

**PHARMACOLOGY BIOCHEMISTRY
&
BEHAVIOR**

Index to

VOLUME 26 1987

VOLUME 26 NUMBER 1

JANUARY 1987

CONTENTS

Editorial	vii
Articles	
Chronic haloperidol effects on oral movements and radial-arm maze performance in rats.	
LEVIN, E. D., D. M. GALEN and G. D. ELLISON	1
Amphetamine-induced on- and off-wall rearing in adult laboratory rats.	
RUSSELL, K. H., M. GIORDANO and P. R. SANBERG	7
Beta-adrenergic agonists reduce spontaneous motor activity through either β_1 or β_2 receptors.	
FRANCES, H., N. RENWART, S. DANTI, R. CASH, R. RAISMAN and P. SIMON	11
Changes in d-amphetamine elicited rotational behavior in rats exposed to uncontrollable footshock stress.	
CARLSON, J. N., S. D. GLICK and P. A. HINDS	17
Interactions of clonidine with phencyclidine and ketamine: Studies of radial maze performance and righting reflex in rats.	
McCANN, D. J., R. A. RABIN and J. C. WINTER	23
Reinforcement reduces behavioural impairment under an acute dose of alcohol.	
HAUBENREISSER, T. and M. VOGEL-SPROTT	29
Repeated treatment with antidepressant drugs does not affect the benzodiazepine receptors in preincubated membrane preparations from mouse and rat brain.	
PRZEGALIŃSKI, E., A. ROKOSZ-PELC, L. BARAN and J. VETULANI	35
Increased self-administration of cocaine following haloperidol: Effect of ovariectomy, estrogen replacement, and estrous cycle.	
ROBERTS, D. C. S., J. C. H. DALTON and G. J. VICKERS	37
In morphinised rats SKF 38393 converts dopamine D ₂ receptor-mediated forward locomotion into backward walking.	
AXON, D. I. R., G. H. FLETCHER and M. S. STARR	45
Motivational vs. motor effects of striatal and pallidal gabaergic projections to subthalamic and entopeduncular nuclei, ventromedial thalamus, and ventral globus pallidus.	
WILLIAMS, S. F. and L. J. HERBERG	49
β -Endorphin tolerance is inhibited by oxytocin.	
KOVÁCS, G. L. and G. TELEGYDY	57
The effects of ethanol on the offense and defensive behaviors of male and female rats during group formation.	
BLANCHARD, R. J., K. HORI, K. FLANNELLY and D. C. BLANCHARD	61

Contents continued

Biphasic dose-response relationship for effects of toluene inhalation on locomotor activity.	
HINMAN, D. J.	65
Differential convulsive susceptibility of high-activity and low-activity selected mice in response to GABA antagonists.	
MCINTYRE, T. D. and H. P. ALPERN	71
Suppressive effects of intraventricular injected dopamine and nomifensine on muricide induced by thiamine deficiency.	
ABE, Y., T. TADANO, A. YONEZAWA and K. KISARA	77
Age-dependent changes of brain GABA levels, turnover rates and shock-induced aggressive behavior in inbred strains of mice.	
CLEMENT, J., S. SIMLER, L. CIESIELSKI, P. MANDEL, S. CABIB and S. PUGLISI-ALLEGRA	83
Protein changes in the rat's prefrontal and "inferotemporal" cortex after exposure to visual problems.	
MOGENSEN, J. and O. S. JØRGENSEN	89
Co-dergocrine, cerebral glucose utilization and maze performance in middle-aged rats.	
WALOVITCH, R. C., D. K. INGRAM, E. L. SPANGLER and E. D. LONDON	95
The effects of ethanol on eye tracking in rhesus monkeys and humans.	
ANDO, K., C. E. JOHANSON and C. R. SCHUSTER	103
A new method for screening anxiolytic drugs in rats.	
YAMAMOTO, T. and S. UEKI	111
Cholinergic involvement in the action of formetanate on operant behavior in rats.	
MOSER, V. C. and R. C. MACPHAIL	119
Dopamine autoreceptor antagonists: Effects on sleep-wake activity in the rat.	
SVENSSON, K., P. ALFÖLDI, M. HAJÓS, G. RUBICSEK, A. M. JOHANSSON, A. CARLSSON and F. OBÁL, JR.	123
Determination of cross tolerance in rat spinal cord using intrathecal infusion via sequential mini-osmotic pumps.	
LOOMIS, C. W., B. MILNE and F. W. CERVENKO	131
Behavioral effects of THC as a function of environment and prior drug experience.	
MARTIN, P., W. HODGE, M. ROYAL and B. JONES	141
Differential effects of CGS 8216 and naltrexone on ingestional behaviour.	
KIRKHAM, T. C., D. J. BARBER, R. W. HEATH and S. J. COOPER	145
A role for serotonin and beta-endorphin in the analgesia induced by some tricyclic antidepressant drugs.	
SACERDOTE, P., A. BRINI, P. MANTEGAZZA and A. E. PANERAI	153
Effect of pentylenetetrazol-induced convulsions on the development and expression of limbic kindled seizures.	
GRAMLICH, C. A. and J. S. STRIPLING	159
The interaction of d-amphetamine and naloxone differs for rats trained on separate fixed-interval or fixed-ratio schedules of reinforcement.	
ANDREWS, J. S. and S. G. HOLTZMAN	167
Cross-tolerance between muscarinic agonists: Role of muscarinic receptors.	
COLLINS, A. C., T. N. SMOLEN, A. SMOLEN and L. J. MEDHURST	173

VOLUME INDEX

Vinpocetine enhances retrieval of a step-through passive avoidance response in rats.	
DENOBLE V. J.	183
 Brief Communications	
An investigation of the role played by the superior colliculus and ventromedial thalamus in self-injurious behavior produced by intranigral microinjection of muscimol.	
BAUMEISTER, A. A., G. D. FRYE and L. L. MOORE	187
Naloxone sensitivity in squirrel monkeys under a schedule of shock titration.	
OLIVETO, A. H. and L. A. DYKSTRA	191
Effects of scopolamine on locomotor activity and metabolic rate in mice.	
BUSHNELL, P. J.	195
Behaviourally specific interactions between naloxone and beta-phenylethylamine in an operant drug discrimination procedure in rats.	
GOUDIE, A. J.	199

VOLUME 26 NUMBER 2

FEBRUARY 1987

CONTENTS

Editorial	.....	vii
Articles		
The effect of chronic imipramine and electroconvulsive shock treatment on [³H]DADLE binding to cortical membranes of rats pretreated with chronic reserpine or 6-hydroxydopamine.		
ANTKIEWICZ-MICHALUK, L., J. MICHALUK, A. ROKOSZ-PELC, D. MARONA-LEWICKA and J. VETULANI	.....	203
Effect of the chronic ingestion of chlorimipramine and desipramine on the hole board response to acute stresses in male rats.		
RODRÍGUEZ ECHANDÍA, E. L., S. T. BROITMAN and M. R. FÓSCOLO	..	207
Rewarding and aversive effects of stimulant drugs in infant rats.		
SMITH, C. A. and E. W. HOLMAN	.....	211
Norepinephrine-mediated suppression of apomorphine-induced aggression and locomotor activity in the rat amygdala.		
PUCILOWSKI, O., E. TRZASKOWSKA, W. KOSTOWSKI and L. VALZELLI	.....	217
Chronic autoreceptor blockade and neuroleptic-induced dopamine receptor hypersensitivity.		
GORDON, J. H., J. K. CLOPTON, J. C. CURTIN and W. C. KOLLER	.....	223
Involvement of brain transmitters in the modulation of shock-induced aggression in rats by propranolol and related drugs.		
RAY, A., M. ALKONDON and P. SEN	.....	229
Mechanism of lithium action: <i>In vivo</i> and <i>in vitro</i> effects of alkali metals on brain superoxide dismutase.		
SHUKLA, G. S.	.....	235
Facilitation of the expression but not the acquisition of latent inhibition by haloperidol in rats.		
WEINER, I., J. FELDON and Y. KATZ	.....	241
Differential effects of benzodiazepine receptor ligands on isotonic saline and water consumption in water-deprived rats.		
ESTALL, L. B. and S. J. COOPER	.....	247
Comparison of ³H-spiroperone binding in caudate nuclei of rabbits and rats.		
HERNANDEZ, L. L. and D. A. POWELL	.....	253
Effect of chronic nicotine treatment against repeated immobilization stress.		
YAMANAKA, K., I. MURAMATSU and S. KIGOSHI	.....	259
Dopaminergic and α_1-adrenergic properties of B-HT920 revealed in morphine-dependent rats.		
VAN DER LAAN, J. W.	.....	265

Contents continued

Alterations in catecholamine levels and turnover in discrete brain areas after food deprivation.	
JHANWAR-UNIYAL, M., M. DARWISH, B. E. LEVIN and S. F. LEIBOWITZ	271
Hypophysectomy prevents ACTH-induced yawning and penile erection in rats.	
SERRA, G., W. FRATTA, M. COLLU and G. L. GEssa	277
Quantitative assessment of tolerance development to diisopropylfluorophosphate.	
LIM, D.-K., J. C. R. FERNANDO, B. HOSKINS and I. K. HO	281
Potentiated 5-hydroxytryptophan induced response suppression in rats following chronic reserpine.	
BRUGGE, K. L., J. N. HINGTGEN and M. H. APRISON	287
Zinc deficiency: Its role in gastric secretion and stress-induced gastric ulceration in rats.	
CHO, C. H., L. Y. Y. FONG, P. C. C. MA and C. W. OGLE	293
Electrophysiological correlates of stereotyped sniffing in rats injected with apomorphine.	
VANDERWOLF, C. H. and H. SZECHTMAN	299
Locomotor activity as a predictor of times and dosages for studies of nicotine's neurochemical actions.	
FREEMAN, G. B., K. A. SHERMAN and G. E. GIBSON	305
Effects of age on antidepressant kinetics and memory in Fischer 344 rats.	
McMAHON, T. F., M. WEINER, L. LESKO and T. EMM	313
Assessment of the effects of phenylpropanolamine on appetite and food intake.	
CAFFRY, E. W., H. R. KISSILEFF and J. C. THORNTON	321
Pilocarpine-induced reciprocal hindlimb scratching in mice.	
SCOTT, R. W., T. L. GOODE and R. B. RAFFA	327
Effect of the 5HT₂ antagonist ritanserin on food intake and on 5HT-induced anorexia in the rat.	
MASSI, M. and S. MARINI	333
Role of polyamines in experience-dependent brain plasticity.	
FERCHMIN, P. A. and V. A. ETEROVIĆ	341
The role of brain catecholamines in the exhibition of muricide induced by nucleus accumbens lesions and the effect of antidepressants in rats.	
AL-KHATIB, Iz. M. H., M. FUJIWARA, K. IWASAKI, Y. KATAOKA and S. UEKI	351
Hippocampal electrical activity in relation to behavior following ethylcholine aziridinium ion (AF64A) treatment.	
STEWART, D. J., S. M. LEVENTER, I. HANIN and C. H. VANDERWOLF	357
Neurochemical and behavioral effects of N-ethyl-acetylcholine aziridinium chloride in mice.	
POPE, C. N., B. T. HO and A. A. WRIGHT	365
Hypothermia: Role of α_1- and α_2-noradrenergic receptors in the hypothalamus of the cat.	
MYERS, R. D., D. B. BELESLIN and A. H. REZVANI	373
Coincidence of seizure susceptibility to caffeine and to the benzodiazepine inverse agonist, DMCM, in SWR and CBA inbred mice.	
SEALE, T. W., J. M. CARNEY, O. M. RENNERT, M. FLUX and P. SKOLNICK	381

VOLUME INDEX

Contents of monoamines in forebrain regions of alcohol-preferring (P) and -nonpreferring (NP) lines of rats.	
MURPHY, J. M., W. J. McBRIDE, L. LUMENG and T.-K. LI	389
Nicotinic cholinergic influences on sexual receptivity in female rats.	
WEAVER, D. R. and L. G. CLEMENS	393
Effects of phencyclidine, ketamine and MDMA on complex operant behavior in monkeys.	
THOMPSON, D. M., P. J. WINSAUER and J. MASTROPAOLO	401
Studies on the central action of L-threo-3,4-dihydroxyphenyl-serine (L-threo-DOPS) in FLA-63-treated mice.	
KATO, T., M. KATSUYAMA, N. KARAI, M. NAKAMURA and J. KATSUBE	407
Brief Communications	
Amfonelic acid: Similarity to other dopamine agonists.	
SCHECHTER, M. D.	413
Reduced anti-immobility effect of repeated desipramine (DMI) treatment in adult rats undernourished at perinatal age.	
MOLINA, V. A., E. A. KELLER and O. A. ORSINGHER	417
Behavioral effects of intrahippocampal injections of clonidine, yohimbine and salbutamol in the rat.	
VERLEYE, M. and F. BERNET	421
The effect of MDMA ("Ecstasy") and its optical isomers on schedule-controlled responding in mice.	
GLENNON, R. A., P. J. LITTLE, J. A. ROSECRANS and M. YOUSIF	425
Differential biochemical mechanisms mediate locomotor stimulation effects by caffeine and nicotine in rats.	
LEE, E. H. Y., M. J. TSAI, Y. P. TANG and C. Y. CHAI	427
Effect of acute administration of bromocriptine on isoproterenol- and angiotensin II-induced water intake in estrogen-treated rats.	
FREGLY, M. J.	431
Meeting Report	
Symposium on Neurobiology of Pain and Drug Abuse	
	435
The nociceptive jaw-opening reflex: Evidence for alpha₂ adrenoceptor involvement.	
CURTIS, A. L. and J. MARWAH	437
Monoamine and opioid interactions in spinal analgesia and tolerance.	
LOOMIS, C. W., K. JHAMANDAS, B. MILNE and F. CERVENKO	445
Cocaine modulation of central monoaminergic neurotransmission.	
PITTS, D. K. and J. MARWAH	453
GABAergic mechanisms of analgesia: An update.	
SAWYNOK, J.	463

VOLUME 26 NUMBER 3

MARCH 1987

CONTENTS

Editorial	v
Articles	
Influence of atropine and N-methyl atropine pretreatments on behavioral and physiological effects of the irreversible muscarinic agonist, BM123.	
OVERSTREET, D. H., R. W. RUSSELL, R. A. BOOTH and D. J. JENDEN	475
Interactions between sucrose, pain and isolation distress.	
BLASS, E., E. FITZGERALD and P. KEHOE	483
Exaggerated peripheral responses to catecholamines contributes to stress-induced hyperglycemia in the ob/ob mouse.	
KUHN, C. M., C. COCHRANE, M. N. FEINGLOS and R. S. SURWIT	491
The pyrazoloquinoline, CGS 8216, reduces sham feeding in the rat.	
KIRKHAM, T. C. and S. J. COOPER	497
Monosodium glutamate does not alter ACTH- or apomorphine-induced penile erection and yawning.	
ARGIOLAS, A., M. R. MELIS, W. FRATTA, A. MAURI and G. L. GEZZA	503
The actions of SCH 23390, a D1 receptor antagonist, on operant and avoidance behavior in rats.	
SANGER, D. J.	509
Effects of naloxone and naltrexone on meal patterns of freely-feeding rats.	
KIRKHAM, T. C. and J. E. BLUNDELL	515
Benzodiazepine self-administration in rhesus monkeys: Estazolam, flurazepam and lorazepam.	
JOHANSON, C. E.	521
Amphetamine-elicited perseverative and rotational behavior: Evaluation of directional preference.	
KOKKINIDIS, L.	527
Acute Δ^9-tetrahydrocannabinol exposure: Effects on hypothalamic-pituitary-testicular activity in mice.	
DALTERIO, S., R. STEGER, J. PELUSO and L. DE PAOLO	533
Short-term and delayed behavioral effects of pre- and post-weaning morphine in mice.	
ALLEVA, E. and G. LAVIOLA	539
The effect of neurotransmitters on cataleptic behavior induced by PG D₂ in rats.	
SAITO, R., M. FUJIWARA, H. KAMIYA and N. ONO	543
Methcathinone: A new and potent amphetamine-like agent.	
GLENNON, R. A., M. YOUSIF, N. NAIMAN and P. KALIX	547

Contents continued

Potentiation of odor by taste and odor aversions in rats are regulated by cholinergic activity of dorsal hippocampus.	
BERMÚDEZ-RATTONI, F., K. L. COBURN, J. FERNÁNDEZ, A. F. CHÁVEZ and J. GARCIA	553
Chlordiazepoxide and stress tolerance in rats.	
HENKE, P. G.	561
Seasonal difference in thermoregulatory responses to opiates in a mammalian hibernator.	
WANG, L. C. H., T. F. LEE and M. L. JOURDAN	565
A comparison of cocaine and its metabolite norcocaine: Effects on locomotor activity.	
ELLIOTT, P. J., G. M. ROSEN and C. B. NEMEROFF	573
Maternal aggression towards different sized male opponents: Effect of chlordiazepoxide treatment of the mothers and d-amphetamine treatment of the intruders.	
MOS, J., B. OLIVIER and R. VAN OORSCHOT	577
Sham feeding of sucrose increases the ratio of 3,4-dihydroxyphenylacetic acid to dopamine in the hypothalamus.	
SMITH, G. P., K. A. BOURBONNAIS, C. JEROME and K. J. SIMANSKY	585
Differential effects of nialamide and clomipramine on serotonin efflux and autoreceptors.	
OFFORD, S. J. and R. O. WARWICK, JR.	593
Lack of tolerance or withdrawal effects in mice after chronic administration of the non-sedating anxiolytic, CGS 9896.	
BOAST, C. A. and S. C. GERHARDT	601
Effects of 5,7-dihydroxytryptamine lesions of the nucleus accumbens on rat intravenous morphine self-administration.	
SMITH, J. E., K. SHULTZ, C. CO, N. E. GOEDERS and S. I. DWORAKIN ..	607
Alterations in brain catecholamines during pregnancy.	
SMOLEN, A., T. N. SMOLEN and J. L. VAN DE KAMP	613
Atropine sulfate increases pituitary responses to stress.	
KANT, G. J., L. LANDMAN-ROBERTS, T. EGGLESTON and J. L. MEYERHOFF	619
A long-lasting cholinesterase inhibitor affecting neural and behavioral processes.	
BRUFANI, M., C. CASTELLANO, M. MARTA, A. OLIVERIO, P. G. PAGELLA, F. PAVONE, M. POMPONI and P. L. RUGARLI	625
The effect of chlordiazepoxide on the habituation of exploration: Interactions with the benzodiazepine antagonist RO 15-1788.	
LISTER, R. G. and S. E. FILE	631
Brief Communications	
Prevention of fluphenazine-induced changes in dopaminergic and muscarinic receptors by lithium.	
GIANUTSOS, G. and E. FRIEDMAN	635
Studies of thyrotropin-releasing hormone (TRH)-induced defecation in cats.	
BELESLIN, D. B., D. JOVANOVIĆ-MICIĆ, R. SAMARDZIĆ and B. TERZIĆ ..	639
Changes in motor activities induced by microinjections of the selective dopamine agonists LY 171555, quinpirole hydrochloride, and SK&F 38393 into the habenula nucleus.	
THORNTON, E. W., J. A. C. EVANS and A. WICKENS	643

