro-4-hydroxy-2-oxoquinoline-3-carboxamide inhibitory effects 417
- Phosphate binders, mixed metal hydroxy-carbonate compounds 361 in-vivo study 513
- Phosphoinositide metabolism bioassay, oxytocic activity of plant extracts 1145
- O*-Phosphotransferase (APH) inhibitors 287
- O*-Phosphotransferases (APH) 287
- Photodynamic cancer therapy, pH-responsive polymeric micelles 155
- Photosensitizers
  - fluorinated meso-tetra(hydroxyphenyl)porphyrins 1469
  - hypericin 587
- Physalis philadelphica* extract, cancer chemopreventive activity 142
- Physostigma venenosum* Balfour (Fabaceae), ethnopharmacology 427

- Physostigmine, ethnopharmacology 427  
 Phytomedicines *see* Herbal remedies  
 Pilocarpine, ethnopharmacology 427  
*Pilocarpus jaborandi* Holmes (Rutaceae), ethnopharmacology 427  
*Pimenta racemosa* var. *grisea* (Myrtaceae), abietic acid anti-inflammatory activity 867  
 Pirenzepine, vas deferens field stimulation-induced twitch response, antagonism of McN-A-343 effect 487  
 Piroxicam, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679  
 Plant extracts  
   *Agapanthus africanus* 1145  
   *Agathosma betulina*/*A. crenulata* 579  
   Alzheimer's disease treatment 1347  
   anti-cancer activity 138, 139, 955  
   antidepressant activity 1273  
   anti-fibrotic activity 197  
   antihyperglycaemic activity 1139  
   anti-inflammatory activity 193, 430, 867, 1347  
     topical 1645  
   antimicrobial activity 430, 579  
     periodontal pathogens 187  
   antioxidant activity 849, 1347  
   *Azadirachta indica* 1139  
   *Bergenia ciliata* Sternb. 193  
   *Bridelia furruginea* Benth. 757  
   *Cachrys trifida* 1163  
   *Calophyllum dispar* 955  
   cancer chemopreventive activity 138  
   cardiotonic activity 859  
   *Cassia auriculata* 1139  
   *Chondrodendron* spp. 426  
   *Chondrodendron tomentosum* 426  
   *Cinchona succirubra* pav (*C. pubescens*) 427  
   *Clivia miniata* 1145  
   *Colchicum autumnale* L. 427  
   *Croton cajucara* Benth. 535  
   *Croton lechleri* (Euphorbiaceae) 431  
   *Cryptocarya alba* 563  
   *Curarea* spp. 426  
   *Echinacea angustifolia* 849  
   *Echinacea pallida* 849  
   *Echinacea purpurea* 849  
   ethnobotanical observations 138  
   ethnopharmacology  
     codeine 427  
     colchicine 427  
     curare 426  
     digitalis glycosides 427  
     morphine 427  
     papaverine 427  
     physostigmine 427  
     pilocarpine 427  
     quinine 427  
   *Ginkgo biloba* 387  
   hepatoprotective activity 1569  
   *Hypericum perforatum* L. *see* *Hypericum perforatum* L.  
