

## Annual Subject Index

<b>A</b>			
Achatinin-H		activity, growth and plasmids amplification in <i>Bacillus subtilis</i> , effect of endosulfan on producing <i>Bacillus</i> spp. from dhal industry waste, isolation and identification of	123–126
for binding of 9-OAcSA $\alpha$ 2-6GalNAc	7–14		
ACORN		<i>Anabas testudineus</i>	295–298
iterative, high throughput tool in structural genomics	211–216	antioxidant enzyme activities and lipid peroxidation in, regulatory effect of tri-iodothyronine on	119–122
Acute lymphoblastic leukemia (ALL) in childhood		Anisodamine	
L-asparaginase for management of 9-OAcSA-specific antibody levels as index for diagnosis and longitudinal monitoring of	391	from <i>Hyoscyamus niger</i> , inhibition of Ca <sup>2+</sup> -transport activity of SERCA by, mechanism of	351–359
$\beta$ -Adrenoceptor ( $\beta$ AR) agonists		<i>Anopheles stephens</i>	
clenbuterol-induced skeletal muscle hypertrophy, role of metabolic and physiologic characteristics of fibres in determination of response to isoproterenol, role in attenuating muscle atrophy under stress, study on rat skeletal muscle	160–166	c-type lysozyme from, identification and characterization of	15–19
Advanced glycated end products (AGEs)	337–344	1-Anilino-8-naphthalenesulfonate. <i>See</i> ANS fluorescence probe	
Agglutinin		ANS fluorescence probe to study conformational change of SERCA	352
FCA, biotinylated, for recognition of bacteria	94–97	Antibacterial peptide	
Air-breathing organ (ABO) in teleosts, myofibrillar contractility and m-ATPase of	217–225	scolopendrin I from venom of <i>Scolopendra subspinipes mutilans</i> , induction, purification and characterization of	88–93
Alcoholic liver disease (ALD) silymarin from <i>Silybium marianum</i> as remedy for	306–311	Antibodies	
Algae, green		against 9-OAcSA in childhood ALL, markers for initial diagnosis and longitudinal monitoring of	7–14
<i>Haematococcus pluvialis</i> , carotenoid hydroxylase gene promoter in, characterization of	284–288	Anticancer agents	
photosynthetic, hydrogen production by	201–210	HDAC inhibitors as, 3D QSAR study using GFA	360–371
Alkylamine glass beads		Antileukemic activity	
immobilization of 3 $\alpha$ -HSD and diaphorase onto, for determination of bile acid in serum and bile	98–104	of L-asparaginase from <i>Erwinia carotovora</i>	391–394
ALL. <i>See</i> Acute lymphoblastic leukemia		Antimicrobial activity	
<i>Allium sativum</i> . <i>See</i> Garlic		of crude venom from <i>Scolopendra subspinipes mutilans</i> against Gram +/- bacteria	90
Amino acid(s)		Antioxidant(s)	
extraction and carrier-facilitated transport through bulk liquid membrane, use of synthetic noncyclic receptors in homocysteine, in health and diseases, biochemistry of	323–326	C-phycoerythrin from <i>Lyngbya</i> , <i>Phormidium</i> and <i>Spirulina</i> spp.	25–31
N-terminal protected, new fragmentation rearrangement using ESI-MS/MS	275–283	enzyme activities in <i>Anabas testudineus</i> , regulatory effect of tri-iodothyronine on vitamin E	119–122
Amlodipine besylate		compared to <i>Phyllanthus niruri</i> aqueous extract	299–305
CEase inhibition ( <i>in vitro</i> ) by, kinetics and mechanism of	52–55	effect on MSG-induced hepatotoxicity and oxidative stress	20–24
$\alpha$ -Amylase		Aquatic pollution	
		p53-like protein from <i>Lamellidens corrianus</i> as biological indicator	247–250
		L-Asparaginase	
		from <i>Erwinia carotovora</i> , purification, and effect of dihydropyrimidine derivative on some kinetic parameters of	391–394

<i>Aspergillus terreus</i>		ameliorative effect on work stress-induced skeletal muscle degeneration in rats	82-87
ligninperoxidases from, enzymatic characteristics of	48-51		
Astaxanthin			
biosynthesis in <i>Haematococcus pluvialis</i> , role of carotenoid hydroxylase in: characterization of respective gene promoter from	284-288		
<b>B</b>		<b>C</b>	
<i>Bacillus</i> spp.		Caediolipin	
from mangrove soil, buffering capacity and H <sup>+</sup> conductance of	382-385	hexagonal phase, induced by anisodamine	351
$\alpha$ -amylase producing, from dhal industry waste, isolation and identification of	295-298	Calcium oxalate monohydrate (COM) crystals casuative factor of urolithiasis, XRD, EDX and SEM investigations of	226-232