VOLUME 26 NUMBER 4

APRIL 1987

CONTENTS

Editorial	.....	v
Articles		
Effects of pentobarbital and flurazepam on respiratory neurons in undrugged cats.		
DENAVIT-SAUBIÉ, M., A. S. FOUTZ, M.-P. MORIN-SURUN, E. BOUDINOT, J. CHAMPAGNAT and S. F. GONSALVES	647	
Variations of norepinephrine concentrations following chronic stressor application.		
ANISMAN, H., J. IRWIN, W. BOWERS, P. AHLUWALIA and R. M. ZACHARKO	653	
A dietary haloperidol regimen for inducing dopamine receptor supersensitivity in rats.		
FREY, J. M., W. W. MORGAN, M. K. TICKU and R. D. HUFFMAN	661	
Doubtful role for phencyclidine metabolites in PCP enhancement of QNB binding.		
BOGGAN, W. O. and L. D. MIDDAUGH	671	
The differential effects of naloxone hydrochloride on the acquisition and maintenance of schedule-induced polydipsia.		
RILEY, A. L. and C. L. WETHERINGTON	677	
Effects of centrally administered H₂ antagonists on motor activity.		
O'NEILL, K. A. and S. B. GERTNER	683	
Effects of the dopamine D-1 antagonist SCH 23390 and the D-2 antagonist sulpiride on saline acceptance-rejection in water-deprived rats.		
GILBERT, D. B. and S. J. COOPER	687	
Effects of chronic ethanol exposure on adenylate cyclase activities in the rat.		
RABIN, R. A., R. C. BAKER and R. A. DEITRICH	693	
The effects of ICV-CRH on novelty-induced behavior.		
SHERMAN, J. E. and N. H. KALIN	699	
Delineation of mu-antagonist, partial kappa agonist and non-opioid agonist activity of cyclazocine using urinary output of rats.		
LEANDER, J. D.	705	
The direct enhancement of positive palatability by chlordiazepoxide is antagonized by Ro 15-1788 and CGS 8216.		
TREIT, D., K. C. BERRIDGE and C. E. SCHULTZ	709	
SCH 23390 and its S-enantiomer stereoselectively prevent EEG and behavioral activation induced by dopamine agonists in the rabbit.		
ONGINI, E., M. G. CAPORALI, M. MASSOTTI and S. SAGRATELLA	715	
Increased sensitivity to the stimulus properties of morphine in food deprived rats.		
GAIARDI, M., M. BARTOLETTI, A. BACCHI, C. GUBELLINI and M. BABBINI	719	

Contents continued

Changes of brain monoamine contents in three models of experimentally induced muricide in rats.	
TANI, Y., Y. KATAOKA, Y. SAKURAI, K. YAMASHITA, M. USHIO and S. UEKI	725
Quantitative determination of the effects of catecholaminergic agonists and antagonists on the rewarding efficacy of brain stimulation.	
GALLISTEL, C. R. and G. FREYD	731
Opioid-induced linear running in obese (<i>ob/ob</i>) and lean mice.	
CALCAGNETTI, D. J., J. J. FLYNN and D. L. MARGULES	743
Harman induces preference for ethanol in rats: Is the effect specific for ethanol?	
ROMMELSPACHER, H., C. BÜCHAU and J. WEISS	749
Food intake of domestic fowl injected with adrenergic agonists and antagonists into the hepatic portal vein.	
HOWES, G. A. and J. M. FORBES	757
Nucleus accumbens opiate-dopamine interactions and locomotor activation in the rat: Evidence for a pre-synaptic locus.	
SWERDLOW, N. R., M. AMALRIC and G. F. KOOB	765
Cholinergic stimulation of drinking from the lateral hypothalamus: Indications for M₂ muscarinic receptor mediation.	
HAGAN, J. J., J. A. D. M. TONNAER and C. L. E. BROEKKAMP	771
Naloxone inhibits mating and conditioned place preference for an estrous female in male rats soon after castration.	
MILLER, R. L. and M. J. BAUM	781
Clonidine and prazosin block the iminodipropionitrile (IDPN)-induced spastic dyskinetic syndrome in mice.	
CADET, J. L., T. BRAUN and W. J. FREED	791
Development of physical dependence on midazolam by oral self-administration.	
FALK, J. L. and M. TANG	797
Interactions of diazepam and caffeine: Behavioral and subjective dose effects in humans.	
ROACHE, J. D. and R. R. GRIFFITHS	801
Sex differences in the recovery of brain acetylcholinesterase activity following a single exposure to DFP.	
SMOLEN, A., T. N. SMOLEN, P. C. HAN and A. C. COLLINS	813
Long-lasting effects of escalating doses of <i>d</i>-amphetamine on brain monoamines, amphetamine-induced stereotyped behavior and spontaneous nocturnal locomotion.	
ROBINSON, T. E. and D. M. CAMP	821
Brief Communications	
Effects of stress on [³H]cyclohexyladenosine binding to rat brain membranes.	
ANDERSON, S. M., J. R. LEU and G. J. KANT	829
Evaluation of the role of norepinephrine in the reinforcing effects of psychomotor stimulants in rhesus monkeys.	
WOOLVERTON, W. L.	835
Behavioral effects resulting from sub-chronic treatment of rats with extract of fresh stabilized cola seeds.	
SCOTTO, G., C. MAILLARD, J. VION-DURY, G. BALANSARD and G. JADOT	841

VOLUME INDEX

Effect of phencyclidine and two monohydroxy metabolites on ^3H QNB binding <i>in vivo</i> in rats.	
BOGGAN, W. O., A. J. STRINGER, K. FAUGHT and L. D. MIDDAUGH	... 847
Altered splenic catecholamine concentrations during experimental allergic encephalomyelitis.	
WESSELMANN, U., R. J. KONKOL, G. L. LEO, D. L. ROERIG and D. R. HARDER	..... 851

VOLUME 26 1987

SUBJECT INDEX

- Acetylcholinesterase.** 625
 cholinesterase inhibitors
 heptyl
 locomotor activity
 memory
 physostigmine analogues
- Acetylcholinesterase activity.** 813
 choline acetyltransferase activity
 diisopropylphosphofluoridate
 muscarinic receptors
 nicotinic receptors
 recovery
 sex differences
- Acetylcholinesterase inhibition.** 119
 formetanate
 operant behavior
 schedule-controlled responding
- ACh formation.** 305
 DOPAC/DA ratio
 dose-dependent effects
 locomotor activity
 neurochemical actions
 nicotine
 time-dependent effects
- Acquisition and maintenance.** 677
 drinking
 naloxone
 schedule-induced polydipsia
- Acute administration**
- alcohol, 29
 - analgesia, 153
 - angiotensin II, 431
 - antidepressants, 153
 - antidiopsgenic effect, 431
 - behavioral impairment, 29
 - bromocriptine, 431
 - CGS 9896, 601
 - chronic administration, 153, 593, 601
 - clomipramine, 593
 - diazepam, 601
 - differential effects, 593
 - diisopropylfluorophosphate, 281
 - drinking, 431
 - drug comparisons, 601
 - drug interaction, 153
 - endogenous opioid system, 153
 - beta-endorphin concentrations, 153
 - estrogen pretreatment, 431
 - 5-HT autoreceptors, 593
 - human studies, males, 29
 - isoproterenol, 431
 - learning, 29
 - nialamide, 593
 - serotonin efflux, 593
 - serotonergic system, 153
 - subacute administration, 281
 - tolerance, 29, 601
 - tolerance development, 281
 - withdrawal effects, 601
- Acute exposure,** 533
 clonidine
 hypothalamus
 in vitro
 in vivo
 testes
 testosterone
- Δ^9 -tetrahydrocannabinol**
- Adaptation.** 141
 behavioral effects
 environmental familiarity
 prior drug experience
 delta-9-tetrahydrocannabinol
- Additive effects.** 427
 amino acid precursors
 caffeine
 catecholamine release
 drug interactions
 locomotor activity
 nicotine
- Adenylate cyclase.** 693
 chronic administration
 ethanol
 in vitro
 liquid diet
 tolerance
- Adrenergic agonists.** 757
 adrenergic antagonists
 chickens
 dose-response relationship
 epinephrine
 food intake
 hepatic portal vein
 vagotomy
- beta-Adrenergic agonists.** 11
 β_1 receptors
 β_2 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
- Adrenergic antagonists.** 757
 adrenergic agonists
 chickens
 dose-response relationship
 epinephrine
 food intake
 hepatic portal vein
 vagotomy
- α_1 -Adrenergic properties.** 265
 B-HT920
 dopaminergic properties
 morphine-withdrawal behavior
- α_2 -Adrenoceptors.** 791
 clonidine
 imidodipropionitrile
 prazosin
 spasmodic syndrome, drug induced
- α_2 -Adrenoceptors**
- β -adrenoceptors, 259
 - chronic administration, 259
 - clonidine, 437
 - immobilization stress, 259
 - jaw opening reflex, 437
 - muscarinic cholinoreceptors, 259
 - nicotine, 259
 - nociception, 437
 - rabbit/rat comparisons, 437
 - stress, repeated, 259
- β -Adrenoceptors.** 259
 α_2 -adrenoceptors
 chronic administration
- immobilization stress**
- muscarinic cholinoreceptors**
- nicotine**
- stress, repeated**
- Adrenocorticotrophic hormone**
- apomorphine, 503
 - hypophsectomy, 277, 503
 - monosodium glutamate, 503
 - penile erection, 277, 503
 - yawning, 277, 503
- Age differences**
- aggression, shock-induced, 83
 - antidepressants, 313
 - co-dergocrine, 95
 - GABA levels, brain, 83
 - inbred mice, 83
 - kinetics, 313
 - learning and memory, 95
 - local cerebral glucose utilization, 95
 - locus ceruleus, 95
 - maze performance, 95
 - memory, short-term, 313
 - strain differences, 83
- Aggression.** 229
 brain transmitters
 dose related effects
 footshock aggression
 propranolol
- Aggression, drug induced.** 217
 amygdala
 locomotor activity
 norepinephrine
- Aggression, shocked-induced.** 83
 age differences
 GABA levels, brain
 inbred mice
 strain differences
- Alcohol**
- acute administration, 29
 - alcohol preference, 749
 - behavioral impairment, 29
 - β -carbolines, 749
 - drug comparisons, 749
 - harmalan, 749
 - human studies, males, 29
 - learning, 29
 - tolerance, 29
 - ultradian rhythm, 749
- Alcohol nonpreferring rats.** 389
 alcohol preferring rats
 forebrain
 monoamine content
 strain differences
- Alcohol preference.** 749
 alcohol
 β -carbolines
 drug comparisons
 harmalan
 ultradian rhythm
- Alcohol preferring rats.** 389
 alcohol nonpreferring rats
 forebrain
 monoamine content
 strain differences
- Alkali metals.** 235
 in vitro

in vivo
 lithium
 mechanism of action
 superoxide dismutase
Amfotericin acid, 413
 dopamine agonists
 drug discrimination
Amino acid precursors, 427
 additive effects
 caffeine
 catecholamine release
 drug interactions
 locomotor activity
 nicotine
Amphetamine, 167
 drug interaction
 fixed-interval schedule
 fixed-ratio schedule
 naloxone
d-Amphetamine
 brain monoamines, 821
 chlordiazepoxide, 577
 directional behavior, 527
 dopamine, 821
 dose differences, 821
 footshock, 17
 habituation, 7
 intruder treatment, 577
 locomotor activity, nocturnal, 821
 long-lasting effects, 821
 maternal aggression, 577
 maternal treatment, 577
 opponent size, 577
 perseveration, 527
 rearing, off-wall, 7
 rearing, on-wall, 7
 rotational behavior, 17, 527
 rotational bias, 17
 serotonin, 821
 sex differences, 17
 spontaneous alternation, 527
 stereotyped behavior, 821
Amygdala
 aggression, drug induced, 217
 convulsions, drug induced, 159
 kindling, 159
 locomotor activity, 217
 norepinephrine, 217
 olfactory bulb, 159
 pentylenetetrazol, 159
 seizures, 159
 sensitization, 159
Analgesia
 acute administration, 153
 antidepressants, 153
 chronic administration, 153
 corticotropin-releasing hormone, 699
 drug interaction, 153
 endogenous opioid system, 153
 beta-endorphin concentrations, 153
 GABA agonists, 463
 GABA-transaminase inhibitors, 463
 locomotor activity, 539
 morphine, 539
 noradrenergic pathways, 463
 novelty-induced behavior, 699
 post-weaning exposure, 539
 pre-weaning exposure, 539
 serotonergic system, 153
Analgesic effect, 57
 β -endorphin
 oxytocin
 tolerance
Angiotensin II, 431
 acute administration
 antidiopsogetic effect
 bromocriptine
 drinking
 estrogen pretreatment
 isoproterenol
Anorexia, 5-HT induced, 333
 eating
 5-hydroxytryptamine
 ritanserin
Antidepressants
 acute administration, 153
 age differences, 313
 analgesia, 153
 benzodiazepine receptors, 35
 catecholamines, 351
 chronic administration, 153
 DOPAC, 351
 dopamine, 351
 drug comparisons, 351
 drug interaction, 153
 endogenous opioid system, 153
 beta-endorphin concentrations, 153
 $[^3\text{H}]$ flunitrazepam binding sites, 35
 kinetics, 313
 lesions, nucleus accumbens, 351
 memory, short-term, 313
 muricide, 351
 nucleus accumbens, 351
 route of administration, 35
 serotonergic system, 153
Antidiopsogetic effect, 431
 acute administration
 angiotensin II
 bromocriptine
 drinking
 estrogen pretreatment
 isoproterenol
Anti-immobility effect, 417
 chronic administration
 desipramine
 perinatal undernutrition
Antinociception
 continuous infusion, 131
 cross tolerance, 131
 lesions, electrolytic, 187
 muscimol, 187
 self-injurious behavior, 187
 spinal cord, 131
 stereotyped behavior, 187
 substantia nigra, 187
 superior colliculus, 187
 ventromedial thalamus, 187
Anxiolytic drugs, 111
 corridor-type runway
 drug screening
Apomorphine
 adrenocorticotrophic hormone, 503
 electrophysiological correlates, 299
 hypophysectomy, 503
 monosodium glutamate, 503
 penile erection, 503
 sniffing, 299
 stereotyped behavior, 299
 yawning, 503
Apparatus
 corridor-type runway, 111
 gastric fistulas, 497
 holeboard, 631, 643
 macroelectrodes, 299
 mini-osmotic pumps, 131
 radial arm maze, 1, 365
 radial maze, 23
 rotometer, 17
 shuttlebox, 17, 509
 Y-maze, 527
Appetite, 321
 eating
 food intake
 human studies, females
 phenylpropanolamine
Anterior hypothalamus/preoptic area, 373
 cats
 hypothermia
 α -noradrenergic receptors
 thermoregulation
Atropine, 475
 BM123
 drug interaction
 muscarinic receptor
 N-methyl atropine
 reversible association
Atropine sulfate, 619
 cyclic AMP
 footshock
 immobilization
 methyldatropine nitrate
 pituitary
 prolactin
 stress
Attack targets, 61
 defensive behavior
 ethanol
 group formation
 offensive behavior
 social/agonistic interactions
Autoreceptor blockade, 223
 dopamine receptor hypersensitivity
 neuroleptics
Avoidance, 509
 D1 receptors
 operant responding
 SCH 23390
Avoidance performance, 241
 haloperidol
 latent inhibition