   *Hypericum* spp. 1273  
   *Hyptis verticillata* (Lamiaceae) 427, 429, 430  
   immunomodulatory activity 1515  
   lipid-lowering activity 535  
   *Liriope muscari* 681  
   macrophage function inhibition 1163  
   *Momordica charantia* 1139  
   monoamine oxidase inhibition 1273  
   nerve growth factor-induced neurite elongation potentiation 915  
   *Ocimum micranthum* (Lamiaceae) 430  
   oestrogenic effects 1347  
   oxytocic activity 1145  
   *Panax notoginseng* 1637  
   *Panax quinquefolium* 1515  
   *Parquetina nigrescens* (Afzel.) Bullock 859  
   phosphoinositide metabolism bioassay 1145  
   *Pimenta racemosa* var. *grisea* 867  
   *Salvia lavandulaefolia* Vahl. 1347  
   *Salvia miltiorrhiza* root 197  
   screening projects 139, 141  
   *Strychnos* spp. 426  
   *Thymus wilddenowii* Boiss 1645  
   *Trichilia roka* Chiov. (Meliaceae) 1569  
   tubocurarine 426  
   *Vaccinium vitis-idaea* L. 187  
   *Verbena littoralis* H. B. K. 915  
   *see also* Pharmacognosy  
 Plasma proteins, doxorubicin/epirubicin comparative binding study 815  
 Plasmin,  $\alpha$ -keto- $\beta$ -aldehyde peptide inhibitors 473  
*Plasmodium berghei*, bis(9-amino-6-chloro-2-methoxyacridines) antimalarial activity in-vivo 935  
*Plasmodium falciparum*, lactoferrin antimicrobial activity 1304  
*Plasmodium yoelii*, 2-arylaminoquinoxalines antimalarial activity 1409  
 Platelet-derived growth factor (PDGF), tissue engineering applications 1430, 1432, 1433  
 Pluronic F127  
   nasal cavity residence time 109  
   poly(acrylic acid) copolymers  
     interactions with proteins 541  
     nasal cavity residence time enhancement 109  
*Pneumocystis carinii*, lactoferrin antimicrobial activity 1307  
 Poly(acrylic acid)  
   bioadhesive properties 14, 15, 16  
   Carbopol EX507, powder flow and compact mechanical properties 1193  
   chitosan complex formation 1051  
   pluronic copolymers  
     interactions with proteins 541  
     nasal cavity residence time enhancement 109  
   tensile strength method of mucoadhesion measurement 1589  
 Poly( $\alpha$ hydroxyacid)s, growth factor releasing tissue engineering scaffolds 1428  
 Polycarboxophil 14  
   bioadhesive properties 15  
 Poly(dimethylsiloxane) (dimeticone) vaginal ring, bromocriptine mesilate sustained release 1721  
 Polyelectrolyte complex formation, chitosan-pectin 1051  
 Polyethylene glycol hydrogels, growth factor releasing tissue engineering scaffolds 1431  
 Polyethylene oxide, bioadhesive properties 14  
 Poly(glycolid acid), growth factor releasing tissue engineering scaffolds 1428, 1429  
 Poly(lactic acid)  
   camostat microsphere preparations 255  
   growth factor releasing tissue engineering scaffolds 1428, 1429  
 Poly(lactide-co-glycolide)  
   growth factor releasing tissue engineering scaffolds 1428  
   protein encapsulation  
     bovine serum albumin by solid-in-oil-in-water technique 167, 1099  
     chemically modified protein 23  
     lysozyme unfolding/aggregation prevention 1217  
 Polymers  
   applications 1175, 1176  
   structure-property relationships 1177  
   degradable 1175, 1176, 1180

- development strategies 1175  
 combinatorial strategies 1177  
 matrix forming, powder flow and compact mechanical properties 1193  
 micelles for photodynamic cancer therapy 155  
 mucoadhesive properties 14, 15  
 tensile strength method of measurement 1589  
 tissue engineering scaffolds 1428  
 water-soluble for drug conjugation 1175, 1177, 1178
- Polymethacrylic acid, bioadhesive properties 15, 16
- Polymyxin E, antimicrobial susceptibility enhancement by antimicrobial peptides 284
- Polymyxins, bacterial outer membrane disruption/bacterial susceptibility enhancement 284
- Polysorbate 80  
 glycyrrhizin bioavailability enhancement from colon 441  
 vigabatrin absorption enhancement into brain 149
- Polyvinylpyrrolidone  
 drug glass solutions production by melt extrusion 303  
 solid dispersions of UC-781, physical structure 1109
- Polyvinylpyrrolidone-co-vinyl acetate/drug glass solutions production by melt extrusion 303
- Populca (Eastern Mexico), ethnopharmacological study 1653
- Porphyromonas gingivalis*, antimicrobial tannins from *Vaccinium vitis-idaea* L. 187
- Potassium (KUATPu) channels, 7-chloro-3-pyridyl(alkyl)amino-4*H*-1,2,4-benzothiadiazine 1,1-dioxide (BPDZ 73) inhibitory activity 973
- Prantschimgin, 5-lipoxygenase pathway selective inhibition 1163
- Pravastatin, phospholipid liposome peroxidation inhibition 227
- Prednisolone sodium succinate, mitogen-induced blastogenesis suppression in peripheral blood mononuclear cells, prednisolone comparison 727
