A

Adrafinil, 193–212
   chemistry, 194–195
   clinical trials, 204–207
      depression, 207
      disorders of vigilance, 204–206
      motor organization deficits, 206–207
   mechanisms of action, 200–204
      \( \alpha_1 \)-adrenergic receptor hypothesis, 201
      effect on brain metabolism, 202
      neuroprotective effects, 203–204
   pharmacokinetics, 195–196
   pharmacology, 197–204
      behavioral activity, 197–199
      effects on EEG and sleep, 200
      effects on learning and memory, 199–200
      other behavioral effects, 199
   toxicology, 195–196

ADCI, see SGB-017

Alcohol and neurodegeneration, 379–394
   apoptosis and, 388
   brain damage from, 388–389
   cell adhesion molecules and, 388
   excitotoxicity and, 382–384
   neurotoxicity of, 379–382
   neurotrophic factors and, 385–388
   oxidative stress and, 384–385

Alzheimer’s disease, 70–76
   amyloid and, 72
   amyloid-\( \beta \) peptides and, 74–75
   animal models, 73
   cholinesterase in, 72–73
   glial cells in, 75
   motoneuron and, 313–315
   new results in research, 73
   trace metals and, 76

Anti-addictive drugs
   18-methoxycoronaridine, 27–42
      SR 141716A, 43–58

Anti-Alzheimer’s drugs
   huperzine A, 281–300
      metrifonate, 13–26
      milameline, 93–104

Antianapoptotic agents
   R-2HMP, 105–124

Anticonvulsants
   NNC-711, 147–148
   SGB-017,

Antidepressants
   adrafinil, 193–212
   isatin, 331–346
   robalzotan, 213–232

Antiparkinsonian drugs
   mesulergine, 233–248

Antipsychotic drugs
   ceruletide, 145–164
      LY 354740, 1–12
      risperidone, 249–264

C

Ceruletide, 145–164
   chemistry, 146–147
   clinical trials in, 156–158
   dementia, senile, 158
   dyskinesia, 157
   panic disorder, 158
   schizophrenia, 156
   pharmacokinetics and metabolism, 155
   pharmacology, 147–155
      amino acidergic neurons, effects on, 152
      animal models of neuropsychiatric
diseases, effects on, 152–155
      dopaminergic functions,
      interactions with, 148–152
      sites of action, 147–148
   toxicology, 155

Cholinergic mechanisms, 301–316
   acetylcholine
      release at cholinergic gene locus, 306–308
      synthesis and metabolism, 309
   acetylcholinesterases, 304–306
      toxicity of, 311–313
   cholinergic system,
      function and behavior, 310
      interaction with other systems, 310–311
   motor nerve terminals, structure of, 304
   nicotinic and muscarinic receptors and, 302–304

Clenbuterol, 347–364
   \( \beta \)-adrenoceptor stimulant effects, 356–357
   neuroprotective effects, 353–356
   NGF induction by, 348–356
   NGF receptor P75, role of, 359–361

E

Estrogens actions in the brain, meeting report, 77–82
   estrogens and hypothalamic function, 77–79
   estrogens, memory and the hippocampus, 81–82

Experimental biology’99, meeting report, 185–188

G

GABA\(_A\) receptor ligands, 125–144
   acetylcholinesterase inhibitors, 139–140
   benzodiazepines, 126–129
β-carbolines, 129–132
flavonoids, 135–137
imidazobenzothiazoles, 137–139
imidazopyrimidines, 137
imidazoquinolines, 137
imidazoquinolinones, 133–135
imidazoquinolines, 137
pharmacophore models, 140–141
pyrazoloquinolinones, 132–133

Huperzine A, 281–300
cholinesterase inhibition by, 283–288
clinical trials, 296–297
effects on cholinergic parameters, 289–291
effects on memory impairment, 292–294
effects on neurotransmitter levels, 288–289
neuroprotective effects, 291–292
pharmacokinetics, 294–295
toxicology, 295–296

Interleukin-3 (IL-3), 265–280
adverse effects on the nervous system, 275–276
chemistry, 266
effects on the central nervous system, 269–272
cholinergic neurons, in vitro, 269–270
cholinergic neurons, in vivo, 270–271
other neurons, in vitro, 271–272
other neurons, in vivo, 272
peripheral nervous system and, 268–269
pharmacology, 266–267
therapeutic prospects in neurologic disorders, 275
transgenic and knockout mice, effects in, 273–274
Ion channel research conference, meeting report, 177–184

Isatin, 331–346
acetylcholine levels in striatum, effect on, 339–341
blood pressure in rats, effect on, 338–339
chemistry, 334
dopamine levels in striatum, effect on, 339–341
MAO inhibitory activity, 334–336
spectrum of biological properties, 342–343
tissue monoamine levels, effect on, 336–338

LY 354740, 1–12
antianxiety effects, 5–7
anxiolytic effects, 7–8
chemistry, 2
effects on drug withdrawal, 7
in vitro receptor pharmacology, 2–3
in vivo studies, 5–9
modulation of synaptic transmission by, 3–5
neuroprotective effects, 8–9