Behavioral activation, 715
 benzodiazepine enantiomers
 dopamine agonists
 drug comparisons
 EEG activation
 rabbits
 SCH 23388
 SCH 23390
Behavioral effects
 adaptation, 141
 caffeine, 801, 841
 clonidine, 421
 cola seeds, 841
 diazepam, 801
 dose effects, 801
 drug comparisons, 841
 drug interactions, 801
 electrical activity, 357
 environmental familiarity, 141
 ethylcholine aziridinium ion, 357
 hippocampus, 357, 421
 human studies, males, 801
 intrahippocampal administration, 421
 prior drug experience, 141

psychostimulants, 841
 rhythmical slow activity, 357
 salbutamol, 421
 sub-chronic treatment, 841
 Δ^9 -tetrahydrocannabinol, 141
 yohimbine, 421
Behavioral impairment, 29
 acute administration
 alcohol
 human studies, males
 learning
 tolerance
Behavioral-potency comparison, 425
 N-methyl-1-(3,4-methylene-dioxyphenyl)-2-aminopropane
phenylisopropylamines
 schedule-controlled responding
Benserazide, 407
 L-threo-3,4-dihydroxyphenylserine
FLA-63
 locomotor activity
 nialamide
 norepinephrine levels
Benzodiazepine antagonists, 631
 chlordiazepoxide
 drug interactions
 exploration
 habituation
 locomotor activity
 RO 15-1788
Benzodiazepine enantiomers, 715
 behavioral activation
 dopamine agonists
 drug comparisons
 EEG activation
 rabbits
 SCH 23388
 SCH 23390
Benzodiazepine receptor ligands, 247
 differential effects
 drinking
 isotonic saline consumption
 rats, males
 water consumption
Benzodiazepine receptors
 antidepressants, 35
 CGS 8216, 497
 $[^3\text{H}]$ flunitrazepam binding sites, 35
 palatability, 497
 route of administration, 35
 sham feeding, 497
Benzodiazepines, 521
 monkeys
 self-administration
 β_1 receptors, 11
 beta-adrenergic agonists
 β_2 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
 β_2 receptors, 11
 beta-adrenergic agonists
 β_1 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
Betaxolol, 11
 beta-adrenergic agonists
 β_1 receptors
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B1 receptors, 11
 beta-adrenergic agonists
B2 receptors
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B3 receptors, 11
 beta-adrenergic agonists
B4 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B5 receptors, 11
 beta-adrenergic agonists
B6 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B7 receptors, 11
 beta-adrenergic agonists
B8 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B9 receptors, 11
 beta-adrenergic agonists
B10 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B11 receptors, 11
 beta-adrenergic agonists
B12 receptors
 betaxolol
 chronic administration
 clenbuterol
 IPS-339
 spontaneous motor activity
B-HT920, 265
 α_1 -adrenergic properties
 dopaminergic properties
 morphine-withdrawal behavior
Biogenic amines, 725
 lesions, midbrain raphe nucleus
 lesions, nucleus accumbens
 monoamine content
 muricide
 olfactory bulbectomy
Biphasic effects, 65
 dose-response
 locomotor activity
 toluene inhalation
Blood glucose responses, 491
 hyperglycemia, stress-induced
 plasma insulin responses
 sympathetic nervous system
BM123, 475
 atropine
 drug interaction
 muscarinic receptor
 N-methyl atropine
 reversible association
Body weight gain, 293
 gastric secretion
 gastric ulceration
 mast cells
 stress
 zinc deficiency
Brain
 anterior caudate nucleus, 607
 anterior globus pallidus, 49
 anterior hypothalamic nucleus, 271
 anterior hypothalamus/preoptic area, 373
 anterior striatum, 389
 amygdala, 83, 159, 217, 585
 basal ganglia, 49, 661
 basolateral amygdala, 351, 725
 CA3 of the hippocampus, 357
 caudate nucleus, 253, 271
 caudate-putamen, 95
 Central amygdala, 351, 725
 cerebellum, 83, 693, 847
 cerebral cortex, 203, 259
 corpus callosum, 357
 cortex, 173, 305, 613, 653, 813, 847
 dorsal hippocampus, 299
 dorsal raphe nucleus, 453
 dorsomedial nucleus, 271
 entopeduncular nucleus, 49
 fimbria-fornix, 357
 frontal cortex, 95, 351, 389, 725, 829
 fronto-parietal cortex, 553
 globus pallidus, 49, 95
 habenula nucleus, 643
 hindbrain, 813
 hippocampus, 95, 259, 357, 365, 421, 553, 613, 635, 653, 813, 829, 847
 hypothalamus, 49, 173, 271, 333, 373, 533, 585, 653, 813, 829, 847
 inferotemporal cortex, 89
 internal capsule, 95
 lateral hypothalamus, 351, 725, 771
 locus ceruleus, 95, 453
 mamillary body, 725
 medial amygdala, 725
 medial forebrain bundle, 731
 medial frontal cortex, 821
 median eminence, 533
 median raphe nucleus, 95
 medulla, 647
 midbrain, 173, 613, 813
 neocortex, 299, 357
 nucleus accumbens, 49, 351, 389, 585, 607, 765, 821
 olfactory bulb, 159, 299
 parahippocampal cortex, 365
 paraventricular nucleus, 271, 333
 perifornical lateral hypothalamus, 271
 pituitary, 533, 619
 pons-medulla, 173
 prefrontal cortex, 89
 Purkinje neurons, 453
 pyriform cortex, 585, 607
 raphe nuclei, 83
 rostral caudate putamen, 351
 striatum, 49, 83, 173, 305, 357, 365, 613, 635, 693, 813, 821, 829, 847
 subiculum, 95
 substantia nigra, 83, 187
 subthalamic nucleus, 49
 superior colliculus, 187
 thalamic ventromedial nucleus, 49
 ventral globus pallidus, 49
 ventral tegmental area, 453
 ventromedial hypothalamus, 725
 ventromedial thalamus, 49, 187
 zona compacta, 453
Brain catecholamines, 613
 catecholamine turnover
 dopamine
 norepinephrine
 pregnancy
 seizure susceptibility
Brain monoamines, 821
 d -amphetamine
 dopamine dose differences
 locomotor activity, nocturnal
 long-lasting effects
 serotonin
 stereotyped behavior
Brain plasticity, experience dependent, 341
 disfluoromethylornithine
 environmental complexity
 environmental impoverishment
 polyamines
Brain transmitters, 229
 aggression
 dose related effects
 footshock aggression
 propranolol
Bromocriptine, 431
 acute administration
 angiotensin II
 antidiopsogenic effect
 drinking
 estrogen pretreatment
 isoproterenol
Caffeine
 additive effects, 427
 amino acid precursors, 427
 behavioral effects, 801, 841
 catecholamine release, 427

- cola seeds, 841
 diazepam, 801
 dose effects, 801
 drug comparisons, 841
 drug interactions, 427, 801
 human studies, males, 801
 inbred strains, 381
 locomotor activity, 427
 methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate, 381
 nicotine, 427
 picrotoxinin, 381
 psychostimulants, 841
 Ro 5-4864, 381
 seizure susceptibility, 381
 sub-chronic treatment, 841
 β -Carbolines, 749
 alcohol
 alcohol preference
 drug comparisons
 harmalan
 ultradian rhythm
Castration, 781
 conditioned place preference
 estrous
 mating behavior
 naloxone
 sexual reward
Catalepsy, 45
 locomotor activity, backward walking
 morphine
 RU 24213
 SKF 38393
Cataleptic behavior, 543
 cholinergic system
 dopaminergic system
 prostaglandin D₂
 serotonergic system
Catecholamine concentrations, 851
 experimental allergic encephalomyelitis
 spleen
Catecholamine levels, 271
 catecholamine turnover
 food deprivation
 hypothalamus
 α -methyl-p-tyrosine
Catecholamine release, 427
 additive effects
 amino acid precursors
 caffeine
 drug interactions
 locomotor activity
 nicotine
Catecholamine turnover
 brain catecholamines, 613
 catecholamine levels, 271
 dopamine, 613
 food deprivation, 271
 hypothalamus, 271
 α -methyl-p-tyrosine, 271
 norepinephrine, 613
 pregnancy, 613
 seizure susceptibility, 613
Catecholamines, 351
 antidepressants
 DOPAC
 dopamine
 drug comparisons
 lesions, nucleus accumbens
 muricide
 nucleus accumbens
Catecholaminergic agonists, 731
 catecholaminergic antagonists
 drug comparisons
 electrical brain stimulation
 quantitative determination
 rewarding efficacy
Catecholaminergic antagonists, 731
 catecholaminergic agonists
 drug comparisons
 electrical brain stimulation
 quantitative determination
 rewarding efficacy
Cats
 anterior hypothalamus/preoptic area, 373
 defecation, 639
 flurazepam, 647
 hypothermia, 373
 α -noradrenergic receptors, 373
 pentobarbital, 647
 respiration, 647
 respiratory neurons, 647
 thermoregulation, 373
 thyrotropin-releasing-hormone, 639
Caudate nucleus, 253
 dopamine receptors
 rabbit/rat comparisons
³H-spiperone
³H-spiperone binding
CGS 8216
 benzodiazepine receptors, 497
 clordiazepoxide, 709
 differential effects, 145
 direct enhancement, 709
 drinking, 145
 drug interactions, 709
 eating, 145
 food deprivation, 145
 naltrexone, 145
 palatability, 497
 positive palatability, 709
 Ro 15-1788, 709
 sham feeding, 497
 water deprivation, 145
CGS 9896, 601
 acute administration
 chronic administration
 diazepam
 drug comparisons
 tolerance
 withdrawal effects
Chickens, 757
 adrenergic agonists
 adrenergic antagonists
 dose-response relationship
 epinephrine
 food intake
 hepatic portal vein
 vagotomy
Chlordiazepoxide
 d-amphetamine, 577
 benzodiazepine antagonists, 631
 CGS 8216, 709
 direct enhancement, 709
 drug interactions, 631, 709
 exploration, 631
 habituation, 631
 intruder treatment, 577
 locomotor activity, 631
 maternal aggression, 577
 maternal treatment, 577
 opponent size, 577
 positive palatability, 709
 restraint stress, 561
 Ro 15-1788, 631, 709
 stress tolerance, 561
 ulcers, 561
Chlorimipramine, 207
 desipramine
 hole board response
 stress
 stress-induced behavior
 voluntary drug ingestion
Choline acetyltransferase (ChAT) activity, 813
 acetylcholinesterase activity
 diisopropylphosphofluoridate
 muscarinic receptors
 nicotinic receptors
 recovery
 sex differences
Choline uptake, 365
 memory, reference
 memory, working
 N-ethyl-acetylcholine aziridinium
Cholinergic activity, 553
 hippocampus
 odor aversions
 taste aversions
Cholinergic system, 543
 cataleptic behavior
 dopaminergic system
 prostaglandin D₂
 serotonergic system
Cholinergic stimulation, 771
 drinking
 lateral hypothalamus
 M₁ muscarinic receptors
 M₂ muscarinic receptors
Cholinesterase inhibition, 625
 acetylcholinesterase
 heptyl
 locomotor activity
 memory
 physostigmine analogues
Chronic administration
 acute administration, 153, 593, 601
 adenylate cyclase, 693
 beta-adrenergic agonists, 11
 α -adrenoceptors, 259
 β -adrenoceptors, 259
 analgesia, 153
 antidepressants, 153
 anti-immobility effect, 417
 β 1 receptors, 11
 β 2 receptors, 11
 betaxolol, 11
 CGS 9896, 601
 clenbuterol, 11
 clomipramine, 593
 cognitive effects, 1
[³H]DADLE binding, 203
 desipramine, 417
 diazepam, 601
 differential effects, 593
 dopamine receptor binding, 635
 down-regulation, 635
 drug comparisons, 601
 drug interaction, 153
 electroconvulsive shock treatment, 203
 endogenous opioid system, 153
 beta-endorphin concentrations, 153
 ethanol, 693
 fluphenazine, 635

- haloperidol, 1
 5-HT autoreceptors, 593
 6-hydroxydopamine, 203
 imipramine, 203
 immobilization stress, 259
in vitro, 693
 IPS-339, 11
 liquid diet, 693
 lithium, 635
 monkeys, 191
 motor effects, 1
 muscarinic cholinoreceptors, 259
 muscarinic receptor binding, 635
 naloxone, 191
 nialamide, 593
 nicotine, 259
 opioid δ receptor, 203
 oral movements, 1
 perinatal undernutrition, 417
 rate of responding, 191
 reserpine, 203
 serotonin efflux, 593
 serotonergic system, 153
 shock titration, 191
 spontaneous motor activity, 11
 stress, repeated, 259
 tolerance, 601, 693
 withdrawal effects, 601
- Chronic treatment, 287**
 depression, drug induced
 reserpine
 5-HT receptors
 5-hydroxytryptophan
Circannual rhythm, 565
 hibernation
 seasonal difference
 squirrels
 thermoregulation
- Clenbuterol, 11**
 beta-adrenergic agonists
 β_1 receptors
 β_2 receptors
 betaxolol
 chronic administration
 IPS-339
 spontaneous motor activity
- Clomipramine, 593**
 acute administration
 chronic administration
 differential effects
 5-HT autoreceptors
 nialamide
 serotonin efflux
- Clonidine**
 acute exposure, 533
 alpha-adrenoceptors, 437, 791
 behavioral effects, 421
 hippocampus, 421
 hypothalamus, 533
 imidodipropionitrile, 791
 intrahippocampal administration, 421
in vitro, 533
in vivo, 533
 jaw opening reflex, 437
 nociception, 437
 prazosin, 791
 rabbit/rat comparisons, 437
 salbutamol, 421
 spasmodic syndrome, drug-induced, 791
 testes, 533
 testosterone, 533
- Δ^9 -tetrahydrocannabinol, 533
 yohimbine, 421
- Cocaine**
 drug comparisons, 573
 estrous cycle, 37
 haloperidol, 37
in vivo, 453
 locomotor activity, 573
 monoaminergic neurotransmission, 453
 neuroleptic activity, 37
 norcocaine, 573
 ovarectomy, 37
 route of administration, 573
 self-administration, 37
- Co-dergocrine, 95**
 age differences
 learning and memory
 local cerebral glucose utilization
 locus ceruleus
 maze performance
- Cognitive effects, 1**
 chronic administration
 haloperidol
 motor effects
 oral movements
- Cola seeds, 841**
 behavioral effects
 caffeine
 drug comparisons
 psychostimulants
 sub-chronic treatment
- Concentration variations, 653**
 footshock
 norepinephrine
 stress, chronic
- Conditioned flavor aversion, 211**
 conditioned place preference
 neonates
 odor
 reinforcement
 stimulant drugs
- Conditioned place preference**
 castration, 781
 conditioned flavor aversion, 211
 estrous, 781
 mating behavior, 781
 naloxone, 781
 neonates, 211
 odor, 211
 reinforcement, 211
 sexual reward, 781
 stimulant drugs, 211
- Continuous infusion, 131**
 antinociception
 cross tolerance
 spinal cord
- Convulsions, drug induced, 159**
 amygdala
 kindling
 olfactory, bulb
 pentylenetetrazol
 seizures
 sensitization
- Corridor-type runway, 111**
 anxiolytic drugs
 drug screening
- Corticotropin-releasing hormone, 699**
 analgesia
 novelty-induced behavior
- Cross tolerance**
 antinociception, 131
 continuous infusion, 131
- monoamine/opioid interactions, 445
 muscarinic receptors, 173
 naloxone, 445
 organophosphates, 173
 QNB binding, 173
 spinal analgesia, 445
 spinal cord, 131
 strain differences, 173
 tolerance, 173, 445
- Cyclazocine, 705**
 diuresis
 kappa agonist, partial
 mu-antagonist
 non-opioid agonist
 urinary output
- Cyclic AMP, 619**
 atropine sulfate
 footshock
 immobilization
 methylnaltropine nitrate
 pituitary
 prolactin
 stress
- [³H]Cyclohexyladenosine binding, 829**
 neuromodulator receptors
 neurotransmitter receptors
 stress, chronic
- D1 receptors, 509**
 avoidance
 operant responding
 SCH 23390
- [³H]DADLE binding, 203**
 chronic administration
 electroconvulsive shock treatment
 6-hydroxydopamine
 imipramine
 opioid δ receptor
 reserpine
- Defecation, 639**
 cats
 thyrotropin-releasing hormone
- Defensive behavior, 61**
 attack targets
 ethanol
 group formation
 offensive behavior
 social/agonistic interactions
- Depression, drug induced, 287**
 chronic treatment
 reserpine
 5-HT receptors
 5-hydroxytryptophan
- Desipramine**
 anti-immobility effect, 417
 chlorimipramine, 207
 chronic administration, 417
 hole board response, 207
 perinatal undernutrition, 417
 stress, 207
 stress-induced behavior, 207
 voluntary drug ingestion, 207
- Diazepam**
 acute administration, 601
 behavioral effects, 801
 caffeine, 801
 CGS 9896, 601
 chronic administration, 601
 dose effects, 801
 drug comparisons, 601
 drug interactions, 801