- Premenstrual syndrome, *Hypericum perforatum* L. extract actions 591
- Pressure-controlled colon delivery capsule for orally administered glycyrrhizin 441
- Prevotella intermedia*, antimicrobial tannins from *Vaccinium vitis-idaea* L. 187
- Probenecid, secretory intestinal transport studies  
*p*-aminohippuric acid 73  
 grepafloxacin 699
- Probulol, phospholipid liposome peroxidation inhibition 227
- Prodrugs  
 entacapone, synthesis/oral bioavailability 1489  
 gene delivered enzyme prodrug therapy 1170  
 glycerol-1,2-diibuprofenate-3-nitrate, synthesis/gastric fluid simulated hydrolysis 345  
 tilisolol, ocular delivery in liposomes 1157
- Prolactin  
 effects on gastric/duodenal ulcers 1541  
 intravaginal bromocriptine mesilate sustained release response 1721
- Proline derivatives, synthesis for tachykinin NK<sub>1</sub> receptor antagonism 929
- Propranolol 7  
 spermicidal activity 1387  
 sustained release from chitosan 1050
- Prostaglandin E<sub>2</sub> production  
 hexahydroimidazo[1,2-*c*]pyrimidine effects 1379  
 2'-hydroxychalcone derivatives inhibition 1295  
 lupeol effects 1533
- Protease inhibitors  
 camostat microspheres preparations 255  
 nasal drug absorption enhancement 13
- Proteus mirabilis*, *N*-chlorotaurine-sodium bactericidal activity 689
- Protohypericin, *Hypericum perforatum* constituent 584
- Protospseudohypericin, *Hypericum perforatum* constituent 584
- PS4 $\alpha$  acute cardio-respiratory effects 907
- Pseudohypericin  
 antiviral activity 586  
*Hypericum perforatum* constituent 584
- Pseudomonas*, chitosan antimicrobial activity 1062
- Pseudomonas aeruginosa*  
 antimicrobial susceptibility enhancement by outer membrane-perturbing peptides 284  
*N*-chlorotaurine-sodium bactericidal activity 689  
 efflux pump inhibitors 285  
 lactoferrin antimicrobial activity 1307
- Psilocin 427
- Psilocybe* spp. (Sacred Mushrooms), hallucinogenic alkaloids 427
- Psilocybin 427
- Pulmonary drug delivery, cell culture models 57
- Putrescine, aryl sulphonamide derivatives 969
- Pylorus ligation-induced gastric ulcers, hyperprolactinaemia effects 1541
- N*-Pyridinyl(methyl)-1,2-dihydro-4-hydroxy-2-oxoquinoline-3-carboxamides, synthesis/anti-inflammatory activity 417
- Quercetin  
*Bridelia furruginea* extract, radical scavenging activity 757  
*Hypericum perforatum* constituent 584
- Quercitrin, *Hypericum perforatum* constituent 584
- Quinine, ethnopharmacology 427
- Quinolone antimicrobials, secretory-directed intestinal transport 699
- R68070, colonic delivery in chitosan capsules 1056
- Ranitidine, determination in small-volume paediatric samples 1265
- Rat serum albumin, chemical modification for microsphere formulation 23
- Rauwolfia* alkaloids 137
- RAW264.7 cells, syringin immunomodulatory effects 1287
- RBEC1 cells, large neutral amino acid transporter system L 497
- Recombinant interleukin-2 (IL-2), liposomal delivery 295
- Rectal distension-induced abdominal contractions model, alverine citrate analgesic activity 1419
- Relaxation behaviour, dielectric spectroscopy 41
- Renal function  
 ajmaline bioavailability influence 805  
 chitosan effects 1060
- Reserpine, *Staphylococcus aureus* NorA efflux pump inhibition 285
- Resveratrol, cancer chemopreventive activity 142
- Retroviral DNA delivery systems 1170
- Reverse transcriptase polymerase chain reaction (RT-CRC), large neutral amino acid transport at blood-brain barrier 497
- Rhinitis 6
- D-Ribose, spirohydantoin derivatives, glycogen phosphorylase inhibition 939
- Rifampicin  
 activity enhancing outer membrane-perturbing peptides 284  
 indinavir effects on pharmacokinetics in HIV-infected patients 409
- Riluzole, post-sigh apnoea suppression during REM sleep 1555
- Rio Convention (Convention on Biological Diversity) 428
- Ritonavir, *Hypericum perforatum* L. interaction 595
- Rofecoxib, cyclooxygenase-1 (COX-1)/cyclooxygenase 2 (COX-2) selectivity, screening in peripheral monocytes 1679
- Roquinimex analogues, synthesis/anti-inflammatory activity 417
- Rosemarinic acid, *Hyptis verticillata* extracts 430
- RPMI 2650 cells, nasal drug delivery 10
- RU-38486, clonidine-induced antinociception/locomotor hypoactivity, blockage of dexamethasone reduction 351
- Ruscogenin/ruscogenin glycoside (Lm-3), hepatoprotective activity 681
- Rutin, *Hypericum perforatum* constituent 584



- Rutisin, *Bridelia furruginea* extract, radical scavenging activity 757
- Sacred Mushrooms (*Psilocybe* spp.), hallucinogenic alkaloids 427
- St John's wort *see Hypericum perforatum* L.