<i>Bacillus subtilis</i>		Calculus. <i>See</i> Urolith	
endosulfan on growth, $\alpha$ -amylase activity and plasmids amplification in	123-126	Cardiovascular disease (CVD) and homocysteine	278
Bacteria		Cardiovascular drugs	
facultative alkalophilic, from mangrove soil with varying buffering capacity and H <sup>+</sup> conductance	382-385	CEase inhibition ( <i>in vitro</i> ) by, kinetics and mechanisms of	52-55
Gram-positive/Gram-negative, biotinylated FCA for recognition of	94-97	Carotenoid hydroxylase gene promoter in <i>Haematococcus pluvialis</i> , characterization of	284-288
Bakers' yeast		Cassava	
chromosome of, FFT study of long range correlations in	137-142	pathogenesis-related proteins in, induced by <i>Bemisia tabaci</i> feeding	182-185
Begomoviruses	182	Cassava mosaic disease (CMD)	182
<i>Bemisia tabaci</i> . <i>See</i> Whitefly		Catalase (PDB-ID:1gwe)	
Benzodiazepine receptor (BzR)		interactive ACORN with ARP/wARP and REFMAC of	211-216
PBR vs. CBR binding affinity, selectivity requirements for: QSAR modeling of 2-phenylimidazo[1,2-a]pyridine acetamides	105-118	<i>Catla catla</i>	
Benzodiazepines		biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between	217-225
chlordiazepoxide and diazepam, CEase inhibition by, kinetics and mechanism of	52-55	Ca <sup>2+</sup> -transport	
Bile acid		activity of SERCA, inhibition by anisodamine, mechanism of	351-359
in serum and bile, determination using 3 $\alpha$ -HSD and diaphorase	98-104	CEase. <i>See</i> Cholesterol esterase	
Bile-salt activated lipase. <i>See</i> Cholesterol esterase		Cell line	
Biliary tract diseases		K562 erythroleukemia cells, role of nitric oxide during erythroid differentiation in	251-253
silymarin from <i>Silybium marianum</i> as remedy for	306-311	Centipedes	
Biochemical characterization of selected air-breathing teleosts	217-225	<i>Scolopendra subspinipes mutilans</i> , scolopendrin I from venom of: induction, purification and characterization of	88-93
Boc-protected amino acids (BPAAs)		Central benzodiazepine receptor (CBR)	
fragment ions observed in	373	vs. PBR, binding affinity of, selectivity requirements for: QSAR modeling of 2-phenylimidazo[1,2-a]pyridine acetamides	105-118
Bone-matrix formation		<i>Channa punctata</i>	
and osteogenesis under magnetic field stimulation <i>in vivo</i> : XRD, TEM and SEM investigations	167-172	biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between	217-225
BOOK REVIEW		Childhood	
" <i>Photosystem II. The Light-Driven Water: Plastoquinone Oxidoreductase</i> ," 2005 (Eds: Wydrzynski & Satoh) Vol. 22, Advances in Photosynthesis and Respiration (AIPH), (Ser Ed: Govindjee)	56-58	ALL in	391
Brij-30/Brij-92. <i>See</i> Surfactants		L-asparaginase for management of 9-OAcSA-specific antibody levels as index for diagnosis and longitudinal monitoring of	7-14
Brushite	226	Chitinase	
Butoxamine		in cassava, induced by <i>Bemisia tabaci</i> feeding	182-185
level for reversal of isoproterenol's		Chlordiazepoxide	
		CEase inhibition ( <i>in vitro</i> ) by, kinetics and mechanism of	52-55

- Cholesterol  
acute effects of partially purified fraction from garlic on 386–390  
level in skeletal muscles and heart under stress, effect of isoproterenol on 82–87
- Cholesterol esterase (CEase)  
inhibition, *in vitro*, by cardiovascular drugs, kinetics and mechanisms of 52–55
- Chromatography. *See also* RP-HPLC  
nickel-chelate, for purification of overexpressed  $\gamma$ -glutamyltranspeptidase from *E. coli* 345–350
- Circular dichroism (CD)  
far and near-UV, to study effect of denaturants on structure and activity of 3-HBA-6-hydroxylase 148–153
- Clarias batrachus*  
biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between 217–225
- Clenbuterol  
-induced skeletal muscle hypertrophy, role of metabolic and physiologic characteristics of fibres in determination of response to 160–166
- Clostridium* spp  
diaphorase from, use in determination of bile acid in serum and bile 98–104
- Compactin  
HMG-CoA reductase inhibitor, use in pharmacotherapy for hyperlipidemia 32
- Congerin II (PDB-ID:1is3)  
eel galectin, interactive ACORN with ARP/wARP and REFMAC of 211–216
- Corynebacterium* spp.  