Melatonin and its potential, meeting report, 59–63
Mesulergine, 233–248
chemistry, 234
clinical studies, 240–243
Parkinson’s disease, 240–242
pituitary adenomas, 242–243
pharmacokinetics, 240
pharmacology, 234–237
effect on lactotrophs, 236
serotonergic system, 236–237
toxicology, 237–240
18-Methoxycoronaridine, 27–42
chemistry, 28
neurotoxicity, 37–38
pharmacokinetics, 36–37
pharmacology, 29–36
cardiovascular effects, 38
in vitro studies, 34–36
microdialysis studies, in vivo, 33–34
self administration studies, 29–33
Metrifonate, 13–26
chemistry, 14
clinical trials, 22–23
dosage, 21
effects on memory, learning, and behavior, 17
pharmacodynamics, animal, in vitro, 14–15
in vivo, 15–16
pharmacokinetics, human, 18
safety, human, 21
toxicity, animal, 17–18
Milameline, 93–104
clinical experience, 100–101
pharmacokinetics, 99
pharmacology, 94–99
in vitro, 94–97
in vivo, 97–99
toxicology, 99–100

NAD-299, see robalzotan
Neurodegeneration, fourth annual
Promega symposium, 83–90
developmental and degenerative cell death, relationships, 84–85
disease mechanisms, 84
Huntington’s disease, 86
model systems, 88–89
mutations in RNA, 86
Parkinson’s disease, genetic and environmental interactions, 87–88
Neuroimmune interactions, meeting report, 64–69
clinical prospects, 69
cytokines, sickness and depression, 67–68
inflammation in Alzheimer’s disease, 65
Neuroprotective drugs, adrafinil, 193–212
interleukin-3, 265–280
clenbuterol, 347
NMDA antagonists, 165–176
barbiturate tolerance and NMDA, 170
benzodiazepine tolerance and NMDA, 169–170
ethanol tolerance and NMDA, 167–169
glutamate and NMDA receptor, 166
opiate tolerance and NMDA, 170–172
other drugs tolerance and NMDA, 172

NNC-711, 317–330
  chemistry, 319
  pharmacology, 320–328
    age-related differences in efficacy, 323–327
    anticonvulsant effect, 322–327
    behavioral effects, 327–328
    binding profile, 320
    effect on GABA levels, 321–322
    GABA uptake inhibition, 320

R
R-2HMP, 105–124
  chemistry, 108
  mechanisms of antiapoptotic action, 117–119
  pharmacokinetics and metabolism, 116
  pharmacology, 106–114
    antiapoptotic activity, 107–113
    cancer modulatory action, 114
    MAO inhibition, 106–107
    other actions, 115–116
  toxicity, 119
Risperidone, 249–264
  clinical efficacy, 256–258
    comparison to conventional antipsychotics, 256–257
    comparison to other atypical antipsychotics, 257
    other indications, 258
    cost effectiveness, 258–259
    dosage, 259–260
  pharmacokinetics, 254–256
    accumulation, 255–256
    absorption, 254
    elimination, 255
    metabolism, 254–255
  pharmacology, 251–254
    in vitro studies, 251–253
    in vivo animal studies, 253–254
    PET studies, 254
  safety and toxicology, 259
Robalzotan (NAD-299), 213–232
  behavioral pharmacology, 224–225
  cage-leaving response, effect on, 225
  8-OH-DPAT-induced behavioral syndrome, effect on, 225
  locomotion in habituated rats, effect on 224–225
  biochemical pharmacology, 215–220
    autoradiography, human brain, 219
    positron tomography, monkey brain, 219–220
    receptor binding, in vitro, 215–217
    in vivo, 217–219
  biochemistry, 220–222
    effects on dopamine system, 220–221
    microdialysis studies, rat brain, 221–222
    suppression of 5-HT synthesis, 220
    effects on corticoids secretion, 223
    effects on 8-OH-DPAT-induced hypothermia, 223
    effects on 8-OH-DPAT-induced facilitation of ejaculation, 224
    electrophysiological studies, 22–223
    general pharmacology, 227–228
    pharmacokinetics and metabolism, 227
    physicochemical properties, 214
    subchronic treatment, 225–226
    behavioral syndrome, effect on, 226
    5-HT synthesis, effect on, 226
    receptor binding, effect on, 225–226

S
SGB-017, 365–378
  chemistry, 366
  pharmacology, 366–376
    drug discrimination, 374
    epilepsy models, activity in, 370–373
    learning and memory, effects on, 375–376
    NMDA blockade, by, 366–367
    sodium channel blockade, by, 367–370
    vacuolization, 374–375
SR 141716A, 43–58
  Interactions with CB receptors, 46–49
  In vivo studies, 49–53
  interactions with cannabinoid agonists, 49–53

V
Vigilance promoting drugs,
adrafinil, 193–212