human studies, males, 801
 tolerance, 601
 withdrawal effects, 601
Differential effects
 acute administration, 593
 benzodiazepine receptor ligands, 247
 CGS 8216, 145
 chronic administration, 593
 clomipramine, 593
 drinking, 145, 247
 eating, 145
 food deprivation, 145
 5-HT autoreceptors, 593
 isotonic saline consumption, 247
 naltrexone, 145
 nialamide, 593
 rats, males, 247
 serotonin efflux, 593
 water consumption, 247
 water deprivation, 145
Difluoromethylornithine, 341
 brain plasticity, experience dependent
 environmental complexity
 environmental impoverishment
 polyamines
Diisopropylphosphofluoridate
 acetylcholinesterase activity, 813
 acute administration, 281
 choline acetyltransferase activity, 813
 muscarinic receptors, 813
 nicotinic receptors, 813
 recovery, 813
 sex differences, 813
 subacute administration, 281
 tolerance development, 281
Direct enhancement, 709
 CGS 8216
 chlordiazepoxide
 drug interactions
 positive palatability
 Ro 15-1788
Directional behavior, 527
 d-amphetamine
 rotational behavior
 perseveration
 spontaneous alternation
Discriminative properties, 719
 food deprivation
 morphine
 reinforcing properties
Diuresis, 705
 cyclazocine
 kappa agonist, partial
 mu-agonist
 non-opioid agonist
 urinary output
DOPAC, 351
 antidepressants
 catecholamines
 dopamine
 drug comparisons
 lesions, nucleus accumbens
 muricide
 nucleus accumbens
DOPAC/DA ratio
 ACh formation, 305
 dose-dependent effects, 305
 hypothalamus, 585
 locomotor activity, 305
 neurochemical actions, 305
 nicotine, 305
 sham feeding, 585
 sucrose, 585
 time-dependent effects, 305
Dopamine
 d-amphetamine, 821
 antidepressants, 351
 brain catecholamines, 613
 brain monoamines, 821
 catecholamines, 351
 catecholamine turnover, 613
 DOPAC, 351
 dose differences, 821
 drug comparisons, 351
 drug interactions, 77, 765
 lesions, nucleus accumbens, 351
 locomotor activity, 765
 locomotor activity, nocturnal, 821
 long-lasting effects, 821
 muricide, 351
 muricide suppression, 77
 nomifensine, 77
 norepinephrine, 613
 nucleus accumbens, 351, 765
 opiates, 765
 pregnancy, 613
 pre-synaptic locus, 765
 seizure susceptibility, 613
 serotonin, 821
 stereotyped behavior, 821
 thiamine deficiency, 77
Dopamine agonists
 amfonelic acid, 413
 behavioral activation, 715
 benzodiazepine enantiomers, 715
 drug comparisons, 715
 drug discrimination, 413
 EEG activation, 715
 grooming, 643
 habenula nucleus, 643
 locomotor activity, 643
 rabbits, 715
 rearing, 643
 SCH 23388, 715
 SCH 23390, 715
Dopamine antagonists, 123
 dopamine autoreceptors
 EEG slow wave activity
 motor activity
 sleep-wake activity
Dopamine autoreceptors, 123
 dopamine antagonists
 EEG slow wave activity
 motor activity
 sleep-wake activity
Dopamine D-1 receptors, 687
 dopamine D-2 receptors
 drinking
 saline acceptance-rejection
 SCH 23390
 sulpiride
 water deprivation
Dopamine D-2 receptors, 687
 dopamine D-1 receptors
 drinking
 saline acceptance-rejection
 SCH 23390
 sulpiride
 water deprivation
Dopamine receptor binding, 635
 chronic administration
 down-regulation
 fluphenazine
 lithium
 muscarinic receptor binding
 Dopamine receptor hypersensitivity, 223
 autoreceptor blockade
 neuroleptics
Dopamine receptors, 253
 caudate nucleus
 rabbit/rat comparisons
³H-spiperone
³H-spiperone binding
Dopaminergic properties, 265
 α_1 -adrenergic properties
 B-HT290
 morphine-withdrawal behavior
Dopaminergic supersensitivity, 661
 haloperidol
 locomotor activity
 oral administration
³H-spiroperidol binding
 stereotypy
Dopaminergic system, 543
 cataleptic behavior
 cholinergic system
 prostaglandin D₂
 serotonergic system
Dose-dependent effects, 305
 ACh formation
 DOPAC/DA ratio
 locomotor activity
 neurochemical actions
 nicotine
 time-dependent effects
Dose differences, 821
 d-amphetamine
 brain monoamines
 dopamine
 locomotor activity, nocturnal
 long-lasting effects
 serotonin
 stereotyped behavior
Dose effects, 801
 behavioral effects
 caffeine
 diazepam
 drug interactions
 human studies, males
Dose related effects, 229
 aggression
 brain transmitters
 footshock aggression
 propranolol
Dose-response
 biphasic effects, 65
 FK 33824, 743
 linear running, 743
 locomotor activity, 65
 opioids, 743
 strain differences, 743
 toluene inhalation, 65
 wheel running activity, 743
Dose-response relationship, 757
 adrenergic agonists
 adrenergic antagonists
 chickens
 epinephrine
 food intake
 hepatic portal vein
 vagotomy
Down-regulation, 635
 chronic administration
 dopamine receptor binding
 fluphenazine
 lithium

- muscarinic receptor binding
Drinking
 acquisition and maintenance, 677
 acute administration, 431
 angiotensin II, 431
 antidiipsogenic effect, 431
 benzodiazepine receptor ligands, 247
 bromocriptine, 431
 CGS 8216, 145
 cholinergic stimulation, 771
 differential effects, 145, 247
 dopamine D-1 receptors, 687
 dopamine D-2 receptors, 687
 eating, 145
 estrogen pretreatment, 431
 food deprivation, 145
 isoproterenol, 431
 isotonic saline consumption, 247
 lateral hypothalamus, 771
 M_1 muscarinic receptors, 771
 M_2 muscarinic receptors, 771
 naloxone, 677
 naltrexone, 145
 rats, males, 247
 saline acceptance-rejection, 687
 SCH 23390, 687
 schedule-induced polydipsia, 677
 sulpiride, 687
 water consumption, 247
 water deprivation, 145, 687
Drug
 AHR602, 771
 AHR6405, 771
 (+)AJ 76 (*cis*-(+)-5-methoxy-1-methyl-2-(n-propylamino)tetralin), 123
 alcohol, 29, 693, 749
 amantadine hydrochloride, 543
 amfenic acid, 413
 amitriptyline, 35, 153, 313
 amphetamine, 167, 211, 413, 547, 731, 757, 765
 d-amphetamine, 7, 17, 527, 577, 827
 (+)-amphetamine, 425
 aniraçetam, 183
 antazoline, 639
 apomorphine, 217, 223, 299, 413, 503, 715, 765, 771
 apomorphine hydrochloride, 77, 543
 apovincaminic acid, 183
 atropine, 475
 atropine, 229, 327, 393, 639
 atropine methyl nitrate, 229
 atropine sulfate, 357, 543, 619
 benserazide, 407
 betaxolol, 11
 bicuculline, 71
 BM123, 475
 BMY 25.368, 683
 bramazocene, 705
 bromocriptine, 431
 caffeine, 381, 427, 801, 841
 carbachol, 771
 cathinone, 413, 547
 cesium, 235
 CGS 8216, 145, 247, 497, 709
 CGS 9896, 247, 601
 chlomipramine, 153, 207
 chlordiazepoxide, 561, 577, 631, 709
 chlorimipramine, 207
 N-[2-chloroethyl]-N-2-bromobenzyl-amine, 217
 p-chlorophenylalanine, 543
 chlorpheniramine, 683
 chlorproamazine, 639
 cimetidine, 683
 clenbuterol, 11
 clomethiazole, 749
 clomipramine, 543, 593
 clonazepam, 247, 381
 clonidine, 23, 373, 421, 437, 533, 731, 791
 cocaine, 37, 211, 413, 453, 573, 835
 co-dergocrine, 95
 cola seeds, 841
 cyclazocine, 705
 4-DAMP, 771
 2-deoxy-D[I^{14}C]glucose, 95
 desipramine, 11, 207, 417
 desmethylimipramine, 35, 77
 diazepam, 111, 601, 801
 dicyclomine, 771
 β -diethylaminoethylidiphenyl-propylacetate, 671
 difluoromethylornithine, 341
 L-dihydroxyphenylalanine, 543
 L-3,4-dihydroxyphenylalanine, 77
 5,6-dihydroxytryptamine, 639
 diisopropylfluorophosphate, 173, 281
 diisopropylphosphofluoridate, 813
 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate, 381
 1-(2,4-dimethoxyphenyl)-2-aminopropane, 547
 1-(3,4-dimethoxyphenyl)-2-aminopropane, 547
 dopamine, 271, 765
 dopamine hydrochloride, 77
 epinephrine, 491, 757
 eserine, 393
 estazolam, 521
 ethanol, 61, 103
 N-ethyl-acetylcholine aziridinium, 365
 ethylcholine aziridinium ion, 357
 N-ethyl-choline aziridinium, 365
 etonitazine, 749
 FG 7142, 247
 FK 33824, 743
 FLA-63
 fluphenazine, 635
 flurazepam, 521, 647
 fluoroethyl, 71
 formetanate, 119
 haloperidol, 1, 37, 111, 223, 241, 265, 453, 509, 661
 harmalan, 749
 harman, 749
 hemicholinium-3, 639
 hexamethonium, 119, 305
 B-HT920, 265
 Hydergine®, 183
 4-hydroxyclonidine, 437
 6-hydroxydopamine, 77, 203, 639
 (+)-3-[3-hydroxyphenyl]-N-n-propylpiperidine, 217
 5-hydroxytryptophan, 287
 iminodipropionitrile, 791
 imipramine, 11, 35, 111, 203, 351
 imipramine hydrochloride, 543
 impromidine, 683
 IPS-339, 11
 isoproterenol, 431
 ketamine, 23, 401
 lisurid, 265
 lithium, 235, 635
 lorazepam, 521
 LY 171555, 643, 715
 mecamylamine, 305, 393, 639
 MCNA343, 771
 mescamylamine, 119
 metergoline, 153
 methamphetamine, 547
 methcathinone, 547
 methoxamine, 373
 S-methoxy-N,N-dimethyltryptamine, 543
 1-(2-methoxy-4,5-methylene-dioxyphenyl)-2-aminopropane, 547
 N-methyl atropine, 475
 methylatropine nitrate, 619
 methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate, 381
 (3,4-methylenedioxymethyl)amphetamine, 401
 N-methyl-1-(3,4-methylenedioxymethyl)-2-aminopropane, 425
 (+)-N-methyl-1-(3,4-methylenedioxymethyl)-2-aminopropane, 425
 (-)-N-methyl-1-(3,4-methylenedioxymethyl)-2-aminopropane, 425
 (\pm)-N-methyl-1-(3,4-methylenedioxymethyl)-2-aminopropane, 425
 methylscopolamine, 119
 α -methyl-p-tyrosine, 291
 methysergide, 327, 639
 metoclopramide, 45, 223
 mianserin, 351
 midazolam, 749, 797
 molindine, 731
 monosodium glutamate, 503
 morphine, 45, 131, 153, 539, 565, 607, 705, 719
 muscimol, 49, 187
 myelin basic protein, 851
 naloxone, 131, 153, 167, 191, 199, 327, 437, 445, 515, 565, 705, 765, 781
 naloxone hydrochloride, 677
 naltrexone, 145, 483, 515
 nialamide, 407, 593
 nicotine, 259, 305, 393, 427
 nisoxetine, 835
 nomifensine, 77, 351
 norcocaine, 573
 norepinephrine, 131, 217, 533
 nortriptyline, 153
 oxotremorine, 173, 771
 pemoline, 183
 pentetetrazol, 111
 pentobarbital, 521, 647
 pentylenetetrazol, 71, 159
 phencyclidine, 23, 401, 671, 847
 phenoxybenzamine hydrochloride, 543
 phenolamine, 327, 373, 437, 491
 1-(1-phenylcyclohexyl)4-hydroxypiperidine, 671, 847
 phenylephrine, 217, 373, 757
 β -phenylethylamine, 199
 1-(1-phenyl-4-hydroxycyclohexyl)piperidine, 671, 847
 phenylpropanolamine, 211, 321
 physostigmine, 229, 553
 picrotoxin, 49,
 picrotoxinin, 381
 pilocarpine, 327, 635, 771
 pimozide, 731

- piperoxane, 453
 pirenzepine, 771
 potassium, 235
 prazosin, 265, 437, 791, 835
 procaine, 453
 propranolol, 229, 639
 (+)propranolol, 229
 (\pm)propranolol, 229
 propranolol hydrochloride, 543
 quinpirole hydrochloride, 643
 ^3H quinuclidinyl benzilate, 671
 reserpine, 203, 287, 437, 453, 639
 ritanserin, 333
 Ro4-4601, 77
 Ro 5-4864, 381
 Ro15-1788, 111, 247, 381, 497, 631, 709, 797
 rubidium, 235
 RU 24213, 45
 salbutamol, 229, 421, 757
 SCH 23388, 715
 SCH 23390, 45, 509, 687, 715
 scopolamine, 119, 195, 313, 553, 771
 serotonin, 445
 SKF 38393, 45, 643, 715
 ^3H -spiperone, 253
 ST-91, 437
 ST-587, 437
 sulpiride, 223, 687
 telenzepine, 771
 Δ^9 -tetrahydrocannabinol, 141, 533
 tetrahydronorharman (tetra- β -carboline), 749
 L-threo-3,4-dihydroxyphenylserine, 407
 toluene, 65
 tracazolate, 111
 1-(2,4,5-trimethoxyphenyl)-2-aminopropane, 547
 d-tubocurare, 437
 (+)-UH 232 (cis-(+)-5-methoxy-1-methyl-2-(di-n-propylamino)tetralin), 123
 UM-272, 229
 vincamine, 183
 vincopetine, 183
 yohimbine, 265, 327, 373, 421, 437, 453, 639, 731, 791
 zimelidine, 313, 351
 zopiclone, 111, 247
- Drug comparisons**
- acute administration, 601
 - alcohol, 749
 - alcohol preference, 749
 - antidepressants, 351
 - behavioral activation, 715
 - behavioral effects, 841
 - benzazepine enantiomers, 715
 - caffeine, 841
 - β -carbolines, 749
 - catecholamines, 351
 - catecholaminergic agonists, 731
 - catecholaminergic antagonists, 731
 - CGS 9896, 601
 - chronic administration, 601
 - cocaine, 573
 - cola seeds, 841
 - diazepam, 601
 - DOPAC, 351
 - dopamine, 351
 - dopamine agonists, 715
 - EEG activation, 715
 - electrical brain stimulation, 731
 - harmalan, 749
 - ketamine, 401
 - lesions, nucleus accumbens, 351
 - locomotor activity, 573
 - (3,4-methylenedioxymethamphetamine), 401
 - monkeys, 401
 - multiple schedule of performance, 401
 - muricide, 351
 - norcocaine, 573
 - nucleus accumbens, 351
 - operant behavior, complex, 401
 - phencyclidine, 401
 - psychostimulants, 841
 - quantitive determination, 731
 - rabbits, 715
 - repeated acquisition, 401
 - rewarding efficacy, 731
 - route of administration, 573
 - SCH 23388, 715
 - SCH 23390, 715
 - sub-chronic treatment, 841
 - tolerance, 601
 - ultradian rhythm, 749
 - withdrawal effects, 601
- Drug discrimination**
- amfonelic acid, 413
 - dopamine agonists, 413
 - methcathinone, 547
 - naloxone, 199
 - β -phenylethylamine, 199
 - rate suppressant effects, 199
 - spontaneous activity, 547
 - stimulus generalization, 547
 - stimulus properties, 199
- Drug interaction**
- acute administration, 153
 - additive effects, 427
 - amino acid precursors, 427
 - amphetamine, 167
 - analgesia, 153
 - antidepressants, 153
 - atropine, 475
 - behavioral effects, 801
 - benzodiazepine antagonists, 631
 - BM123, 475
 - caffeine, 427, 801
 - catecholamine release, 427
 - CGS 8216, 709
 - chlor diazepoxide, 631, 709
 - chronic administration, 153
 - diazepam, 801
 - direct enhancement, 709
 - dopamine, 77, 765
 - dose effects, 801
 - endogenous opioid system, 153
 - beta-endorphin concentrations, 153
 - exploration, 631
 - fixed-interval schedule, 167
 - fixed-ratio schedule, 167
 - habituation, 631
 - human studies, males, 801
 - ketamine, 23
 - locomotor activity, 427, 631, 765
 - N-methyl atropine, 475
 - muscarinic receptor, 475
 - muricide suppression, 77
 - naloxone, 167
 - nicotine, 427
 - nomifensine, 77
 - nucleus accumbens, 765
- opiates, 765
 phencyclidine, 23
 positive palatability, 709
 pre-synaptic locus, 765
 radial maze performance, 23
 reversible association, 475
 righting reflex, 23
 Ro 15-1788, 631, 709
 serotonergic system, 153
 thiamine deficiency, 77
- Drug screening**
- corridor-type runway
 - anxiolytic drugs
- Eating**
- anorexia, 5-HT induced, 333
 - appetite, 321
 - CGS 8216, 145
 - differential effects, 145
 - drinking, 145
 - feeding behavior, 515
 - food deprivation, 145
 - food intake, 321
 - human studies, females, 321
 - 5-hydroxytryptamine 333
 - meal patterns, 515
 - naloxone, 515
 - naltrexone, 145, 515
 - phenylpropanolamine, 321
 - ritanserin, 333
 - satiety, 515
 - water deprivation, 145
- EEG activation**
- behavioral activation
 - benzazepine enantiomers
 - dopamine agonists
 - drug comparisons
 - rabbits
 - SCH 23388
 - SCH 23390
- EEG slow wave activity**
- dopamine antagonists
 - dopamine autoreceptors
 - motor activity
 - sleep-wake activity
- Electrical activity**
- behavioral effects
 - ethylcholine aziridinium ion
 - hippocampus
 - rhythical slow activity
- Electrical brain stimulation**
- catecholaminergic agonists
 - catecholaminergic antagonists
 - drug comparisons
 - quantitative determination
 - rewarding efficacy
- Electroconvulsive shock treatment**
- chronic administration
 - [^3H]DADLE binding
 - 6-hydroxydopamine
 - imipramine
 - opioid δ receptor
 - reserpine
- Electrophysiological correlates**
- apomorphine
 - sniffing
 - stereotyped behavior
- Endogenous opioid system**
- acute administration
 - analgesia
 - antidepressants