from mangrove soil, buffering capacity and H<sup>+</sup> conductance of 382–385
- Crystal structures  
congerin II and catalase  
interactive ACORN with ARP/wARP and REFMAC of 211–216
- Cyanobacteria  
C-phycocyanin from *Lyngbya*, *Phormidium* and *Spirulina* spp., antioxidant potential of 25–31
- L-Cysteine (L-cys)  
Cyt c(III) reduction by, kinetics and mechanism of 37–40
- Cyt c(III). *See* Ferricytochrome *c*
- D**
- Denaturants  
effect on structure and activity of 3-HBA-6-hydroxylase 148–153
- Diabetes  
complications due to non-enzymatic glycation of proteins 337–344  
type I, and homocysteine 278
- Diabetic  
angiopathy 342–343  
nephropathy 341–342
- neuropathy 340–341  
retinopathy 339–340
- Diaphorase  
from *Clostridium* spp, use in determination of bile acid in serum and bile 98–104
- Diazepam  
CEase inhibition (*in vitro*) by, kinetics and mechanism of 52–55
- Dielectrics  
and phase transition, for study of bovine albumin-liposomes interaction 186–189
- Diethylene glycol  
and its derivative receptors, use in extraction and carrier-facilitated transport of amino acids through bulk liquid membrane 323–326
- Differential display (DD)  
use in isolation of stress responsive *Psb A* gene from drought-tolerant *Oryza sativa* genotype N22 244–246
- Dioleoylphosphatidylcholine liposomes  
hexagonal phase, induced by anisodamine 351
- Dipalmitoylphosphatidyl acid (DPPA)  
phase separation by anisodamine 351
- DNA  
polymorphism, exhibited by stress responsive *Psb A* gene from drought-tolerant *Oryza sativa* genotype N22 244–246  
sequence, spectral representation, applications of 137
- DsDNA viruses  
genome sequences of 137–142
- Drought tolerance  
in wheat varieties HDR 77 and HD 2009 233–238
- Drug delivery  
plant oil derived micro-emulsion vehicles for 254–257
- Drugs  
cardiovascular, *in vitro* CEase inhibition by, kinetics and mechanisms of 52–55  
and toxicants, relevant genes/proteins/pathways affected by 70
- E**
- EcGGT* gene  
overexpression of 345–350
- Ectopia lentis  
as clinical symptom of homocystinuria type I 276–277
- Eel galectin. *See* Congerin II
- Electron microscopy  
scanning (SEM)  
and transmission (TEM), *in vivo* investigation of bone-matrix formation and osteogenesis under *in vivo* magnetic field stimulation 167–172  
ultrastructure investigations of urinary calculi 226–232
- Electrospray ionization tandem mass spectrometry (ESI-MS/MS)  
use in fragmentation rearrangement of N-terminal protected amino acids 372–376
- ELISA. *See* Enzyme-linked immunosorbent assay

Endosulfan		MSG, hepatotoxicity and oxidative stress, induced by, effect of vitamin E on	20–24
effect on growth, $\alpha$ -amylase activity and plasmids amplification in <i>Bacillus subtilis</i>	123–126	<i>Fusarium oxysporum</i>	
Energy dispersive X-ray (EDX) spectroscopy for investigations of urinary calculi in urolithiasis	226–232	ligninperoxidases from, enzymatic characteristics of	48–51
Enkephalins		<b>G</b>	
Leu <sup>5</sup> and Met <sup>5</sup> , vibrational dynamics of morphine in relation to	173–181	Galectin, Eel. <i>See</i> Congerin II	
Enzyme kinetics		Gallstone	
CEase inhibition ( <i>in vitro</i> ) by cardiovascular drugs, kinetics and mechanisms of	52–55	patient with, bile acid determination in serum and bile using 3 $\alpha$ -HSD and diaphorase	98–104
Enzyme-linked immunosorbent assay (ELISA) using biotinylated FCA and antibiotin-HRP for study of lectin-bacteria interaction	94–97	Garlic	
BSM-ELISA, for monitoring clinical status of ALL patients	7–14	partially purified fraction from, acute effects on plasma glucose and cholesterol levels in rats: involvement of NO	386–390
Enzyme markers of hepatocellular injury	21	Gene expression	
<i>Erwinia carotovora</i>		recombinant $\gamma$ -glutamyltranspeptidase from <i>E. coli</i> , overexpression of	345–350
L-asparaginase from, purification, and effect of dihydropyrimidine derivative on kinetic parameters of	391–394	regulation of	
Erythroid differentiation in K562 erythroleukemia cells, nitric oxide levels during	251–253	lactase expression and mechanism of adult-type hypolactasia, as cause of lactose intolerance	267–274
Erythroleukemia cell line K562, nitric oxide levels during erythroid differentiation in	251–253	<i>MAL1</i> in <i>Schizosaccharomyces pombe</i>	143–147
<i>Escherichia coli</i>		Genetic function approximation (GFA) use in 3D QSAR study of HDAC inhibitors	360–371
recombinant $\gamma$ -glutamyltranspeptidase from overexpression of	345–350	Genomics	
ESI-MS/MS. <i>See</i> Electrospray ionization tandem mass spectrometry		and proteomics, contribution in understanding role of modifying factors in Parkinson's disease	69–81
<b>F</b>		$\alpha$ -2 $\mu$ Globulin	
Facultative alkalophilic bacteria from mangrove soil with varying buffering capacity and H <sup>+</sup> conductance	382–385	in rat preputial gland, identification by MALDI-TOF analysis	319–322
Fast-Fourier Transformation (FFT) study of 1/ <i>f</i> correlations in viral genomes	137–142	$\beta$ -1,3-Glucanase	
FCA. <i>See</i> <i>Ficus cunia</i> agglutinin		in cassava, induced by <i>Bemisia tabaci</i> feeding	182–185