- Salicylic acid–5,6-dimethylxanthenone-4-acetic acid interaction study 463
- Salivary secretion/neuropeptide levels, anethole trithione effects 1697
- Salmonella*, lactoferrin antimicrobial activity 1304, 1305
- Salmonella typhimurium*  
antimicrobial susceptibility enhancement by polymyxins 284  
chitosan antimicrobial activity 1061  
signature tagged mutagenesis 1576
- Salsolinol, liposomal membrane fluidity effects 121
- Salvia lavandulaefolia* Vahl. extracts, anti-inflammatory activity 1347
- Salvia miltiorrhiza* root extract anti-fibrotic activity 197
- Saquinavir, *Hypericum perforatum* L. interaction 595
- Scanning electron microscopy, drug/polymer glass solutions produced by melt extrusion 303
- Seasonal affective disorder, *Hypericum perforatum* L. extract actions 590
- Selective serotonin reuptake inhibitors (SSRIs)  
effects on perazine pharmacokinetics 449  
*Hypericum perforatum* L. interactions 595  
monoamine oxidase inhibitory activity 1125
- Serine protease inhibitors, peptide  $\alpha$ -keto- $\beta$ -aldehydes 473
- Serosal surfaces, instillation of phenosulphophthalein (phenol red) model drug, effect on absorption 1341
- Serotonin *see* 5-Hydroxytryptamine
- Sertraline  
antidepressant activity, hypericin comparison 589, 596  
effects on perazine pharmacokinetics 449
- Shigella dysenteriae*, chitosan antimicrobial activity 1061
- Short-circuit current, colonic mucosal cell secretory response study 213
- Sideritoflavone, *Hyptis verticillata* extracts 430
- Signature tagged mutagenesis 1575  
*Mycobacterium tuberculosis* 1577  
*Neisseria meningitidis* 1577  
principle 1576  
*Salmonella typhimurium* 1576
- Silymarin, hepatoprotective activity 1569
- Sindbis virus, hypericin actions 586
- Single-pass intestinal-perfusion (SPIP), absorption prediction 1007
- Sinusitis, chronic 6
- Sitafloxacin, antimicrobial activity 285
- Sjögren's syndrome 6
- Skin permeability  
shed snake skin model 789  
structure-based model 1087
- Sleep apnoea, riluzole effects 1555
- Sodium caprate, vigabatrin absorption enhancement into brain 149
- Sodium carboxymethylcellulose  
bioadhesive properties 14, 15  
nasal toxicity 17  
tensile strength method of mucoadhesion measurement 1589
- Sodium hyaluronate, tensile strength method of mucoadhesion measurement 1589
- Sodium taurodihydrofusidate 13
- Solid phase techniques  
aryl sulphonamides synthesis 969  
ranitidine determination in small-volume paediatric samples 1265
- Solid-in-oil-in-water technique, bovine serum albumin encapsulation in poly(lactide-co-glycolide) microspheres 167, 1099
- Sorbitol accumulation, effects of flavonoid aldose reductase inhibitors in streptozotocin-induced diabetes 653
- SP-303, anti-diarrhoeal activity 431
- Spanish sage (*Salvia lavandulaefolia* Vahl.) extracts, anti-inflammatory activity 1347
- Sparfloxacin  
macrophage uptake in-vitro 735  
secretory-directed intestinal transport 699
- Spermicidal activity  
2',4'-dichlorobenzamil, role of intracellular calcium 1387  
propranolol 1387
- Spike-and-wave spindling in DBA/2J mice, actions of arachidonic acid and metabolites 883
- Spirohydantoin derivatives, glycogen phosphorylase inhibition 939
- Spirolactam derivatives, synthesis/tachykinin NK<sub>1</sub> receptor structure–activity relationships 929
- Spontaneously hypertensive rat, age-related changes  
 $\alpha_1$ -adrenoceptor reserve 205  