- chronic administration
 drug interaction
 beta-endorphin concentrations
 serotonergic system
Entopeduncular nucleus, 49
 gabergic projections, pallidal
 gabergic projections, striatal
 locomotor activity
 motivational effects
 motor effects
 muscimol
 picrotoxin
 subthalamic nucleus
 variable-interval hypothalamic self-stimulation
 ventral globus pallidus
 ventromedial thalamus
 β -Endorphin, 57
 analgesic effect
 oxytocin
 tolerance
 β -Endorphin concentrations, 153
 acute administration
 analgesia
 antidepressants
 chronic administration
 drug interaction
 endogenous opioid system
 serotonergic system
Environmental complexity, 341
 brain plasticity, experience dependent
 difluoromethylornithine
 environmental impoverishment
 polyamines
Environmental familiarity, 141
 adaptation
 behavioral effects
 prior drug experience
 delta-9-tetrahydrocannabinol
Environmental impoverishment, 341
 brain plasticity, experience dependent
 difluoromethylornithine
 environmental complexity
 polyamines
Epinephrine, 757
 adrenergic agonists
 adrenergic antagonists
 chickens
 dose-response relationship
 food intake
 hepatic portal vein
 vagotomy
Estrogen pretreatment, 431
 acute administration
 angiotensin II
 antidiipsogenic effect
 bromocriptine
 drinking
 isoproterenol
Estrous, 781
 castration
 conditioned place preference
 mating behavior
 naloxone
 sexual reward
Estrous cycle, 37
 cocaine
 haloperidol
 neuroleptic activity
 ovariectomy
 self-administration
Ethanol
- adenylate cyclase, 693
 attack targets, 61
 chronic administration, 693
 defensive behavior, 61
 eye tracking, 103
 group formation, 61
 in vitro, 693
 liquid diet, 693
 monkey/human comparisons, 103
 offensive behavior, 61
 smooth pursuit eye movements, 103
 social/agonistic interactions, 61
 tolerance, 693
Ethylcholine aziridinium ion, 357
 behavioral effects
 electrical activity
 hippocampus
 rhythmical slow activity
Experimental allergic encephalomyelitis, 851
 catecholamine concentrations
 spleen
Exploration, 631
 benzodiazepine antagonists
 chlordiazepoxide
 drug interactions
 habituation
 locomotor activity
 RO 15-1788
Eye tracking, 103
 ethanol
 monkey/human comparisons
 smooth pursuit eye movements
Feeding behavior, 515
 eating
 meal patterns
 naloxone
 naltrexone
 satiety
Fixed-interval schedule, 167
 amphetamine
 drug interaction
 fixed-ratio schedule
 naloxone
Fixed-ratio schedule, 167
 amphetamine
 drug interaction
 fixed-interval schedule
 naloxone
FK 33824, 743
 dose-response
 linear running
 opioids
 strain differences
 wheel running activity
FLA-63, 407
 benserazide
 L-threo-3,4-dihydroxyphenylserine
 locomotor activity
 nialamide
 norepinephrine levels
[3 H]Flunitrazepam binding sites, 35
 antidepressants
 benzodiazepine receptors
 route of administration
Fluphenazine, 635
 chronic administration
 dopamine receptor binding
 down-regulation
 lithium
muscarinic receptor binding
Flurazepam, 647
 cats
 pentobarbital
 respiration
 respiratory neurons
Food deprivation
 catecholamine levels, 271
 catecholamine turnover, 271
 CGS 8216, 145
 differential, 145
 drinking, 145
 discriminative properties, 719
 eating, 145
 hypothalamus, 271
 α -methyl-p-tyrosine, 271
 morphine, 719
 naltrexone, 145
 reinforcing properties, 719
 water deprivation, 145
Food intake
 adrenergic agonist, 757
 adrenergic antagonists, 757
 appetite, 321
 chickens, 757
 dose-response relationship, 757
 eating, 321
 epinephrine, 757
 hepatic portal vein, 757
 human studies, females, 321
 phenylpropanolamine, 321
 vagotomy, 757
Footshock
 d-amphetamine, 17
 atropine sulfate, 619
 concentration variations, 653
 cyclic AMP, 619
 immobilization, 619
 methylatropine nitrate, 619
 norepinephrine, 653
 pituitary, 619
 prolactin, 619
 rotational behavior, 17
 rotational bias, 17
 sex differences, 17
 stress, 619
 stress, chronic, 653
Footshock aggression, 229
 aggression
 brain transmitters
 dose related effects
 propranolol
Forebrain, 389
 alcohol nonpreferring rats
 alcohol preferring rats
 monoamine content
 strain differences
Formetanate, 119
 acetylcholinesterase inhibition
 operant behavior
 schedule-controlled responding
GABA agonists, 463
 analgesia
 GABA-transaminase inhibitors
 noradrenergic pathways
GABA antagonists, 71
 seizure susceptibility
 selective breeding
 strain differences
GABA levels, brain, 83

- age differences
 aggression, shock-induced
 inbred mice
 strain differences
GABA-transaminase inhibitors, 463
 analgesia
GABA agonists
 noradrenergic pathways
Gaberic projections, pallidal, 49
 entopeduncular nucleus
 gabergic projections, striatal
 locomotor activity
 motivational effects
 motor effects
 muscimol
 picrotoxin
 subthalamic nucleus
 variable-interval hypothalamic self-stimulation
 ventral globus pallidus
 ventromedial thalamus
Gaberic projections, striatal, 49
 entopeduncular nucleus
 gabergic projections, pallidal
 locomotor activity
 motivational effects
 motor effects
 muscimol
 picrotoxin
 subthalamic nucleus
 variable-interval hypothalamic self-stimulation
 ventral globus pallidus
 ventromedial thalamus
Gastric secretion, 293
 body weight gain
 gastric ulceration
 mast cells
 stress
 zinc deficiency
Gastric ulceration, 293
 body weight gain
 gastric secretion
 mast cells
 stress
 zinc deficiency
Grooming, 643
 dopamine agonists
 habenula nucleus
 locomotor activity
 rearing
Group formation, 61
 attack targets
 defensive behavior
 ethanol
 offensive behavior
 social/agonistic interactions
- H2 antagonists**, 683
 histamine receptors
 locomotor activity
- Habenula nucleus**, 643
 dopamine agonists
 grooming
 locomotor activity
 rearing
- Habituation**
 d-amphetamine, 7
 benzodiazepine antagonists, 631
 chlordiazepoxide, 631
 drug interactions, 631
- exploration, 631
 locomotor activity, 631
 rearing, off-wall, 7
 rearing, on-wall, 7
 RO 15-1788, 631
- Haloperidol**
 avoidance performance, 241
 chronic administration, 1
 cocaine, 37
 cognitive effects, 1
 dopaminergic supersensitivity, 661
 estrous cycle, 37
 latent inhibition, 241
 locomotor activity, 661
 motor effects, 1
 neuroleptic activity, 37
 oral administration, 661
 oral movements, 1
 ovariectomy, 37
 self-administration, 37
³H-spiroperidol binding, 661
 stereotypy, 661
- Harmalan**, 749
 alcohol
 alcohol preference
 β-carbolines
 drug comparisons
 ultradian rhythm
- Hepatic portal vein**, 757
 adrenergic agonists
 adrenergic antagonists
 chickens
 dose-response relationship
 epinephrine
 food intake
 vagotomy
- Heptyl**, 625
 acetylcholinesterase
 cholinesterase inhibition
 locomotor activity
 memory
 physostigmine analogues
- Hibernation**, 565
 circannual rhythm
 opiates
 seasonal difference
 squirrels
 thermoregulation
- Hindlimb scratching**, 327
 muscarinic receptors
 neurokinins
 pilocarpine
 route of administration
- Hippocampus**
 behavioral effects, 357, 421
 cholinergic activity, 553
 clonidine, 421
 electrical activity, 357
 ethylcholine aziridinium ion, 357
 intrahippocampal administration, 421
 odor aversions, 553
 rhythmical slow activity, 357
 salbutamol, 421
 taste aversions, 553
 yohimbine, 421
- Histamine receptors**, 683
 H2 antagonists
 locomotor activity
- Hole board response**, 207
 chlorimipramine
 desipramine
 stress
- stress-induced behavior
 voluntary drug ingestion
- Hormone**
 ACTH, 277
 epinephrine, 271
 estradiol benzoate, 431
 estrogen, 393, 431
 17-β-estradiol benzoate, 37
 2-hydroxyestradiol, 37
 noradrenaline, 351
 norepinephrine, 271, 373, 407, 445,
 613, 653, 835
 progesterone, 393
 prostaglandin D₂, 543
 testosterone, 533
- 5-HT autoreceptors**, 593
 acute administration
 chronic administration
 clomipramine
 differential effects
 nialamide
 serotonin efflux
5-HT receptors, 287
 chronic treatment
 depression, drug induced
 reserpine
 5-hydroxytryptophan
- Human studies, females**, 321
 appetite
 eating
 food intake
 phenylpropanolamine
- Human studies, males**
 acute administration, 29
 alcohol, 29
 behavioral effects, 801
 behavioral impairment, 29
 caffeine, 801
 diazepam, 801
 dose effects, 801
 drug interactions, 801
 learning, 29
 tolerance, 29
- 6-Hydroxydopamine**, 203
 chronic administration
^[3]H]DADLE binding
 electroconvulsive shock treatment
 imipramine
 opioid δ receptor
 reserpine
- 5-Hydroxytryptamine**, 333
 anorexia, 5-HT induced
 eating
 ritanserin
- 5-Hydroxytryptophan**, 287
 chronic treatment
 depression, drug induced
 reserpine
 5-HT receptors
- Hyperglycemia, stress-induced**, 491
 blood glucose responses
 plasma insulin responses
 sympathetic nervous system
- Hypophsectomy**
 ACTH, 277, 503
 adrenocorticotrophic hormone, 503
 apomorphine, 503
 monosodium glutamate, 503
 penile erection, 277, 503
 yawning, 277, 503
- Hypothalamus**
 acute exposure, 533

- catecholamine levels, 271
 catecholamine turnover, 271
 clonidine, 533
 DOPAC/DA ratios, 585
 food deprivation, 271
 in vitro, 533
 in vivo, 533
 α -methyl-p-tyrosine, 271
 sham feeding, 585
 sucrose, 585
 testes, 533
 testosterone, 533
 Δ^9 -tetrahydrocannabinol, 533
Hypothermia, 373
 anterior hypothalamus/preoptic area
 cats
 α -noradrenergic receptors
 thermoregulation
- Iminodipropionitrile**, 791
 alpha-adrenoceptors
 clonidine
 prazosin
 spasmodic syndrome, drug-induced
- Imipramine**, 203
 chronic administration
 $[^3\text{H}]$ DADLE binding
 electronconvulsive shock treatment
 6-hydroxydopamine (6-OHDA)
 opioid δ receptor
 reserpine
- Immobilization**, 619
 atropine sulfate
 cyclic AMP
 footshock
 methylatropine nitrate
 pituitary
 prolactin
 stress
- Immobilization stress**, 259
 α_2 -adrenoceptors
 β -adrenoceptors
 chronic administration
 muscarinic cholinoreceptors
 nicotine
 stress, repeated
- Inbred mice**, 83
 age differences
 aggression, shock-induced
 GABA levels, brain
 strain differences
- Inbred strains**, 381
 caffeine
 methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate
 picrotoxinin
 Ro 5-4864
 seizure susceptibility
- Inferotemporal cortex**, 89
 neuronal membrane proteins
 prefrontal cortex
 visual discrimination
- Intrahippocampal administration**, 421
 behavioral effects
 clonidine
 hippocampus
 salbutamol
 yohimbine
- Intruder treatment**, 577
 d-amphetamine
 chlordiazepoxide
- maternal aggression
 maternal treatment
 opponent size
In vitro
 acute exposure, 533
 adenylate cyclase, 693
 alkali metals, 235
 chronic administration, 693
 clonidine, 533
 ethanol, 693
 hypothalamus, 533
 in vivo, 235, 533
 liquid diet, 693
 lithium, 235
 mechanism of action, 235
 superoxide dismutase, 235
 testes, 533
 testosterone, 533
 Δ^9 -tetrahydrocannabinol, 553
 tolerance, 693
- In vivo**
 acute exposure, 533
 alkali metals, 235
 clonidine, 533
 cocaine, 453
 hypothalamus, 533
 in vitro, 235, 533
 lithium, 235
 mechanism of action, 235
 monoaminergic neurotransmission, 453
 phencyclidine, 671, 847
 phencyclidine metabolites, 671
 $[^3\text{H}]$ quinuclidinyl benzilate binding, 671, 847
 superoxide dismutase, 235
 testes, 533
 testosterone, 533
 Δ^9 -tetrahydrocannabinol, 533
- IPS-339**, 11
 beta-adrenergic agonists
 $\beta 1$ receptors
 $\beta 2$ receptors
 betaxolol
 chronic administration
 clenbuterol
 spontaneous motor activity
Isolation distress, 483
 pain threshold
 sucrose
 vocalizations
- Isoproterenol**, 431
 acute administration
 angiotensin II
 antidiipsogenic effect
 bromocriptine
 drinking
 estrogen pretreatment
- Isotonic saline consumption**, 247
 benzodiazepine receptor ligands
 differential effects
 drinking
 rats, males
 water consumption
- Jaw opening reflex**, 437
 α_2 adrenoceptors
 clonidine
 nociception
 rabbit/rat comparisons
- Kappa agonist, partial**, 705
- cyclazocine
 diuresis
 mu-antagonist
 non-opioid agonist
 urinary output
- Ketamine**
 drug comparisons, 401
 drug interactions, 23
 $(3,4\text{-methylenedioxymethyl})$ phetamine, 401
 monkeys, 401
 multiple schedule of performance, 401
 operant behavior, complex, 401
 phencyclidine, 23, 401
 radial maze performance, 23
 repeated acquisition, 401
 righting reflex, 23
- Kindling**, 159
 amygdala
 convulsions, drug induced
 olfactory bulb
 pentylenetetrazol
 seizures
 sensitization
- Kinetics**, 313
 age differences
 antidepressants
 memory, short-term
- Latent inhibition**, 241
 avoidance performance
 haloperidol
- Lateral hypothalamus**, 771
 cholinergic stimulation
 drinking
 M_1 muscarinic receptors
 M_2 muscarinic receptors
- Learning**, 29
 acute administration
 alcohol
 behavioral impairment
 human studies, males
 tolerance
- Learning and memory**, 95
 age differences
 co-dergoctine
 local cerebral glucose utilization
 locus ceruleus
 maze performance
- Lesions**, 5,7-dihydroxytryptamine, 607
 lesions, nucleus accumbens
 self-administration, intravenous
 serotonergic innervation
- Lesions, electrolytic**, 187
 antinociception
 muscimol
 self-injurious behavior
 stereotyped behavior substantia nigra
 superior colliculus
 ventromedial thalamus
- Lesions, midbrain raphe nucleus**, 725
 biogenic amines
 lesions, nucleus accumbens
 monoamine content
 muricide
 olfactory bulbectomy
- Lesions, nucleus accumbens**
 antidepressants, 351
 biogenic amines, 725
 catecholamines, 351
 DOPAC, 351

- dopamine, 351
 drug comparisons, 351
 lesions, 5,7-dihydroxytryptamine, 607
 lesions, midbrain raphe nucleus, 725
 monoamine content, 725
 muricide, 351, 725
 nucleus accumbens, 351
 olfactory bulbectomy, 725
 self-administration, intravenous, 607
 serotonergic innervation, 607
Linear running, 743
 dose-response
 FK 33824
 opioids
 strain differences
 wheel running activity
Liquid diet, 693
 adenylate cyclase
 chronic administration
 ethanol
 in vitro
 tolerance
Lithium
 alkali metals, 235
 chronic administration, 635
 dopamine receptor binding, 635
 down-regulation, 635
 fluphenazine, 635
 in vitro, 235
 in vivo, 235
 mechanism of action, 235
 muscarinic receptor binding, 635
 superoxide dismutase, 235
Local cerebral glucose utilization, 95
 age differences
 co-dergocrine
 learning and memory
 locus ceruleus
 maze performance
Locomotor activity
 acetylcholinesterase, 625
 ACh formation, 305
 additive effects, 427
 aggression, drug induced, 217
 amino acid precursors, 427
 amygdala, 217
 analgesia, 539
 benserazide, 407
 benzodiazepine antagonists, 631
 biphasic effects, 65
 caffeine, 427
 catecholamine release, 427
 chlordiazepoxide, 631
 cholinesterase inhibition, 625
 cocaine, 573
 DOPAC/DA ratio, 305
 dopamine, 765
 dopamine agonists, 643
 dopaminergic supersensitivity, 661
 dose-dependent effects, 305
 dose-response, 65
 drug comparisons, 573
 drug interactions, 427, 631, 765
 entopeduncular nucleus, 49
 exploration, 631
 FLA-63, 407
 gabergic projections, pallidal, 49
 gabergic projections, striatal, 49
 grooming, 643
 habenula nucleus, 643
 habituation, 631
 haloperidol, 661
 heptyl, 625
 histamine receptors, 683
 H₂ antagonists, 683
 memory, 625
 metabolic rate, 195
 morphine, 539
 motivational effects, 49
 motor effects, 49
 muscimol, 49
 neurochemical actions, 305
 nialamide, 407
 nicotine, 305, 427
 norcocaine, 573
 norepinephrine, 217
 norepinephrine levels, 407
 nucleus accumbens, 765
 opiates, 765
 oral administration, 661
 post-weaning exposure, 539
 physostigmine analogues, 625
 picrotoxin, 49
 pre-synaptic locus, 765
 pre-weaning exposure, 539
 rearing, 643
 RO 15-1788, 631
 route of administration, 573
 scopolamine, 195
³H-spiroperidol binding, 661
 stereotypy, 661
 subthalamic nucleus, 49
 L-threo-3,4-dihydroxyphenylserine, 407
 time-dependent effects, 305
 toluene inhalation, 65
 variable-interval hypothalamic self-stimulation, 49
 ventral globus pallidus, 49
 ventromedial thalamus, 49
Locomotor activity, backward walking, 45
 catalepsy
 morphine
 RU 24213
 SKF 38393
Locomotor activity, nocturnal, 821
 d-amphetamine
 brain monoamines
 dopamine
 dose differences
 long-lasting effects
 serotonin
 stereotyped behavior
Locus ceruleus, 95
 age differences
 co-dergocrine
 learning and memory
 local cerebral glucose utilization
 maze performance
Long-lasting effects, 821
 d-amphetamine
 brain monoamines
 dopamine
 dose differences
 locomotor activity, nocturnal
 serotonin
 stereotyped behavior
Lordosis, 393
 nicotine
 nicotinic cholinergic transmission
 ovariectomy
 rats, females
 route of administration
 sexual receptivity
M₁ muscarinic receptors, 771
 cholinergic stimulation
 drinking
 lateral hypothalamus
M₂ muscarinic receptors
M₂ muscarinic receptors, 771
 cholinergic stimulation
 drinking
 lateral hypothalamus
M₁ muscarinic receptors
Mast cells, 293
 body weight gain
 gastric secretion
 gastric ulceration
 stress
 zinc deficiency
Maternal aggression, 577
 d-amphetamine
 chlordiazepoxide
 intruder treatment
 maternal treatment
 opponent size
Maternal treatment, 577
 d-amphetamine
 chlordiazepoxide
 intruder treatment
 maternal aggression
 opponent size
Mating behavior, 781
 castration
 conditioned place preference
 estrous
 naloxone
 sexual reward
Maze performance, 95
 age differences
 co-dergocrine
 learning and memory
 local cerebral glucose utilization
 locus ceruleus
Meal patterns, 515
 feeding behavior
 eating
 naloxone
 naltrexone
 satiety
Mechanism of action, 235
 alkali metals
 in vitro
 in vivo
 lithium
 superoxide dismutase
Memory
 acetylcholinesterase, 625
 cholinesterase inhibition, 625
 heptyl, 625
 locomotor activity, 625
 passive avoidance, 183
 physostigmine analogues, 625
 retrieval, 183
 vincocetine, 183
Memory, reference, 365
 choline uptake
 memory, working
 N-ethyl-acetylcholine aziridinium
Memory, short-term, 313
 age differences
 antidepressants
 kinetics
Memory, working, 365
 choline uptake
 memory, references