Ferricytochrome <i>c</i> [Cyt <i>c</i> (III)] reduction by GSH and L-cysteine, kinetics and mechanism of	37–40	Glucose	
FFT. <i>See</i> Fast-Fourier Transformation		plasma level, acute effects of garlic extract on	386–390
<i>Ficus cunia</i> agglutinin (FCA) biotinylated, for recognition of bacteria	94–97	$\gamma$ -Glutamyltranspeptidase recombinant, from <i>E. coli</i> , overexpression of	345–350
Flow cytometric analysis detection of cell surface 9- <i>O</i> AcSGs by, application in diagnosis of childhood ALL	7–14	Glutaraldehyde coupling	
Fluorescence		immobilization of 3 $\alpha$ -HSD and diaphorase on alkylamine glass beads through	101
ANS binding fluorescence probe to study conformational change of SERCA	351–359	Glutathione (GSH)	
Fluorescence spectroscopy		Cyt <i>c</i> (III) reduction by, kinetics and mechanism of	37–40
intrinsic, to study effect of denaturants on structure and activity of 3-HBA-6-hydroxylase	148–153	Glycation	
Fmoc-protected amino acids (FPAAs) fragment ions observed in	373	non-enzymatic, of proteins: cause for complications in diabetes	337–344
Food flavours		Glycol	
		di/tri/tetra-ethylene, and its derivative receptors, use in extraction and carrier-facilitated transport of amino acids through bulk liquid membrane	323–326
		Green algae	
		<i>Haematococcus pluvialis</i> , carotenoid hydroxylase gene promoter in, characterization of	284–288
		photosynthetic, hydrogen production by	201–210
		Guanidinium hydrochloride (Gu.HCl)	
		effect on structure and activity of 3-HBA-6-hydroxylase	148–153

- H**
- Haematococcus pluvialis*  
 carotenoid hydroxylase gene promoter in,  
 characterization of 284–288
- H<sup>+</sup> conductance  
 and buffering capacity of facultative  
 alkalophilic bacteria from mangrove soil 382–385
- HDACs. *See* Histone deacetylases
- HDR 77/HD 2009  
 wheat varieties, relative binding of seed water  
 and seed coat membrane stability in 233–238
- Heart  
 and skeletal muscles in rats under work stress,  
 cholesterol and triglyceride levels in,  
 isoproterenol's ameliorative effect on 82–87
- Hemin  
 K562 erythroleukemia cells induced by, nitric  
 oxide levels during erythroid  
 differentiation in 251–253
- Hepatocellular injury  
 enzyme markers of 21
- Hepatotoxicity  
 and oxidative stress, MSG-induced, effect of  
 vitamin E on 20–24
- High throughput techniques  
 ACORN with ARP/wARP and REFMAC for  
 high throughput structural genomics 211–216
- Histone deacetylases (HDACs)  
 hydroxamic acid analogues as inhibitors of 3D  
 QSAR study using GFA 360–371
- HMG-CoA. *See* Hydroxymethyl glutaryl  
 coenzyme A
- Homocysteine (Hcy)  
 and cardiovascular disease 278  
 and diabetes type I 278  
 in health and diseases, biochemistry of 275–283  
 and Marfan syndrome 279  
 molecular mechanisms of  
 oxidative stress 279  
 protein homocysteinylation 279–281  
 protein thiolation 279  
 and ocular complications 278–279  
 and smoking 279  
 and thrombotic diseases 278
- Homocysteinemia  
 possible treatment for 281
- Homocystinuria type I  
 clinical symptoms and manifestations 276–277  
 cystathionine- $\beta$ -synthase deficiency  
 complications 275–283  
 HSD. *See* Hydroxysteroid dehydrogenase
- Human group V secretory phospholipase A<sub>2</sub>  
 (hVPLA<sub>2</sub>)  
 QSAR analysis of indole analogues for  
 inhibition of 154–159
- hVPLA<sub>2</sub>. *See* Human group V secretory  
 phospholipase A<sub>2</sub>
- Hydrogen (H<sub>2</sub>) production  
 by photosynthetic green algae 201–210
- Hydroxamic acid analogues  
 as inhibitors of HDACs 3D QSAR study using  
 GFA 360–371
- Hydroxyapatite (HAP) 226
- 3-Hydroxybenzoate-6-hydroxylase  
 denaturants on structure and activity of 148–153
- Hydroxymethyl glutaryl coenzyme A (HMG-  
 CoA) reductase  
 inhibitors, condensed pyridine and pyrimidine  
 analogs as, pharmacophoric model of 32–36
- 3 $\alpha$ -Hydroxysteroid dehydrogenase (3 $\alpha$ -HSD)  
 from *Pseudomonas testosteroni*, use in  
 determination of bile acid in serum  
 and bile 98–104
- Hyoscyamus niger*  
 anisodamine from, inhibition of Ca<sup>2+</sup>-  
 transport activity of SERCA by 351–359
- Hypercholesterolemia  
 and NO metabolites in rats, correlation  
 between 386–390
- Hyperglycaemia  
 in diabetes 337–344  
 and NO metabolites in rats, correlation  
 between 386–390
- Hyperlipidemia  
 HMG-CoA reductase inhibitors for  
 pharmacotherapy for treatment of 32
- Hypolactasia  
 adult-type, as molecular basis of lactose  
 intolerance 267–274
- I**
- Immobilization  
 of 3 $\alpha$ -HSD and diaphorase onto alkylamine  
 glass beads, for determination of bile  
 acid in serum and bile 98–104
- Indole analogues  
 as hVPLA<sub>2</sub> inhibitors, QSAR of 154–159
- Industry waste  
 $\alpha$ -amylase producing *Bacillus* spp. from dhal  
 industry red gram waste, isolation and  
 identification of 295–298
- Injury  
 hepatocellular, enzyme markers of 21
- Inositol  
 on maltase activity and regulation of *MALI*  
 expression in *Schizosaccharomyces pombe* 143–147
- Insecticides  