aortic 5-hydroxytryptamine potency/affinity constants and 5-HT<sub>2A</sub> receptor reserve 1403
- Spray devices, nasal drug delivery 8
- Staphylococcus*, lactoferrin antimicrobial activity 1304, 1305, 1306
- Staphylococcus aureus*  
antibiotic susceptibility 286  
1,2,4-triazoles in-vitro 267  
fluoroquinolone resistance mechanisms 285  
hyperforin antimicrobial activity 586
- Staphylococcus typhi*, 1,2,4-triazoles in-vitro susceptibility 267
- Stereoselective effects  
carvone metabolism following topical application 637  
disopyramide pharmacokinetics/pharmacodynamics 1621
- Streptococcus mutans*, chitosan prevention of hydroxyapatite adherence 1062
- Streptococcus pneumoniae*  
antibiotic susceptibility 285  
macrolide resistance 284
- Streptococcus pyogenes*, N-chlorotaurine-sodium bactericidal activity 689
- Streptozotocin-induced diabetes  
Die-Huang-Wan response 273  
flavonoid effects on aldose reductase/sorbitol accumulation 653  
U-50488H antinociceptive effect 521
- Structure–activity relationships  
bis(9-amino-6-chloro-2-methoxyacridines), antimalarial activity/cytotoxicity relationships 935  
flavonoid derivatives, aldose reductase inhibition 653  
tachykinin NK<sub>1</sub> receptor selective ligands 929
- Strychnos* spp., curare production 426
- SU5416, pharmacokinetics/interspecific scaling 1629
- Substance P  
salivary levels following anethole trithione treatment 1697  
soluble guanylate cyclase stimulation, response to antioxidants 243
- Substance P receptors, small-molecule antagonist design 929
- Sulbactam,  $\beta$ -lactamase inhibition 287
- Sulphobromophthalein monogluthathione conjugate, positional isomers 1015
- Sulphonamides, solid phase synthesis/ 5-HT<sub>6</sub> receptor affinity 969
- Supercritical carbon dioxide processing, tissue engineering scaffold preparation 1432
- Surfactants, vigabatrin absorption enhancement into brain 149
- Sustained delivery  
bromocriptine mesilate intravaginal dosage form 1721  
chitosan dosage forms 1050  
enalaprilat encapsulation in intact erythrocytes, angiotensin-converting enzyme inhibition study 1281  
naltrexone–Eudragit L controlled-release system, effectiveness on morphine analgesia 1201

- ocular tilisolol prodrug in liposomes 1157  
 theophylline from thermally reversible xyloglucan gels 1185  
 SW 620 cells, long-circulating monesin nanoparticle cytotoxic agent  
 potentiation 617  
 Synthesis  
   aldose reductase inhibitors  
     flavonoids 653  
     minimum pharmacophore requirements 831  
   aryl sulphonamides using solid phase techniques 969  
   2-arylaminoquinoxalines 1409  
   3-aryl-3-pyrrol-1-ylpropanamides 1561  
   benzopyranic simplified analogues from dibenzopyranic and  
   furobenzopyranic natural compounds 955  
   bis(9-amino-6-chloro-2-methoxyacridines) 935  
   bis-tacrine (bis-tetrahydroaminoacridine) 83  
   7-chloro-3-pyridyl(alkyl)amino-4*H*-1,2,4-benzothiadiazine 1,1-  
   dioxide (BPDZ 73)-related compounds 973  
   5-dialkylaminomethyl-2-amino-2-oxazoline H<sub>1</sub> antagonists  
   923  
   4,5-dihydro-3(2*H*)-pyradazinones on Wang resin 981  
   entacapone prodrugs 1489  
   flavonoxypropanolamines 1601  
   glycerol-1,2-diibuprofenate-3-nitrate 345  
   isoindoline system from phthalaldehyde 945  
   metronidazole amino acid prodrugs with enhanced water  
   solubility 841  
   monooxygenated flavones 1601  
   paracetamol-related novel anti-inflammatory agents 1505  