- N-ethyl-acetylcholine aziridinium
Metabolic rate, 195
locomotor activity
scopolamine
Methcathinone, 547
drug discrimination
spontaneous activity
stimulus generalization
N-Methyl atropine, 475
atropine BM123
drug interaction
muscarinic receptors
reversible receptors
Methylatropine nitrate, 619
atropine sulfate
cyclic AMP
footshock
immobilization
pituitary
prolactin
stress
Methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate, 381
caffeine
inbred strains
picrotoxinin
Ro 5-4864
seizure susceptibility
(3,4-Methylenedioxymethamphetamine), 401
drug comparisons
ketamine
monkeys
multiple schedule of performance
operant behavior, complex
phencyclidine
repeated acquisition
N-Methyl-1-(3,4-methylene-dioxophenyl)-2-aminopropane, 425
behavioral-potency comparisons
phenylisopropyl amines
schedule-controlled responding
 α -Methyl-p-tyrosine, 271
catecholamine levels
catecholamine turnover
food deprivation
hypothalamus
Method
electrocorticogram, 299
high performance liquid chromatography with electrochemical detection, 725, 821, 851
high performance liquid chromatography with fluorescence detection, 427
high pressure liquid chromatography with electrochemical detection, 351, 607, 613
radioimmunoassay, 619, 661
Midazolam, 797
physical dependence
scheduled-induced polydipsia
self-administration, oral
Monkey/human comparisons, 103
ethanol
eye-tracking
smooth pursuit eye movements
Monkeys
benzodiazepines, 521
chronic administration, 191
drug comparisons, 401
ketamine, 401
(3,4-methylenedioxymethamphetamine), 401
multiple schedule of performance, 401
naloxone, 191
norepinephrine, 835
operant behavior, complex, 401
phencyclidine, 401
psychomotor stimulants, 835
rate of responding, 191
reinforcing effects, 835
repeated acquisition, 401
self-administration, 521, 835
shock titration, 191
Monoamine content
alcohol nonpreferring rats, 389
alcohol preferring rats, 389
biogenic amines, 725
forebrain, 389
lesions, midbrain raphe nucleus, 725
lesions, nucleus accumbens, 725
muricide, 725
olfactory bulbectomy, 725
strain differences, 389
Monoamine/opioid interactions, 445
cross tolerance
naloxone
spinal analgesia
tolerance
Monoaminergic neurotransmission, 453
cocaine
in vivo
Monosodium glutamate, 503
adrenocorticotrophic hormone
apomorphine
hypophsectomy
penile erection
yawning
Morphine
analgesia, 539
catalepsy, 45
discriminative properties, 719
food deprivation, 719
locomotor activity, 539
locomotor activity, backward walking, 45
post-weaning exposure, 539
pre-weaning exposure, 539
reinforcing properties, 719
RU 24213, 45
SKF 38393, 45
Morphine-withdrawal behavior, 265
 α_1 -adrenergic properties
B-HT290
dopaminergic properties
Motivational effects, 49
entopeduncular nucleus
gabergic projections, pallidal
gabergic projections, striatal
locomotor activity
motor effects
muscimol
picrotoxin
subthalamic nucleus
variable-interval hypothalamic self-stimulation
ventral globus pallidus
ventromedial thalamus
Motor activity, 123
dopamine antagonist
dopamine autoreceptors
EEG slow wave activity
sleep-wake activity
Motor effects
chronic administration, 1
cognitive effects, 1
entopeduncular nucleus, 49
gabergic projections, pallidal, 49
gabergic projections, striatal, 49
haloperidol, 1
locomotor activity, 49
motivational effects, 49
muscimol, 49
oral movements, 1
picrotoxin, 49
subthalamic nucleus, 49
variable-interval hypothalamic self-stimulation, 49
ventral globus pallidus, 49
ventromedial thalamus, 49
Mu-agonist, 705
cyclazocine
diuresis
kappa agonist, partial
non-opioid agonist
urinary output
Multiple schedule of performance, 401
drug comparisons
ketamine
(3,4-methylenedioxymethamphetamine)
monkeys
operant behavior, complex
phencyclidine
repeated acquisition
Muricide
antidepressants, 351
biogenic amines, 725
catecholamines, 351
DOPAC, 351
dopamine, 77 351
drug comparisons, 351
drug interaction, 77
lesions, midbrain raphe nucleus, 725
lesions, nucleus accumbens, 351, 725
monoamine content, 725
nomifensine, 77
nucleus accumbens, 351
olfactory bulbectomy, 725
thiamine deficiency, 77
Muscarinic cholinoreceptors, 259
 α_2 -adrenoceptors
 β -adrenoceptors
chronic administration
immobilization stress
nicotine
stress, repeated
Muscarinic receptor binding, 635
chronic administration
dopamine receptor binding
down-regulation
fluphenazine
lithium
Muscarinic receptors
acetylcholinesterase activity, 813
atropine, 475
BM123
choline acetyltransferase activity, 813
cross-tolerance, 173
diisopropylphosphofluoridate, 813
drug interaction, 475
hindlimb scratching, 327
N-methyl atropine, 475
neurokinins, 327

- nicotinic receptors**, 813
organophosphates, 173
pilocarpine, 327
QNB binding, 173
recovery, 813
reversible association, 475
route of administration, 327
sex differences, 813
strain differences, 173
tolerance, 173
Muscimol
 antinociception, 187
 entopeduncular nucleus, 49
 gabergic projections, pallidal, 49
 gabergic projections, striatal, 49
 lesions, electrolytic, 187
 locomotor activity, 49
 motivational effects, 49
 motor effects, 49
 picrotoxin, 49
 self-injurious behavior, 187
 stereotyped behavior, 187
 substantia nigra, 187
 subthalamic nucleus, 49
 superior colliculus, 187
 variable-interval hypothalamic self-stimulation, 49
 ventral globus pallidus, 49
 ventromedial thalamus, 49, 187
- Naloxone**
 acquisition and maintenance, 677
 amphetamine, 167
 castration, 781
 chronic administration, 191
 conditioned place preference, 781
 cross tolerance, 445
 drinking, 677
 drug discrimination, 199
 drug interaction, 167
 eating, 515
 estrous, 781
 feeding behavior, 515
 fixed-interval schedule, 167
 fixed-ratio schedule, 167
 mating behavior, 781
 meal patterns, 515
 monkeys, 191
 monoamine/opioid interactions, 445
 naltrexone, 515
 β -phenylethylamine, 199
 rate of responding, 191
 rate suppressant effects, 199
 satiety, 515
 schedule-induced polydipsia, 677
 sexual reward, 781
 shock titration, 191
 spinal analgesia, 445
 stimulus properties, 199
 tolerance, 445
Naltrexone
 CGS 8216, 145
 differential effects, 145
 drinking, 145
 eating, 145, 515
 feeding behavior, 515
 food deprivation, 145
 meal patterns, 515
 naloxone, 515
 satiety, 515
 water deprivation, 145
- Neonates**, 211
 conditioned flavor aversion
 conditioned place preference
 odor
 reinforcement
 stimulant drugs
N-ethyl-acetylcholine aziridinium, 365
 choline uptake
 memory, reference
 memory, working
Neurochemical actions, 305
 ACh formation
 DOPAC/DA ratio
 dose-dependent effects
 locomotor activity
 nicotine
 time-dependent effects
Neurokinins, 327
 hindlimb scratching
 muscarinic receptors
 pilocarpine
 route of administration
Neuroleptic activity, 37
 cocaine
 estrous cycle
 haloperidol
 ovariectomy
 self-administration
Neuroleptics, 223
 autoreceptor blockade
 dopamine receptor hypersensitivity
Neuromodulator receptors, 829
 $[^3\text{H}]$ cyclohexyladenosine binding
 neurotransmitter receptors
 stress, chronic
Neuronal membrane proteins, 89
 inferotemporal cortex
 prefrontal cortex
 visual discrimination
Neurotransmitter receptors, 829
 $[^3\text{H}]$ cyclohexyladenosine binding
 neuromodulator receptors
 stress, chronic
Nialamide
 acute administration, 593
 benserazide, 407
 chronic administration, 593
 clomipramine, 593
 differential effects, 593
 L-threo-3,4-dihydroxyphenylserine, 407
 FLA-63, 407
 5-HT autoreceptors, 593
 locomotor activity, 407
 norepinephrine levels, 407
 serotonin efflux, 593
Nicotinic cholinergic transmission, 393
 lorodosis
 nicotine
 ovariectomy
 rats, females
 route of administration
 sexual receptivity
Nicotinic receptors, 813
 acetylcholinesterase activity
 choline acetyltransferase activity
 diisopropylphosphofluoridate
 muscarinic receptors
 recovery
 sex differences
Nicotine
 ACh formation, 305
- additive effects, 427
 α_2 -adrenoceptors, 259
 β -adrenoceptors, 259
 amino acid precursors, 427
 caffeine, 427
 catecholamine release, 427
 chronic administration, 259
 DOPAC/DA ratio, 305
 dose-dependent effects, 305
 drug interactions, 427
 immobilization stress, 259
 locomotor activity, 305, 427
 lordosis, 393
 muscarinic cholinoreceptors, 259
 neurochemical action, 305
 nicotinic cholinergic transmission, 393
 ovariectomy, 393
 rats, females, 393
 route of administration, 393
 sexual receptivity, 393
 stress, repeated, 259
 time-dependent effects, 305
Nociception, 437
 α_2 adrenoceptors
 clonidine
 jaw opening reflex
 rabbit/rat comparisons
Nomifensine, 77
 dopamine
 drug interaction
 muricide suppression
 thiamine deficiency
Non-opioid agonist, 705
 cyclazocine
 diuresis
 kappa agonist, partial
 mu-antagonist
 urinary output
Noradrenergic pathways, 463
 analgesia
 GABA agonists
 GABA-transaminase inhibitors
 α -Noradrenergic receptors, 373
 anterior hypothalamus/preoptic area
 cats
 hypothermia
 thermoregulation
Norcocaine, 573
 cocaine
 drug comparisons
 locomotor activity
 route of administration
Norepinephrine
 aggression, drug induced, 217
 amygdala, 217
 brain catecholamines, 613
 catecholamine turnover, 613
 concentration variations, 653
 dopamine, 613
 footshock, 653
 locomotor activity, 217
 monkeys, 835
 pregnancy, 613
 psychomotor stimulants, 835
 reinforcing effects, 835
 seizure susceptibility, 613
 self-administration, 835
 stress, chronic, 653
Norepinephrine levels, 407
 benserazide
 L-threo-3,4-dihydroxyphenylserine
 FLA-63

- locomotor activity
 norepinephrine levels
 Novelty-induced behavior, 699
 analgesia
 corticotropin-releasing hormone
 Nucleus accumbens
 antidepressants, 351
 catecholamines, 351
 DOPAC, 351
 dopamine, 351, 765
 drug comparisons, 351
 drug interactions, 765
 lesions, nucleus accumbens, 351
 locomotor activity, 765
 nucleus accumbens, 351
 opiates, 765
 pre-synaptic locus, 765
- Odor**, 211
 conditioned flavor aversion
 conditioned place preference
 neonates
 reinforcement
 stimulant drugs
- Odor aversions**, 553
 cholinergic activity
 hippocampus
 taste aversions
- Offensive behavior**, 61
 attack targets
 defensive behavior
 ethanol
 group formation
 social/agonistic interactions
- Olfactory bulb**, 159
 amygdala
 convulsions, drug induced
 kindling
 pentylenetetrazol
 seizures
 sensitization
- Olfactory bulbectomy**, 725
 biogenic amines
 lesions, midbrain raphe nucleus
 lesions, nucleus accumbens
 monoamine content
 muricide
- Operant behavior**, 119
 acetylcholinesterase inhibition
 formetanate
 schedule-controlled responding
- Operant-behavior, complex**, 401
 drug comparisons
 ketamine
 (3,4-methylenedioxymethamphetamine)
 monkeys
 multiple schedule of performance
 phencyclidine
 repeated acquisition
- Operant responding**, 509
 avoidance
 D1 receptors
 SCH 23390
- Opiates**
 circannual rhythm, 565
 dopamine, 765
 drug interactions, 765
 hibernation, 565
 locomotor activity, 765
 nucleus accumbens, 765
- pre-synaptic locus, 765
 seasonal difference, 565
 squirrels, 565
 thermoregulation, 565
- Opioid δ receptor**, 203
 chronic administration
 $[^3\text{H}]$ DADLE binding
 electroconvulsive shock treatment
 6-hydroxydopamine
 imipramine
 reserpine
- Opioids**, 743
 dose-response
 FK 33824
 linear running
 strain differences
 wheel running activity
- Opponent size**, 577
 d-amphetamine
 chlor diazepoxide
 intruder treatment
 maternal aggression
 maternal treatment
- Oral administration**, 661
 dopaminergic supersensitivity
 haloperidol
 locomotor activity
 $[^3\text{H}]$ -spiroperidol binding
 stereotypy
- Oral movements**, 1
 chronic administration
 cognitive effects
 haloperidol
 motor effects
- Organophosphates**, 173
 cross-tolerance
 muscarinic receptors
 QNB binding
 strain differences
 tolerance
- Ovariectomy**
 cocaine, 37
 estrous cycle, 37
 haloperidol, 37
 lordosis, 393
 neuroleptic activity, 37
 nicotine, 393
 nicotinic cholinergic transmission, 393
 rats, females, 393
 route of administration, 393
 self-administration, 37
 sexual receptivity, 393
- Oxytocin**, 57
 analgesic effect
 β -endorphin
 tolerance
- Pain threshold**, 483
 isolation distress
 sucrose
 vocalizations
- Palatability**, 497
 benzodiazepine receptors
 CGS 8216
 sham feeding
- Passive avoidance**, 183
 memory
 retrieval
 vinpocetine
- Penile erection**
 ACTH 277, 503
- adrenocortotropic hormone**, 503
 apomorphine, 503
 hypophsectomy, 277, 503
 monosodium glutamate, 503
 yawning, 277, 503
- Pentobarbital**, 647
 cats
 flurazepam
 respiration
 respiratory neurons
- Pentylenetetrazol**, 159
 amygdala
 convulsions, drug induced
 kindling
 olfactory bulb
 seizures
 sensitization
- Peptide**
 adrenocortotropic hormone, 503
 angiotensin II, 431
 corticotropin-releasing hormone, 699
 [D-Ala²]-Met-enkephalinamide, 565
 [D-Pro², D-Trp^{6,8}, Nle¹⁰]-NK, 327
 [D-Pro², D-Trp^{7,9}]-SP, 327
 β -endorphin, 57
 luteinizing hormone-releasing hormone, 533
 oxytocin, 57
 thyrotropin-releasing hormone, 639
- Perinatal undernutrition**, 417
 anti-immobility effect
 chronic administration
 desipramine
- Perseveration**, 527
 d-amphetamine
 directional behavior
 rotational behavior
 spontaneous alternation
- Phencyclidine**, 23
 drug comparisons, 401
 drug interactions, 23
 in vivo administration, 671, 847
 ketamine, 23, 401
 (3,4-methylenedioxymethamphetamine), 401
 monkeys, 401
 multiple schedule of performance, 401
 operant behavior, complex, 401
 radial maze performance, 23
 phencyclidine metabolites, 671, 847
 repeated acquisition, 401
 righting reflex, 23
 $[^3\text{H}]$ quinuclidinyl benzilate binding, 671, 847
- Phencyclidine metabolites**
 in vivo, 671, 847
 phencyclidine, 671, 847
 $[^3\text{H}]$ quinuclidinyl benzilate binding, 671, 847
- β -Phenylethylamine**, 199
 drug discrimination
 naloxone
 rate suppressant effects
 stimulus properties
- Phenylisopropylamines**, 425
 behavioral-potency comparison
 N-methyl-1-(3,4-methylenedioxymethyl)-2-aminopropane
 schedule-controlled responding
- Phenylpropanolamine**, 321
 human studies, females
 appetite