 endosulfan, effect on growth,  $\alpha$ -amylase  
 activity and plasmids amplification in  
*Bacillus subtilis* 123–126
- Insulinemia  
 measurement of 387–388
- Isopropyl myristate  
 micro-emulsion vehicles derived from, for  
 drug delivery 254–257
- Isoproterenol  
 role in attenuating muscle atrophy under  
 stress, study on rat skeletal muscle 82–87
- K**
- K562 erythroleukemia cells  
 role of nitric oxide during erythroid

differentiation in	251–253	static, stimulating effect on microstructure and mineralization of bone repair	167–172
Kidney stone			
XRD, EDX and SEM investigations of urinary calculi	226–232	<i>MALI</i> regulation of expression in <i>Schizosaccharomyces pombe</i>	143–147
<b>L</b>			
<i>Labeo rohita</i>			
biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between	217–225	Malaria	
Lactase-phlorizin hydrolase (LPH)		<i>Anopheles stephens</i> , identification and characterization of c-type lysozyme from	15–19
responsible for lactose intolerance	267–274	MALDI-TOF analysis	
Lactic acid bacteria (LAB)	377	for identification of $\alpha$ -2 $\mu$ globulin in rat preputial gland	319–322
<i>Lactobacillus paracasei</i>		Maltase activity	
biosynthesis of protease from: kinetic analysis of fermentation parameters	377–381	and regulation of <i>MALI</i> expression in <i>S. pombe</i> , effect of inositol on	143–147
Lactose intolerance		Mangrove soil	
hypolactasia as molecular basis of	267–274	facultative alkalophilic bacteria from, buffering capacity and H <sup>+</sup> conductance of	382–385
<i>Lamellidens corrianus</i>		<i>Manihot esculenta</i> . See Cassava	
p53-like protein from	247–250	Marfan syndrome	
Lectin-bacteria interaction		and homocysteine	279
ELISA using biotinylated FCA and antibiotin-HRP for study of	94–97	<i>Mastacembalus armatus</i>	
Leu <sup>5</sup> and Met <sup>5</sup> -enkephalins		biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between	217–225
vibrational dynamics of morphine in relation to	173–181	Membrane transport	
Leukemia		amino acids, extraction and carrier-facilitated transport through bulk liquid membrane, use of synthetic noncyclic receptors in	323–326
ALL in childhood, antibodies against 9-O-acetylated sialic acids in	7–14	H <sup>+</sup> conductance, and buffering capacity of facultative alkalophilic bacteria from mangrove soil	382–385
Ligninperoxidase(s)		Mental retardation. See Homocystinuria type I	
from <i>Penicillium citrinum</i> , <i>Fusarium oxysporum</i> and <i>Aspergillus terreus</i> , enzymatic characteristics of	48–51	Microarray	
Lipocalins	319	use in analyzing differential gene expression	73–74
Liposome-albumin system		Micro-emulsion vehicles	
biophysical studies on	186–189	plant oil derived, for drug delivery	254–257
Lipoyl dehydrogenase. See Diaphorase		Milk intolerance	
Liquid membrane		hypolactasia as molecular basis of	267–274
bulk, extraction and carrier-facilitated transport of amino acids through, use of synthetic noncyclic receptors in	323–326	Milk thistle plant. See <i>Silybium marianum</i>	
Liver diseases		Molecular operating environment (MOE)	
aqueous extract of <i>Phyllanthus niruri</i> , protective effect of	299–305	software, use in QSAR analysis of indole analogues for hVPLA <sub>2</sub> inhibition	154–159
silymarin from <i>Silybium marianum</i> as remedy for	306–311	Molecular shape analysis (MSA)	
Lovastatin		importance in inhibition of HDACs	360–371
CEase inhibition ( <i>in vitro</i> ) by, kinetics and mechanism of	52–55	Monosodium glutamate (MSG)	
Low-density lipoprotein (LDL)		-induced hepatotoxicity and oxidative stress in rats, effect of vitamin E on	20–24
plasma, lowering cholesterol levels by cardiovascular drugs, kinetics and mechanisms of	52–55	Morphine	
LPH. See Lactase-phlorizin hydrolase		vibrational dynamics in relation to Leu <sup>5</sup> and Met <sup>5</sup> -enkephalins	173–181
<i>Lyngbya</i> sp.		MSG. See Monosodium glutamate	
C-phycoyanin from, antioxidant potential of	25–31	Mutations	
Lysozyme		genetic, and SNP	74–77
c-type, from <i>Anopheles stephens</i>	15–19	Myofibrils and myosin	
		evolutionary modifications in ABO-possessing teleosts	217–225
		of skeletal muscles of air-breathing teleosts, adaptive diversity and biochemical properties, correlation between	217–225
<b>M</b>			
Magnetic field			

- N**
- Nickel-chelate chromatography  
for purification of overexpressed  $\gamma$ -glutamyl-  
transpeptidase from *E. coli* 345–350
- Nifedipine  
CEase inhibition (*in vitro*) by, kinetics and  
mechanism of 52–55
- Nimesulide (NIM)  
-induced oxidative stress, hepatoprotective  
effect of aqueous extract of *P. niruri* on 299–305
- Nitric oxide (NO)  
acute effects of garlic extract on plasma  
glucose and cholesterol levels in rats,  
involvement of 386–390  
role during erythroid differentiation in K562  
cell line 251–253
- Non-steroidal anti-inflammatory drug (NSAID)  
nimesulide-induced oxidative stress,  
hepatoprotective effect of aqueous  
extract of *P. niruri* on 299–305
- O**
- Octylglucoside (OG)  
use in study of bovine albumin-liposomes  
interaction 186–189
- Opioid peptides. *See* Morphine
- Oryza sativa* L.  