   peptide  $\alpha$ -keto- $\beta$ -aldehyde-based trypsin-like serine proteases  
   473  
   phosphorothiolate-substituted benzimidazoles 89  
   *N*-pyridinyl(methyl)-1,2-dihydro-4-hydroxy-2-oxoquinoline-3-  
   carboxamides 417  
   3-spirohydantoin derivatives of D-allose and D-ribose 939  
   5-substituted 3,4-dihydro-3-amino-2*H*-1-benzopyran  
   derivatives 959  
   *N*-substituted 4,6-dioxo-imidazo[3,4-*c*]thiazoles 1117  
   torasemide-related thromboxane A<sub>2</sub> receptor antagonists  
   669  
   1,2,4-triazoles with pyrazine moiety 267  
   tryptamine analogue with cardiac tissue affinity 889  
 Syringin, immunomodulatory effects 1287  
 T47D cells, *N*- $\alpha$ -phthalimidomethyl-ketomethylene tripeptide-based  
 matrix metalloprotease (MMP) inhibitors, anti-invasive activity  
 333  
 T<sub>84</sub> colonic epithelial cells 213  
 Tablets  
   chitosan preparations 1050  
   floating cetyl alcohol/hydroxypropylmethyl cellulose,  
   fluorescein isothiocyanate-dextran release 49  
   gastrointestinal transit in pig 33  
 Tachykinin NK<sub>1</sub> receptors, small-molecule selective ligand  
 design 929  
 Tacrolimus (FK-506) 138  
 Tail-flick test, clonidine-induced antinociception/locomotor  
 hypoactivity reduction by dexamethasone 351  
 Tail-pressure test, U-50488H antinociceptive effect in  
 streptozotocin-induced diabetic mice 521  
 Tamoxifen, long-circulating monesin nanoparticles cytotoxicity  
 potentiation 617  
 Tamsulosin,  $\alpha_1$  adrenergic receptor subtype-mediated thoracic  
 aorta/iliac artery contraction 103  
 Tannins  
   *Hypericum perforatum* constituents 584  
   astringent activity 587  
   *Vaccinium vitis-idaea* L., activity against periodontal  
   pathogens 187  
 Taurocholic acid-induced intestinal secretion, cystic fibrosis mouse  
 model 711  
*Taxus brevifolia* (Pacific yew) extract 138  
 Tazobactam,  $\beta$ -lactamase inhibition 287  
 Tea (*Camellia sinensis*) consumption, hepatic phase I/phase II  
 enzyme activation 569  
 Telenzepine, vas deferens field stimulation-induced twitch response,  
 antagonism of McN-A-343 effect 487  
 Tephrosin A, cancer chemopreventive activity 142  
*Tephrosia purpurea* extract, cancer chemopreventive activity 142  
 Terbutaline 7  
*tet* genes, tetracycline resistance 286  
 Tetracyclines  
   activity enhancing outer membrane-perturbing agents 284  
   antimicrobial resistance 286  
 12-*O*-Tetradecanoylphorbol acetate-induced ear oedema  
   abietic acid inhibition 867  
   lupeol inhibition 1533  
 Tetrahydrocannabinol 138  
 Tetra(hydroxyphenyl)porphyrin photosensitizers, fluorinated  
 derivatives 1469  
 Theophylline  
   blood spot analytical assay 413  
   chitosan matrix release 1052  
   *Hypericum perforatum* L. interaction 594, 595  
   sustained release in-vivo from thermally reversible xyloglucan  
   gels 1185  
 Thermally reversible xyloglucan gels, theophylline sustained release  
 in-vivo 1185  
 Thermogelling properties, Pluronic-poly(acrylic acid) copolymers  
 109  
 Thin-layer chromatography (TLC), diphenhydramine  
 hydrochloride, control of impurities 332  
 Thioacridine, pH dependent multidrug-resistance reversal 1021  
 Thrombin,  $\alpha$ -keto- $\beta$ -aldehyde peptide inhibition 473  
 Thromboxane A<sub>2</sub> receptor antagonism, torasemide-related  
 compounds 669  
 Thromboxane synthase inhibition, torasemide-related compounds  
 669  