- eating
- food intake
- Physical dependence**, 797
 - midazolam
 - scheduled-induced polydipsia
 - self-administration, oral
- Physostigmine analogues**, 625
 - acetylcholinesterase
 - cholinesterase inhibition
 - heptyl
 - locomotor activity
 - memory
- Picrotoxin**, 49
 - entopeduncular nucleus
 - gabergic projections, pallidal
 - gabergic projections, striatal
 - locomotor activity
 - motivational effects
 - motor effects
 - muscimol
 - subthalamic nucleus
 - variable-interval hypothalamic self-stimulation
 - ventral globus pallidus
 - ventromedial thalamus
- Picrotoxinin**, 381
 - caffeine
 - inbred strains
 - methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate
 - Ro 5-4864
 - seizure susceptibility
- Pilocarpine**, 327
 - hindlimb scratching
 - muscarinic receptors
 - neurokinins
 - route of administration
- Pituitary**, 619
 - atropine sulphate
 - cyclic AMP
 - footshock
 - immobilization
 - methylatropine nitrate
 - prolactin
 - stress
- Plasma insulin responses**, 491
 - blood glucose responses
 - hyperglycemia, stress-induced
 - sympathetic nervous system
- Polyamines**, 341
 - brain plasticity, experience dependent
 - disfluoromethylornithine
 - environmental complexity
 - environmental impoverishment
- Positive palatability**, 709
 - CGS 8216
 - chlor diazepoxide
 - direct enhancement
 - drug interactions
 - Ro 15-1788
- Post-weaning exposure**, 539
 - analgesia
 - locomotor activity
 - morphine
 - pre-weaning exposure
- Prazosin**, 791
 - alpha-adrenoceptors
 - clonidine
 - imindipropionitrile
 - spasmodic syndrome, drug induced
- Prefrontal cortex**, 89
 - inferotemporal cortex
- neuronal membrane proteins**
- visual discrimination**
- Pregnancy**, 613
 - brain catecholamines
 - catecholamine turnover
 - dopamine
 - norepinephrine
 - seizure susceptibility
- Pre-synaptic locus**, 765
 - dopamine
 - drug interactions
 - locomotor activity
 - nucleus accumbens
 - opiates
- Pre-weaning exposure**, 539
 - analgesia
 - locomotor activity
 - morphine
 - post-weaning exposure
- Prior drug experience**, 141
 - adaptation
 - behavioral effects
 - environmental familiarity
 - delta-9-tetrahydrocannabinol
- Prolactin**, 619
 - atropine sulfate
 - cyclic AMP
 - footshock
 - immobilization
 - methylatropine nitrate
 - pituitary
 - stress
- Propranolol**, 229
 - aggression
 - brain transmitters
 - dose related effects
 - footshock aggression
- Prostaglandin D₂**, 543
 - cataleptic behavior
 - cholinergic system
 - dopaminergic system
 - serotonergic system
- Psychostimulants**, 841
 - behavioral effects
 - caffeine
 - cola seeds
 - drug comparisons
 - sub-chronic treatment
- Psychomotor stimulants**, 835
 - monkeys
 - norepinephrine
 - reinforcing effects
 - self-administration
- Quantitative determination**, 731
 - catecholaminergic agonists
 - catecholaminergic antagonists
 - drug comparisons
 - electrical brain stimulation
 - rewarding efficacy
- ³H Quinuclidinyl benzilate**, 671
 - cross tolerance, 173
 - in vivo administration, 671, 847
 - muscarinic receptors, 173
 - organophosphates, 173
 - phencyclidine, 671, 847
 - phencyclidine metabolites, 671, 847
 - strain differences, 173
 - tolerance, 173
- Rabbits/rat comparisons**
 - alpha₂ adrenoceptors, 437
 - caudate nucleus, 253
 - clonidine, 437
 - dopamine receptors, 253
 - jaw opening reflex, 437
 - nociception, 437
 - ³H-spirperone, 253
 - ³H-spirerone binding, 253
- Radial maze performance**, 23
 - drug interactions
 - ketamine
 - phencyclidine
 - righting reflex
- Rate of responding**, 191
 - chronic administration
 - monkeys
 - naloxone
 - shock titration
- Rate suppressant effects**, 199
 - drug discrimination
 - naloxone
 - β -phenylethylamine
 - stimulus properties
- Rate, females**, 393
 - lordosis
 - nicotine
 - nicotinic cholinergic transmission
 - ovariectomy
 - route of administration
 - sexual receptivity
- Rats, males**, 247
 - benzodiazepine receptor ligands
 - differential effects
 - drinking
 - ³isotonic saline consumption
 - water consumption
- Rearing**, 643
 - dopamine agonists
 - grooming
 - habenula nucleus
 - locomotor activity
- Rearing, off-wall**, 7
 - d-amphetamine
 - habituation
 - rearing, on-wall
- Rearing-on-wall**, 7
 - d-amphetamine
 - habituation
 - rearing, off-wall
- Recovery**, 813
 - acetylcholinesterase activity
 - choline acetyltransferase activity
 - diisopropylphosphofluoridate
 - muscarinic receptors
 - nicotinic receptors
 - sex differences
- Reinforcement**, 211
 - conditioned flavor aversion
 - conditioned place preference
 - neonates
 - odor
 - stimulant drugs
- Reinforcing effects**, 835
 - monkeys

norepinephrine
 psychomotor stimulants
 self-administration
Reinforcing properties, 719
 discriminative properties
 food deprivation
 morphine
Repeated acquisition, 401
 drug comparisons
 ketamine
 3,4-methylenedioxymethamphetamine
 monkeys
 multiple schedule of performance
 operant behavior, complex
 phencyclidine
Reserpine
 chronic administration, 203, 287
^{[3]H}DADLE binding, 203
 depression, drug induced, 287
 electroconvulsive shock treatment, 203
 5-HT receptors, 287
 6-hydroxydopamine, 203
 5-hydroxytryptophan, 287
 imipramine, 203
 opioid δ receptor, 203
Respiration, 647
 cats
 flurazepam
 pentobarbital
 respiratory neurons
Respiratory neurons, 647
 cats
 flurazepam
 pentobarbital
 respiration
Restraint stress, 561
 chlordiazepoxide
 stress tolerance
 ulcers
Retrieval, 183
 memory
 passive avoidance
 vincocetine
Reversible association, 475
 atropine
 BM123
 drug interaction
 N-methyl atropine
 muscarinic receptor
Rewarding efficacy, 731
 catecholaminergic agonists
 catecholaminergic antagonists
 drug comparisons
 electrical brain stimulation
 quantitative determination
Rhythmic slow activity, 357
 behavioral effects
 electrical activity
 ethylcholine aziridinium ion
 hippocampus
Righting reflex, 23
 drug interactions
 ketamine
 phencyclidine
 radial maze performance
Ritanserin, 333
 anorexia, 5-HT induced
 eating
 5-hydroxytryptamine
Ro 5-4864, 381
 caffeine

inbred strains
 methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate
 picrotoxinin
 seizure susceptibility
RO 15-1788
 benzodiazepine antagonists, 631
 CSG 8316, 709
 chlordiazepoxide, 631, 709
 direct enhancement, 709
 drug interactions, 631, 709
 exploration, 631
 habituation, 631
 locomotor activity, 631
 positive palatability, 709
Rotational behavior
 d-amphetamine, 17, 527
 directional behavior, 527
 footshock, 17
 perseveration, 527
 rotational bias, 17
 sex differences, 17
 spontaneous alternation, 527
Rotational bias, 17
 d-amphetamine
 footshock
 rotational behavior
 sex differences
Route of administration
 antidepressants, 35
 benzodiazepine receptors, 35
 cocaine, 375
 drug comparisons, 573
^{[3]H}flunitrazepam binding sites, 35
 hindlimb scratching, 327
 locomotor activity, 573
 lordosis, 393
 muscarinic receptors, 327
 neurokinins, 327
 nicotine, 393
 nicotinic cholinergic transmission, 393
 norcocaine, 573
 ovariectomy, 393
 pilocarpine, 327
 rats, females, 393
 sexual receptivity, 393
RU 24213, 45
 catalepsy
 locomotor activity, backward walking
 morphine
 SKF 38393

Salbutamol, 421
 behavioral effects
 clonidine
 hippocampus
 intrahippocampal administration
 yohimbine
Saline acceptance-rejection, 687
 dopamine D-1 receptors
 dopamine D-2 receptors
 drinking
SCH 23388, 715
 avoidance, 509
 behavioral activation, 715
 benzodiazepine enantiomers, 715
D1 receptors, 509
 dopamine agonists, 715
 dopamine D-1 receptors, 687
 dopamine D-2 receptors, 687
 drinking, 687
 drug comparisons, 715
 EEG activation, 715
 operant responding, 509
 rabbits, 715
 saline acceptance-rejection, 687
SCH 23390, 715
 avoidance, 509
 behavioral activation, 715
 benzodiazepine enantiomers, 715
D1 receptors, 509
 dopamine agonists, 715
 dopamine D-1 receptors, 687
 dopamine D-2 receptors, 687
 drinking, 687
 drug comparisons, 715
 EEG activation, 715
 operant responding, 509
 rabbits, 715
 saline acceptance-rejection, 687
SCH 23390, 715
 avoidance, 509
 behavioral activation, 715
 benzodiazepine enantiomers, 715
D1 receptors, 509
 dopamine agonists, 715
 dopamine D-1 receptors, 687
 dopamine D-2 receptors, 687
 drinking, 687
 drug comparisons, 715
 EEG activation, 715
 operant responding, 509
 rabbits, 715
 saline acceptance-rejection, 687
Schedule-controlled responding
 acetylcholinesterase inhibition, 119
 behavioral-potency comparison, 425
 formetanate, 119
 N-methyl-1-(3,4-methylenedioxy-phenyl)-(2-aminopropane), 425
operant behavior, 119
 phenylisopropylamines, 425
Schedule-induced polydipsia
 acquisition and maintenance, 677
 drinking, 677
 midazolam, 797
 naloxone, 677
 physical dependence, 797
 self-administration, oral, 797
Scopolamine, 195
 locomotor activity
 metabolic rate
Seasonal difference, 565
 circannual rhythm
 hibernation
 opiates
 squirrels
 thermoregulation
Seizure susceptibility
 brain catecholamines, 613
 caffeine, 381
 catecholamine turnover, 613
 dopamine, 613
 GABA antagonists, 71
 inbred strains, 381
 methyl 6,7-dimethoxy-4-ethyl- β -carboline-3-carboxylate, 381
 norepinephrine, 613
 picrotoxinin, 381
 pregnancy, 613
Ro 5-4864, 381
 selective breeding, 71
 strain differences, 71
Seizures, 159
 amygdala
 convulsions, drug induced
 kindling
 olfactory bulb
 pentylenetetrazol
 sensitization
Selective breeding, 71

- GABA antagonists
- seizure susceptibility
- strain differences
- Self-administration**
- benzodiazepines, 521
- cocaine, 37
- estrous cycle, 37
- haloperidol, 37
- monkeys, 521, 835
- neuroleptic activity, 37
- norepinephrine, 835
- ovarectomy, 37
- psychomotor stimulants, 835
- reinforcing effects, 835
- Self-administration, intravenous**, 607
- lesions, 5,7-dihydroxytryptamine
- lesions, nucleus accumbens
- serotonergic innervation
- Self-administration, oral**, 797
- midazolam
- physical dependence
- scheduled-induced polydipsia
- Self-injurious behavior**, 187
- antinociception
- lesions, electrolytic
- muscimol
- stereotyped behavior
- substantia nigra
- superior colliculus
- ventromedial thalamus
- Sensitization**, 159
- amygdala
- convulsions, drug induced
- kindling
- olfactory bulb
- pentylenetetrazol
- seizures
- Serotonin**, 821
- d*-amphetamine
- brain monoamines
- dopamine
- dose differences
- locomotor activity, nocturnal
- long-lasting effects
- stereotyped behavior
- Serotonin efflux**, 593
- acute administration
- chronic administration
- clomipramine
- differential effects
- 5-HT autoreceptors
- nialamide
- Serotonergic system**, 153
- acute administration
- analgesia
- chronic administration
- drug interaction
- endogenous opioid system
- beta-endorphin concentrations
- Serotonergic innervation**, 607
- lesions, 5,7-dihydroxytryptamine
- lesions, nucleus accumbens
- self-administration, intravenous
- Serotonergic system**, 543
- cataleptic behavior
- cholinergic system
- dopaminergic system
- prostaglandin D₂
- Sex differences**
- acetylcholinesterase activity, 813
- d*-amphetamine, 17
- choline acetyltransferase activity, 813
- diisopropylphosphofluoridate, 813
- footshock, 17
- muscarinic receptors, 813
- nicotinic receptors, 813
- recovery, 813
- rotational behavior, 17
- rotational bias, 17
- Sexual receptivity**, 393
- lordosis
- nicotine
- nicotinic cholinergic transmission
- ovarectomy
- rats, females
- route of administration
- Sexual reward**, 781
- castration
- conditioned place-preference
- estrous
- mating behavior
- naloxone
- Sham feeding**
- benzodiazepine receptors, 497
- CGS 8216, 497
- DOPAC/DA ratios, 585
- hypothalamus, 585
- palatability, 497
- sham feeding, 585
- Shock titration**, 191
- chronic administration
- monkeys
- naloxone
- rate of responding
- SKF 38393, 45
- catalepsy
- locomotor activity, backward walking
- morphine
- RU 24213
- Sleep-wake activity**, 123
- dopamine antagonists
- dopamine autoreceptors
- EEG slow wave activity
- motor activity
- Smooth pursuit eye movements**, 103
- ethanol
- eye tracking
- monkey/human comparisons
- Sniffing**, 299
- apomorphine
- electrophysiological correlates
- stereotyped behavior
- Social/agonistic interactions**, 61
- attack targets
- defensive behavior
- ethanol
- group formation
- offensive behavior
- Spasmodic syndrome, drug induced**, 791
- alpha-adrenoceptors
- clonidine
- imindipropionitrile
- prazosin
- Spinal analgesia**, 445
- cross tolerance
- monoamine/opioid interactions
- naloxone
- tolerance
- Spinal cord**, 131
- antinociception
- continuous infusion
- cross tolerance
- ³H-Spiperone, 253
- caudate nucleus
- dopamine receptors
- rabbit/rat comparisons
- ³H-spiperone binding
- ³H-Spiperone binding, 253
- caudate nucleus
- dopamine receptors
- rabbit/rat comparisons
- ³H-spiperone
- ³H-Spiroperidol binding, 661
- dopaminergic supersensitivity
- haloperidol
- locomotor activity
- oral administration
- stereotypy
- Spleen**, 851
- catecholamine concentrations
- experimental allergic encephalomyelitis
- Spontaneous activity**, 547
- drug discrimination
- methcathinone
- stimulus generalization
- Spontaneous alternation**, 527
- d*-amphetamine
- directional behavior
- perseveration
- rotational behavior
- Spontaneous motor activity**, 11
- beta-adrenergic agonists
- β_1 receptors
- β_2 receptors
- betaxolol
- chronic administration
- clenbuterol
- IPS-339
- Squirrels**, 565
- circannual rhythm
- hibernation
- opiates
- seasonal difference
- thermoregulation
- Stereotyped behavior**
- d*-amphetamine, 827
- antinociception, 187
- apomorphine, 299
- brain monoamines, 827
- dopamine, 827
- dose differences, 827
- electrophysiological correlates, 299
- lesions, electrolytic, 187
- locomotor activity, nocturnal, 827
- long-lasting effects, 827
- muscimol, 187
- self-injurious behavior, 187
- serotonin, 827
- sniffing, 299
- substantia nigra, 187
- superior colliculus, 187
- ventromedial thalamus, 187
- Stereotypy**, 661
- dopaminergic supersensitivity
- haloperidol
- locomotor activity
- oral administration
- ³H-spiroperidol binding
- Stimulant drugs**, 211
- conditioned flavor aversion
- conditioned place preference
- neonates
- odor
- reinforcement
- Stimulus generalization**, 547

- drug discrimination
 methcathinone
 spontaneous activity
Stimulus properties, 199
 drug discrimination
 naloxone
 β -phenylethylamine
 rate suppressant effects
Strain differences
 age differences, 83
 aggression, shock-induced, 83
 alcohol nonpreferring rats, 389
 alcohol preferring rats, 389
 cross-tolerance, 173
 dose-response, 743
 FK 33824, 743
 forebrain, 389
 GABA levels, brain, 83
 GABA antagonists, 71
 inbred mice, 83
 linear running, 743
 monoamine content, 389
 muscarinic receptors, 173
 opioids, 743
 organophosphates, 173
 QNB binding, 173
 seizure susceptibility, 71
 selective breeding, 71
 tolerance, 173
 wheel running activity, 743
- Stress**
 atropine sulfate, 619
 body weight gain, 293
 chlorimipramine, 207
 cyclic AMP, 619
 desipramine, 207
 footshock, 619
 gastric secretion, 293
 gastric ulceration, 293
 hole board response, 207
 immobilization, 619
 mast cells, 293
 methylatropine nitrate, 619
 pituitary, 619
 prolactin, 619
 stress-induced behavior, 207
 voluntary drug ingestion, 207
 zinc deficiency, 293
- Stress, chronic**
 concentration variations, 653
 $[^3\text{H}]$ cyclohexyladenosine binding, 821
 footshock, 653
 neuromodulator receptors, 821
 neurotransmitter receptors, 821
 norepinephrine, 653
- Stress-induced behavior**. 207
 chlorimipramine
 desipramine
 hole board response
 stress
 voluntary drug ingestion
- Stress, repeated**, 259
 α_2 -adrenoceptors
 β -adrenoceptors
 chronic administration
 immobilization stress
 muscarinic cholinoreceptors
 nicotine
- Stress tolerance**, 561
 chlordiazepoxide
 restraint stress
 ulcers
- Subacute administration**. 281
 acute administration
 diisopropylfluorophosphate
 tolerance development
Sub-chronic treatment. 841
 behavioral effects
 caffeine
 cola seeds
 drug comparisons
 psychostimulants
- Substantia nigra**, 187
 antinociception
 lesions, electrolytic
 muscimol
 self-injurious behavior
 stereotyped behavior
 superior colliculus
 ventromedial thalamus
Subthalamic nucleus, 49
 entopeduncular nucleus, 49
 gabaergic projections, pallidal
 gabaergic projections, striatal
 locomotor activity
 motivational effects
 motor effects
 muscimol
 picrotoxin
 subthalamic nucleus
 variable-interval hypothalamic self-stimulation
 ventral globus pallidus
 ventromedial thalamus
- Sucrose**
 DOPAC/DA ratios, 585
 hypothalamus, 585
 isolation distress, 483
 pain threshold, 483
 sham feeding, 585
 vocalizations, 483
- Sulpiride**, 687
 dopamine D-1 receptors
 dopamine D-2 receptors
 drinking
 saline acceptance-rejection
 SCH 23390
 water deprivation
- Superior colliculus**, 187
 antinociception
 lesions, electrolytic
 muscimol
 self-injurious behavior
 stereotyped behavior
 substantia nigra
 ventromedial thalamus
- Superoxide dismutase**, 235
 alkali metals
 in vitro
 in vivo
 lithium
 mechanism of action
- Sympathetic nervous system**, 491
 blood glucose responses
 hyperglycemia, stress-induced
 plasma insulin responses
- Taste aversions**, 553
 cholinergic activity
 hippocampus
 odor aversions
- Testes**, 533
 acute exposure
- clonidine
 hypothalamus
 in vitro
 in vivo
 testosterone
 Δ^9 -tetrahydrocannabinol
Testosterone, 533
 acute exposure
 clonidine
 hypothalamus
 in vitro
 in vivo
 testes
 Δ^9 -tetrahydrocannabinol
 Δ^9 -Tetrahydrocannabinol
 acute exposure, 533
 adaptation, 141
 behavioral effects, 141
 clonidine, 533
 environmental familiarity, 141
 hypothalamus, 533
 in vitro, 533
 in vivo, 533
 prior drug experience, 141
 testes, 533
 testosterone, 533
- Thermoregulation**
 anterior hypothalamus/preoptic area, 373
 cats, 373
 circannual rhythm, 565
 hibernation, 565
 hypothermia, 373
 α -noradrenergic receptors, 373
 opiates, 565
 seasonal difference, 565
 squirrels, 565
- Thiamine deficiency, 77
 dopamine
 drug interaction
 muricide suppression
 nonufensine
- L-Threo-3,4-dihydroxyphenylserine**, 407
 benserazide
 FLA-63
 locomotor activity
 nialamide
 norepinephrine levels
- Thyrotropin-releasing hormone**, 639
 cats
 defecation
- Time-dependent effects**, 305
 ACh formation
 DOPAC/DA ratio
 dose-dependent effects
 locomotor activity
 neurochemical actions
 nicotine
- Tolerance**
 acute administration, 29, 601
 adenylate cyclase, 693
 alcohol, 29, 693
 analgesic effect, 57
 behavioral impairment, 29
 CGS 9896, 601
 chronic administration, 601, 693
 cross-tolerance, 173, 445
 diazepam, 601
 drug comparisons, 601
 β -endorphin, 57
 human studies, males, 29
 in vitro, 693