drought-tolerant genotype N22, isolation of  
stress responsive *Psb A* gene from 244–246
- Osteogenesis  
and bone-matrix formation under magnetic  
field stimulation *in vivo*: XRD, TEM  
and SEM investigations 167–172
- Osteoporosis  
as clinical symptom of homocystinuria type I 276
- Oxidative stress  
caused by homocysteine 279  
and hepatotoxicity  
ethanol-induced, protective effects of  
silymarin on 306–311  
MSG-induced, effect of vitamin E on 20–24  
NIM-induced, hepatoprotective effect of  
aqueous extract from *P. niruri* 299–305
- Oxyradical accumulation  
and rapid deterioration of soybean seeds due  
to field weathering 41–47
- P**
- P53  
-like protein from *Lamellidens corrianus* 247–250
- Parkinson's disease (PD)  
role of modifying factors in, genomics and  
proteomics in understanding of 69–81
- Penicillium citrinum*  
ligninperoxidases from, enzymatic  
characteristics of 48–51
- Peripheral benzodiazepine receptor (PBR)  
*vs.* CBR, binding affinity of, selectivity  
requirements for: QSAR modeling of 2-  
phenylimidazo[1,2-a]pyridine
- acetamides 105–118
- Peroxidase  
in cassava, induced by *Bemisia tabaci* feeding  
from *Solanum melongena* fruit juice,  
purification of 239–243
- Phase transition  
and dielectrics, for study of bovine albumin-  
liposomes interaction 186–189
- 2-Phenylimidazo[1,2-a]pyridine acetamides  
selectivity requirements for PBR *vs.* CBR  
binding affinity in, QSAR modeling for  
exploration of 105–118
- Pheromones  
 $\alpha$ -2 $\mu$  globulin in rat preputial gland, identified  
by MALDI-TOF analysis 319–322
- Phormidium* sp.  
C-phycoerythrin from, antioxidant potential of 25–31
- Phosphatidylinositol (PI)  
biosynthesis in *Schizosaccharomyces pombe*,  
effect of inositol on 143–147
- Phospholipase A<sub>2</sub>  
hVPLA<sub>2</sub>, QSAR analysis of indole analogues  
for inhibition of 154–159
- Photoproduction  
of H<sub>2</sub> by green algae 201–210
- C-Phycocyanin (C-PC)  
from *Lyngbya*, *Phormidium* and *Spirulina*  
spp., antioxidant potential of 25–31
- Phyllanthus niruri*  
aqueous extract from, hepatoprotective effect  
on NIM-induced oxidative stress 299–305
- Planococcus* sp.  