 Thujone, antioxidant activity 1347  
*Thymus wilddenowii* Boiss (Labiatae), topical anti-inflammatory  
 activity 1645  
 Tilisolol, ocular delivery of prodrug in liposomes 1157  
 Tissue engineering scaffolds *see* Growth factor releasing tissue  
 engineering scaffolds  
 Tizanidine,  $\alpha_1$  adrenergic receptor subtype-mediated thoracic  
 aorta/iliac artery contraction 103  
 Tmolt<sub>4</sub> T leukaemia cells, type II inosine monophosphate  
 dehydrogenase inhibition by benzohydroxamic acids/malonic  
 acids/maleic hydrazide 749  
 Tocotrienol homologues, pharmacokinetics in fed/fasted volunteers  
 67  
 Tolbutamide, drug/polymer glass solutions production by melt  
 extrusion 303  
 Topotecan 138  
 Transdermal drug delivery  
   carvone, stereoselective metabolism following topical  
   application 637  
   iontophoresis 769  
   pulsatile human parathyroid hormone (1–34) 1227  
   mycophenolate mofetil topical formulation 1581  
   ondansetron, shed snake skin model 789  
   ultradeformable and standard liposomes  
   estradiol 1311  
   5-fluorouracil 1069  
 Transepidermal water loss  
   measurement technique 770  
   skin integrity assessment following iontophoresis 772, 774

- Transferrin 1303  
 iron-binding functions 1304  
 nutritional iron transport 1304
- Transforming growth factor- $\beta$  (TGF- $\beta$ ), tissue engineering applications 1430
- Transition state phosphoramidate  $\beta$ -tubulin inhibitors, antifilarial activity 89
- Transmembrane protein modulation of drug partitioning into lipid bilayers, immobilized-liposome chromatography 1477
- Trehalose lyoprotectant, long-circulating monesin nanoparticle preparation for cytotoxic agent potentiation 617
- 1,2,4-Triazoles, synthesis/in-vitro antimicrobial activity 267
- Trichilia roka* Chiov. (Meliaceae), hepatoprotective activity 1569
- Trichophyton mentagrophyte*, 1,2,4-triazoles in-vitro susceptibility 267
- Trichophyton rubrum*, 1,2,4-triazoles in-vitro susceptibility 267
- Tricyclic antidepressants, monoamine oxidase inhibitory activity 1125
- Triglyceride-mediated lymphotropic carriage of lipophilic drugs 1439
- Trimipramine, monoamine oxidase inhibitory activity 1125
- Triptans, *Hypericum perforatum* L. interactions 595
- Triton X-100 in multidrug resistance reversal  
 modified polymers 779  
 pH-dependence 1021
- Trypanosoma cruzi*  
 cryptofolione derivative antimicrobial activity 563  
 lactoferrin antimicrobial activity 1304
- Trypsin,  $\alpha$ -keto- $\beta$ -aldehyde peptide inhibitors 473
- Trypsin-like serine protease inhibitors, peptide  $\alpha$ -keto- $\beta$ -aldehydes 473
- Tryptamine analogue, cardiac tissue affinity 889
- Tryptase,  $\alpha$ -keto- $\beta$ -aldehyde peptide inhibitors 473
- Tubocurarine, *Chondrodendron tomentosum* extract 426
- Tumour necrosis factor- $\alpha$  (TNF- $\alpha$ )  
 1,8-cineole inhibition of production in  
 D-galactosamine/lipopolysaccharide-induced shock 505  
 induction by hyaluronic acid preparations contaminated with DNA 555  
 syringin immunomodulatory effects 1287
- Turbidimetric assay of lysozyme, HPLC comparison 549
- U-50488H, antinociceptive effect in streptozotocin-induced diabetic mice 521
- UC-781  
 single crystal structure 1109  
 solid dispersions with polyvinylpyrrolidone (PVP K30), physical structure 1109
- UDP-glucuronyl transferase, dandelion tea consumption effects 1323
- n*-Undecane, *Hypericum perforatum* constituent 585