- learning, 29
- liquid diet, 693
- monoamine/opioid interactions, 445
- muscarinic receptors, 173
- naloxone, 445
- organophosphates, 173
- oxytocin, 57
- QNB binding, 173
- spinal analgesia, 445
- strain differences, 173
- withdrawal effects, 601
- Tolerance development, 281
 - acute administration
 - diisopropylfluorophosphate
 - subacute administration
- Toluene inhalation, 65
 - biphasic effects
 - dose-response
 - locomotor activity
- Ulcers, 561
 - chlordiazepoxide
 - restraint stress
 - stress tolerance
- Ultradian rhythm, 749
 - alcohol
 - alcohol preference
 - β -carbolines
 - drug comparisons
 - harmalan
- Urinary output, 705
 - cyclazocine
 - diuresis
 - kappa agonist, partial
 - mu-antagonist
 - non-opioid agonist
- Vagotomy, 757
 - adrenergic agonists
 - adrenergic antagonists
 - chickens
 - dose-response relationship
 - epinephrine
 - food intake
 - hepatic portal vein
- Variable-interval hypothalamic self-stimulation, 49
 - entopeduncular nucleus
 - gabergic projections, pallidal
 - gabergic projections, striatal
 - locomotor activity
 - motivational effects
- motor effects
- muscimol
- picrotoxin
- subthalamic nucleus
- ventral globus pallidus
- ventromedial thalamus
- Vocalizations, 483
 - isolation distress
 - pain threshold
 - sucrose
- Voluntary drug ingestion, 207
 - chlorimipramine
 - desipramine
 - hole board response
 - stress
 - stress-induced behavior
- Vinpocetine, 183
 - memory
 - passive avoidance
 - retrieval
- Visual discrimination, 89
 - inferotemporal cortex
 - neuronal membrane proteins
 - prefrontal cortex
- Ventral globus pallidus, 49
 - entopeduncular nucleus
 - gabergic projections, pallidal
 - gabergic projections, striatal
 - locomotor activity
 - motivational effects
 - motor effects
 - muscimol
 - picrotoxin
 - subthalamic nucleus
 - variable-interval hypothalamic self-stimulation
 - ventromedial thalamus
- Ventromedial thalamus
 - antinociception, 187
 - entopeduncular nucleus, 49
 - gabergic projections, pallidal, 49
 - gabergic projections, striatal, 49
 - lesions, electrolytic, 187
 - locomotor activity, 49
 - motivational effects, 49
 - motor effects, 49
 - muscimol, 49, 187
 - picrotoxin, 49
 - self-injurious behavior, 187
 - stereotyped behavior, 187
 - substantia nigra, 187
 - subthalamic nucleus, 49
 - superior colliculus, 187
 - variable-interval hypothalamic self-stimulation
- stimulation, 49
- ventral globus pallidus, 49
- Water consumption, 247
 - benzodiazepine receptor ligand: differential effects
 - drinking
 - isotonic saline consumption
 - rats, males
- Water deprivation
 - CGS 8216, 145
 - differential effects, 145
 - dopamine D-1 receptors, 687
 - dopamine D-2 receptors, 687
 - drinking, 145, 687
 - eating, 145
 - food deprivation, 145
 - naltrexone, 145
 - saline acceptance-rejection, 687
 - SCH 23390, 687
 - sulpiride, 687
- Wheel running activity, 743
 - dose-response
 - FK 33824
 - linear running
 - opioids
 - strain differences
- Withdrawal effects, 601
 - acute administration
 - CGS 9896
 - chronic administration
 - diazepam
 - drug comparisons
 - tolerance
- Yawning
 - ACTH, 277, 503
 - adrenocorticotrophic hormone, 5
 - apomorphine, 503
 - hypophsectomy, 277, 503
 - monosodium glutamate, 503
 - penile erection, 277, 503
- Yohimbine, 421
 - behavioral effects
 - clonidine
 - hippocampus
 - intrahippocampal administration
 - salbutamol
- Zinc deficiency, 293
 - body weight gain
 - gastric secretion
 - gastric ulceration
 - mast cells
 - stress

AUTHOR INDEX

- Abe, Y., 77
 Ahluwalia, P., 653
 Alföldi, P., 123
 Al-Khatib, Iz. M. H., 351
 Alkondon, M., 229
 Alleva, E., 539
 Alpern, H. P., 71
 Amalric, M., 765
 Anderson, S. M., 829
 Ando, K., 103
 Andrews, J. S., 167
 Anisman, H., 653
 Antkiewicz-Michaluk, L., 203
 Aprison, M. H., 287
 Argiolas, A., 503
 Axon, D. I. R., 45
 Babbini, M., 719
 Bacchi, A., 719
 Baker, R. C., 693
 Balansard, G., 841
 Baran, L., 35
 Barber, D. J., 145
 Bartoletti, M., 719
 Baum, M. J., 781
 Baumeister, A. A., 187
 Beleslin, D. B., 373, 639
 Bermúdez-Rattoni, F., 553
 Bernet, F., 421
 Berridge, K. C., 709
 Blanchard, D. C., 61
 Blanchard, R. J., 61
 Blass, E., 483
 Blundell, J. E., 515
 Boast, C. A., 601
 Boggan, W. O., 671, 847
 Booth, R. A., 475
 Boudinot, E., 647
 Bourbonais, K. A., 585
 Bowers, W., 653
 Braun, T., 791
 Brini, A., 153
 Broekkamp, C. L. E., 771
 Broitman, S. T., 207
 Brufani, M., 625
 Brugge, K. L., 287
 Büchau, C., 749
 Bushnell, P. J., 195
 Cabib, S., 83
 Cadet, J. L., 791
 Caffry, E. W., 321
 Calcagnetti, D. J., 743
 Camp, D. M., 821
 Caporali, M. G., 715
 Carlson, J. N., 17
 Carlsson, A., 123
 Carney, J. M., 381
 Cash, R., 11
 Castellano, C., 625
 Cervenko, F., 445
 Cervenko, F. W., 131
 Chai, C. Y., 427
 Champagnat, J., 647
 Chávez, A. F., 553
 Cho, C. H., 293
 Ciesielski, L., 83
 Clemens, L. G., 393
 Clement, J., 83
 Clopton, J. K., 223
 Co, C., 607
 Coburn, K. L., 553
 Cochrane, C., 491
 Collins, A. C., 173, 813
 Collu, M., 277
 Cooper, S. J., 145, 247, 497, 687
 Curtin, J. C., 223
 Curtis, A. L., 437
 Dalterio, S., 533
 Dalton, J. C. H., 37
 Danti, S., 11
 Darwish, M., 271
 Denavit-Saibia, M., 647
 DeNoble, V. J., 183
 De Paolo, L., 533
 Dietrich, R. A., 693
 Dworkin, S. I., 607
 Dykstra, L. A., 191
 Eggleston, T., 619
 Elliott, P. J., 573
 Ellison, G. D., 1
 Emm, T., 313
 Estall, L. B., 247
 Eterović, V. A., 341
 Evans, J. A. C., 643
 Falk, J. L., 797
 Faught, K., 847
 Feinglos, M. N., 491
 Feldon, J., 241
 Ferchmin, P. A., 341
 Fernández, J., 553
 Fernando, J. C. R., 281
 File, S. E., 631
 Fitzgerald, E., 483
 Flannelly, K., 61
 Fletcher, G. H., 45
 Flux, M., 381
 Flynn, J. J., 743
 Fong, L. Y. Y., 293
 Forbes, J. M., 757
 Fóscolo, M. R., 207
 Foutz, A. S., 647
 Frances, H., 11
 Fratta, W., 277, 503
 Freed, W. J., 791
 Freeman, G. B., 305
 Fregley, M. J., 431
 Frey, J. M., 661
 Freyd, G., 731
 Friedman, E., 635
 Frye, G. D., 187
 Fujiwara, M., 351, 543
 Gaiardi, M., 719
 Galen, D. M., 1
 Gallistel, C. R., 731
 Garcia, J., 553
 Gerhardt, S. C., 601
 Gertner, S. B., 683
 Gessa, G. L., 277, 503
 Gianutsos, G., 635
 Gibson, G. E., 305
 Gilbert, D. B., 687
 Giordano, M., 7
 Glennon, R. A., 425, 547
 Glick, S. D., 17
 Goeders, N. E., 607
 Gonsalves, S. F., 647
 Goode, T. L., 327
 Gordon, J. H., 223
 Goudie, A. J., 199
 Gramlich, C. A., 159
 Griffiths, R. R., 801
 Gubellini, C., 719
 Jadot, G., 841
 Jenden, D. J., 475
 Jerome, C., 585
 Jhamandas, K., 445
 Jhanwar-Uniyal, M., 271
 Johanson, C. E., 103, 521
 Johansson, A. M., 123
 Jones, B., 141
 Jørgensen, O. S., 89
 Jourdan, M. L., 565
 Jovanović-Micić, D., 639
 Hagan, J. J., 771
 Hajós, M., 123
 Han, P. C., 813
 Hanin, I., 357
 Harder, D. R., 851
 Haubenreisser, T., 29
 Heath, R. W., 145
 Henke, P. G., 561
 Herberg, L. J., 49
 Hernandez, L. L., 253
 Hinds, P. A., 17
 Hingtgen, J. N., 287
 Hinman, D. J., 65
 Ho, B. T., 365
 Ho, I. K., 281
 Hodge, W., 141
 Holman, E. W., 211
 Holtzman, S. G., 167
 Hori, K., 61
 Hoskins, B., 281
 Howes, G. A., 757
 Huffman, R. D., 661
 Ingram, D. K., 95
 Irwin, J., 653
 Iwasaki, K., 351
 Kalin, N. H., 699
 Kalix, P., 547
 Kamiya, H., 543
 Kant, G. J., 619, 829
 Karai, N., 407
 Kataoka, Y., 351, 725
 Kato, T., 407
 Katsube, J., 407
 Katsuyama, M., 407
 Katz, Y., 241
 Kehoe, P., 483
 Keller, E. A., 417
 Kigoshi, S., 259
 Kirkham, T. C., 145, 497, 515
 Kisara, K., 77
 Kissileff, H. R., 321
 Kokkinidis, L., 527
 Koller, W. C., 223
 Konkol, R. J., 851
 Koob, G. F., 765
 Kostowski, W., 217
 Kovács, G. L., 57
 Kuhn, C. M., 491
 Landman-Roberts, L., 619
 Laviola, G., 539
 Leander, J. D., 705
 Lee, E. H. Y., 427
 Lee, T. F., 565
 Leibowitz, S. F., 271
 Leo, G. L., 851
 Lesko, L., 313
 Leu, J. R., 829
 Leventer, S. M., 357
 Levin, B. E., 271
 Levin, E. D., 1
 Li, T.-K., 389
 Lim, D.-K., 281
 Lister, R. G., 631
 Little, P. J., 425
 London, E. D., 95
 Loomis, C. W., 131, 445
 Lumeng, L., 389
 McBride, W. J., 389
 McCann, D. J., 23
 McIntyre, T. D., 71
 McMahon, T. F., 313
 Ma, P. C. C., 293
 MacPhail, R. C., 119
 Maillard, C., 841
 Mandel, P., 83
 Mantegazza, P., 153
 Margules, D. L., 743
 Marini, S., 333
 Marona-Lewicka, D., 203
 Marta, M., 625
 Martin, P., 141
 Marwah, J., 437, 453
 Massi, M., 333
 Massotti, M., 715
 Mastropaoletti, J., 401
 Mauri, A., 503
 Medhurst, L. J., 173
 Melis, M. R., 503
 Meyerhoff, J. L., 619
 Michaluk, J., 203
 Middaugh, L. D., 671, 847
 Miller, R. L., 781
 Milne, B., 131, 445
 Mogensen, J., 89
 Molina, V. A., 417
 Moore, L. L., 187
 Morgan, W. W., 661
 Morin-Surun, M.-P., 647
 Mos, J., 577
 Moser, V. C., 119
 Muramatsu, I., 259
 Murphy, J. M., 389
 Myers, R. D., 373
 Naiman, N., 547
 Nakamura, M., 407
 Nemiroff, C. B., 573
 Obál, F., Jr., 123

- Offord, S. J., 593
 Ogle, C. W., 293
 Oliverio, A., 625
 Oliveto, A. H., 191
 Olivier, B., 577
 O'Neill, K. A., 683
 Ongini, E., 715
 Ono, N., 543
 Orsingher, O. A., 417
 Overstreet, D. H., 475
- Pagella, P. G., 625
 Panerai, A. E., 153
 Pavone, F., 625
 Peluso, J., 533
 Pitts, D. K., 453
 Pomponi, M., 625
 Pope, C. N., 365
 Powell, D. A., 253
 Przegaliński, E., 35
 Pucilowski, O., 217
 Puglisi-Allegra, S., 83
- Rabin, R. A., 23, 693
 Raffa, R. B., 327
 Raisman, R., 11
 Ray, A., 229
 Rennert, O. M., 381
 Renwart, N., 11
 Rezvani, A. H., 373
 Riley, A. L., 677
 Roache, J. D., 801
 Roberts, D. C. S., 37
 Robinson, T. E., 821
- Rodríguez Echandía, E. L., 207
 Roerig, D. L., 851
 Rokosz-Pelc, A., 35, 203
 Rommelspacher, H., 749
 Rosecrans, J. A., 425
 Rosen, G. M., 573
 Royal, M., 141
 Rubicsek, G., 123
 Rugarli, P. L., 625
 Russell, K. H., 7
 Russell, R. W., 475
- Sacerdote, P., 153
 Sagratella, S., 715
 Saito, R., 543
 Sakurai, Y., 725
 Samardžić, R., 639
 Sanberg, P. R., 7
 Sanger, D. J., 509
 Sawynok, J., 463
 Schechter, M. D., 413
 Schultz, C. E., 709
 Schuster, C. R., 103
 Scott, R. W., 327
 Scotto, G., 841
 Seale, T. W., 381
 Sen, P., 229
 Serra, G., 277
 Sherman, J. E., 699
 Sherman, K. A., 305
 Shukla, G. S., 235
 Shultz, K., 607
 Simansky, K. J., 585
 Simler, S., 83
- Simon, P., 11
 Skolnick, P., 381
 Smith, C. A., 211
 Smith, G. P., 585
 Smith, J. E., 607
 Smolen, A., 173, 613, 813
 Smolen, T. N., 173, 613, 813
 Spangler, E. L., 95
 Starr, M. S., 45
 Steger, R., 533
 Stewart, D. J., 357
 Stringer, A. J., 847
 Stripling, J. S., 159
 Surwit, R. S., 491
 Svensson, K., 123
 Swerdlow, N. R., 765
 Szechtman, H., 299
- Tadano, T., 77
 Tang, M., 797
 Tang, Y. P., 427
 Tani, Y., 725
 Telegdy, G., 57
 Terzić, B., 639
 Thompson, D. M., 401
 Thornton, E. W., 643
 Thornton, J. C., 321
 Ticku, M. K., 661
 Tonnaer, J. A. D. M., 771
 Treit, D., 709
 Trzaskowska, E., 217
 Tsai, M. J., 427
- Ueki, S., 111, 351, 725
- Ushio, M., 725
 Valzelli, L., 217
 van de Kamp, J. L., 613
 van der Laan, J. W., 265
 Vanderwolf, C. H., 299, 357
 van Oorschot, R., 577
 Verleye, M., 421
 Vetulani, J., 35, 203
 Vickers, G. J., 37
 Vion-Dury, J., 841
 Vogel-Sprott, M., 29
- Walovitch, R. C., 95
 Wang, L. C. H., 565
 Warwick, R. O., Jr., 593
 Weaver, D. R., 393
 Weiner, I., 241
 Weiner, M., 313
 Weiss, J., 749
 Wetherington, C. L., 677
 Wesselmann, U., 851
 Wickens, A., 643
 Williams, S. F., 49
 Winsauer, P. J., 401
 Winter, J. C., 23
 Woolverton, W. L., 835
 Wright, A. A., 365
- Yamamoto, T., 111
 Yamanaka, K., 259
 Yamashita, K., 725
 Yonezawa, A., 77
 Yousif, M., 425, 547
 Zacharko, R. M., 653