from mangrove soil, buffering capacity and H<sup>+</sup>  
conductance of 382–385
- Plant oils  
micro-emulsion vehicles derived from, for  
drug delivery 254–257
- Plasma glucose  
acute effects of partially purified fraction from  
garlic on 386–390
- Plasma low-density lipoprotein (PLDL)  
cholesterol levels in, lowering by  
cardiovascular drugs, kinetics and  
mechanisms of 52–55
- Plasmid amplification  
growth and  $\alpha$ -amylase activity in *Bacillus*  
*subtilis*, effect of endosulfan on 123–126
- Pollution  
aquatic, p53-like protein from freshwater  
bivalve *Lamellidens corrianus* as  
biological indicator 247–250
- Preputial gland  
of rats,  $\alpha$ -2 $\mu$  globulin from, identification by  
MALDI-TOF analysis 319–322
- n-Propanol  
as substitute for veratryl alcohol for assaying  
ligninperoxidase activities from fungal  
strains 48–51
- Protease  
from *Lactobacillus paracasei*, biosynthesis of 377–381

Proteins		photoilluminated, alone or with-Cu(II) combination, inactivation of trypsin by	312–318
non-enzymatic glycation of: cause for complications in diabetes	337–344	Rice. <i>See Oryza sativa</i>	
Proteomics		RP-HPLC. <i>See</i> Reverse-phase high performance liquid chromatography	
and genomics, contribution in understanding role of modifying factors in Parkinson's disease	69–81	<b>S</b>	
<i>Psb</i> A gene		<i>Saccharomyces cerevisiae</i>	
stress responsive, from rice, isolation using differential display	244–246	Chromosome of, FFT study of long range correlations in	137–142
<i>Pseudomonas testosteroni</i>		<i>Saccharomycopsis fibuligera</i> A11	
3 $\alpha$ -HSD from, use in determination of bile acid in serum and bile	98–104	trehalose-6-phosphate synthase from, purification and characterization of	289–294
Pyridine and pyrimidine		Sarcoplasmic reticulum Ca <sup>2+</sup> -ATPase (SERCA)	
analogs, condensed, as HMG-CoA reductase inhibitors, pharmacophoric model of	32–36	inhibition of Ca <sup>2+</sup> -transport activity by anisodamine, mechanism of	351–359
<b>Q</b>		Scanning electron microscopy (SEM)	
QSAR. <i>See</i> Quantitative structure-activity relationship		ultrastructure investigations of urinary calculi	226–232
Quantitative structure-activity relationship (QSAR)		<i>in vivo</i> investigation of bone-matrix formation and osteogenesis under magnetic field stimulation	167–172
indole analogues for hVPLA <sub>2</sub> inhibition, analysis using MOE software	154–159	<i>Schizosaccharomyces pombe</i>	
3-D		regulation of <i>MAL1</i> expression in	143–147
on condensed pyridine and pyrimidine analogs for HMG-CoA reductase inhibitor activity, pharmacophoric model of	32–36	<i>Scolopendra subspinipes mutilans</i>	
study using GFA on HDAC inhibitors	360–371	scolopendrin I from venom of, induction, purification and characterization of	88–93
modeling of 2-phenylimidazo[1,2-a]pyridine acetamides using topological and physicochemical descriptors for exploring selectivity requirements PBR vs. CBR binding affinity	105–118	Scolopendrin I	
<b>R</b>		from venom of <i>S. s. mutilans</i> , induction, purification and characterization of	88–93
Raman optical activity (ROA)	180	Seed water binding	
<i>Rattus norvegicus</i>		and seed coat membrane stability in wheat varieties HDR 77/HD 2009	233–238
$\alpha$ -2 $\mu$ globulin in preputial gland of, identified by MALDI-TOF analysis	319–322	SEM. <i>See</i> Scanning electron microscopy	
Receptors		Sialoglycoconjugates, 9- <i>O</i> -acetylated (9- <i>O</i> acSGs)	
synthetic noncyclic, use in extraction and carrier-facilitated transport of amino acids through bulk liquid membrane	323–326	antibodies against, use as markers for initial diagnosis and longitudinal monitoring of ALL in childhood	7–14
Recombinant $\gamma$ -glutamyltranspeptidase from <i>E. coli</i> , overexpression of	345–350	<i>Silybium marianum</i>	
Red gram waste		hepatoprotective drug silymarin from, effect on ethanol-induced oxidative stress	306–311
$\alpha$ -amylase producing <i>Bacillus</i> spp., isolation and identification from	295–298	Silymarin	
Renal calculi. <i>See</i> Urolithiasis		protective effects on ethanol-induced oxidative stress in liver	306–311
Reverse-phase high performance liquid chromatography (RP-HPLC)		Simvastatin	
and cation-exchange chromatography for isolation of scolopendrin I from venom of <i>S. s. mutilans</i>	88–93	CEase inhibition ( <i>in vitro</i> ) by, kinetics and mechanism of	52–55
Reverse transcription-polymerase chain reaction (RT-PCR)		Single nucleotide polymorphism (SNP) and genetic mutations	74–77
determination of <i>MAL1</i> expression by	144–146	Skeletal muscle hypertrophy	
Riboflavin (RF)		clenbuterol-induced, role of metabolic and physiologic characteristics of fibres in determination of response	160–166
		Skeletal muscles	
		and heart in rats under work stress, cholesterol and triglyceride levels in, isoproterenol's ameliorative effect on myofibrils and myosin of air-breathing teleosts, adaptive diversity and biochemical properties, correlation	82–87

- between 217–225  
 Smoking  
   and homocysteine 279  
 SNP. *See* Single nucleotide polymorphism  
 Sodium dodecylsulphate (SDS)  
   effect on structure and activity of 3-HBA-6-hydroxylase 148–153  
*Solanum melongena*  
   fruit juice, peroxidase from, purification of 239–243  
 Solubilization  
   application in biophysical studies on liposomes-albumin system 186–189  
 Soybean seeds  
   oxyradical accumulation and rapid deterioration due to field weathering 41–47  
 Spectrometry  
   ESI-MS/MS, use in fragmentation rearrangement of N-terminal protected amino acids 372–376  
 Spectroscopy  
   EDX, for investigations of urinary calculi in urolithiasis 226–232  
   FTIR and FT-Raman spectra, use in study of vibrational dynamics of morphine in relation to Leu<sup>5</sup> and Met<sup>5</sup>-enkephalins 173–181  
   intrinsic fluorescence and far and near-UV-CD, to study effect of denaturants on structure and activity of 3-HBA-6-hydroxylase 148–153  
 Sphericles 231  
*Spirulina* spp.  