- Urethane analogues, azo-containing for colonic drug delivery 895
- Urinary excretion, gamma-hydroxybutyric acid 399
- Ursodeoxycholic acid  
 5-aminosalicylic acid conjugate, drug delivery to large intestine in carageenan-induced colitis 1711  
 effects on small intestinal transport function in cystic fibrosis mice 1457
- Ursolic acid, topical anti-inflammatory activity in *Thymus wilddenowii* extract 1645
- Vaccinium vitis-idaea* L., tannins active against periodontal pathogens 187
- Vaginal aminopeptidase activity, comparative study 1499
- Vaginal ring, bromocriptine mesilate sustained release preparation 1721
- Valproic acid, intestinal absorption inhibition by imipenem 823
- Van X inhibitors 286
- Vanadyl insulinomimetic complexes, pharmacokinetics of gastrointestinal absorption 1247
- Vancomycin-resistance  
 efflux-mediated 286  
 reversal in enterococci by flavonoids 129
- Vanillic acid, *Hypericum perforatum* constituent 585
- Vas deferens field stimulation-induced twitch response, inhibition by McN-A-343 487
- Vascular endothelial growth factor (VEGF), tissue engineering applications 1430, 1432
- Vasoactive intestinal polypeptide, colonic mucosal cell secretory response 213
- Verapamil  
 intestinal metabolism 1611  
 P-glycoprotein efflux influence on enterocyte residence time 1611  
 pH-dependent multidrug-resistance reversal 1021
- Verbena littoralis* H. B. K. extracts, nerve growth factor-induced neurite elongation potentiation 915
- Vibrio*, chitosan antimicrobial activity 1062
- Vibrio cholerae*, lactoferrin antimicrobial activity 1304
- Vigabatrin, polysorbate 80/sodium caprate enhancement of brain absorption 149
- Vinblastine, multidrug resistance reversal by Triton-X-100-modified polymers 779
- Vitamin C  
 antioxidant activity/melatonin synergism 1394  
 membrane-bound guanylate cyclase activation 243
- Vitamin E  
 antioxidant activity/melatonin synergism 1394  
 membrane-bound guanylate cyclase study 243
- Vitamin K<sub>1</sub> 2,3 epoxide reductase, purification from liver microsomes 481
- Vitrogen gel/Vitrogen film, nasal primary culture system for drug delivery studies 1447
- Vogel's conflict test, dihydrohonokiol-B anxiolytic-like activity 721
- Volatile oils, *Hypericum perforatum* constituents 585
- Warfarin  
 5,6-dimethylxanthenone-4-acetic acid interaction study 463  
*Hypericum perforatum* L. interaction 594, 595  
 vitamin K<sub>1</sub> 2,3 epoxide reductase interaction 481
- WAY 100635, activity in rectal hyperalgesia model 1419
- WIN 55212-2, cocaine-induced/convulsant-induced toxic behavioural symptoms protective effects 1525
- Withaphysacarpin, cancer chemopreventive activity 142
- Wound healing acceleration, chitosan/chitin actions 1061
- X-ray diffraction, microcrystalline cellulose granulation study 609
- X-ray powder diffraction  
 drug/polymer glass solutions produced by melt extrusion 303  
 UC-781 solid dispersions with polyvinylpyrrolidone (PVP K30) 1109
- Xanthan gum excipient, spray-dried insulin particles, in-vitro assay of activity 1415
- Xanthine oxidase inhibitory activity, *Bridelia furruginea* Benth. phenolic compounds 757
- Xenotransplant rejection, LJP 920 octomeric Gal ( $\alpha$ 1-3) Gal conjugate pharmacokinetics 999
- Ziziphys mauritiana* Lam. (Rhamnaceae) extract, anticancer activity 141
- Zymosan-injected mouse air pouch model, hexahydroimidazo[1,2-c]pyrimidine effects 1379