   C-phycoerythrin from, antioxidant potential of 25–31  
 Stone formation  
   pathogenesis of 231  
 Stress  
   oxidative  
     caused by homocysteine 279  
     ethanol-induced, in liver, protective effects of silymarin on 306–311  
     and MSG-induced hepatotoxicity, effect of vitamin E on 20–24  
     NIM-induced, hepatoprotective effect of aqueous extract from *P. niruri* 299–305  
   skeletal muscle degeneration in rats due to workstress, effect of isoproterenol on 82–87  
 Struvite 226  
 Surfactants  
   for preparation of micro-emulsion vehicles for drug delivery 254–257  
 Synthetic noncyclic receptors  
   use in extraction and carrier-facilitated transport of amino acids through bulk liquid membrane 323–326  
**T**  
 Teleosts  
   air-breathing, biochemical properties and adaptive diversity of skeletal muscle myofibrils and myosin of, correlation between 217–225  
 TEM. *See* Electron microscopy  
 Thrombotic diseases  
   and homocysteine 278  
 Thyroid hormone  
   tri-iodothyronine, regulatory effect on antioxidant enzyme activities and lipid peroxidation in *Anabas testudineus* 119–122  
 Toxicants  
   and drugs, and relevant genes/proteins/pathways affected by 70  
 Transcriptomics 73  
 Trehalose-6-phosphate synthase (Tps1)  
   from *Saccharomycopsis fibuligera* A11, purification and characterization of 289–294  
 Triethylene glycol  
   use in extraction and carrier-facilitated transport of amino acids through bulk liquid membrane 323–326  
 Triglycerides  
   level in skeletal muscles and heart under stress, effect of isoproterenol on 82–87  
 Tri-iodothyronine (T3)  
   regulatory effect on antioxidant enzyme activities and lipid peroxidation in *Anabas testudineus* 119–122  
*Triticum aestivum* L. *See* Wheat  
 Trypsin  
   inactivation by photoilluminated riboflavin, alone or with-Cu(II) combination 312–318  
 Tween-20. *See* Surfactants  
**U**  
 Ultraviolet circular dichroism (UV-CD)  
   far and near, to study effect of denaturants on structure and activity of 3-HBA-6-hydroxylase 148–153  
 Urea  
   effect on structure and activity of 3-HBA-6-hydroxylase, use of UV-CD and intrinsic fluorescence spectroscopy in 148–153  
 Urey Bradley force field  
   and Wilson's GF matrix method, use in study of dynamical behaviour of morphine in relation to Leu<sup>5</sup> and Met<sup>5</sup>-enkephalins 173–181  
 Urolithiasis  
   XRD, EDX and SEM investigations of urinary calculi in 226–232  
**V**  
 Vegetable oils  
   micro-emulsion vehicles derived from, for drug delivery 254–257  
 Venom  
   of *Scolopendra subspinipes mutilans*, scolopendrin I from, induction, purification and characterization of 88–93  
 Veratryl alcohol  
   n-propanol as substitute for assaying ligninperoxidase activities from fungal strains 48–51

Vibrational dynamics			
of morphine in relation to Leu <sup>5</sup> and Met <sup>5</sup> -enkephalins	173–181	Whitefly feeding in cassava, pathogenesis-related proteins induced by	182–185
Viral genomes		Wilson's GF matrix method and Urey Bradley force field, for study of dynamical behaviour of morphine in relation to Leu <sup>5</sup> and Met <sup>5</sup> -enkephalins	173–181
1/f correlations in: FFT study	137–142	Work stress induced skeletal muscle degeneration in rats, isoproterenol's ameliorative effect on	82–87
Vitamins			
B <sub>6</sub> and B <sub>12</sub> , role in Hcy metabolism	277–278		
E			
antioxidant property of, compared to <i>P. niruri</i> aqueous extract	299–305		
effect on MSG-induced hepatotoxicity and oxidative stress	20–24		
<b>W</b>		<b>X</b>	
Water-deficit stress		X-ray diffraction (XRD)	
in <i>Oryza sativa</i> , <i>Psb A</i> expression in drought-tolerant genotype N22	244–246	investigations of urinary calculi	226–232
Weathering		<i>in vivo</i> investigation of bone-matrix formation and osteogenesis under magnetic field stimulation <i>in vivo</i>	167–172
field, oxyradical accumulation and rapid deterioration of soybean seeds due to	41–47	X-ray spectroscopy	
Weddillite	226	energy dispersive (EDX), investigations of urinary calculi in urolithiasis	226–232
Wheat seeds		<b>Y</b>	
equilibrated at different relative humidities, water binding, seed coat permeability and germination characteristics of	233–238	Yeast. <i>See also specific strains</i>	
Whewellite	226	<i>Saccharomycopsis fibuligera</i> A11	
		trehalose-6-phosphate synthase from, purification and characterization of	289–294
		<i>Schizosaccharomyces pombe</i> , phosphatidylinositol biosynthesis in, effect of inositol on	143–147