I. Kopin, Bethesda, Md.
J. Kraicer, Kingston
R. Kvetnanský, Bratislava
M. L’Hermite, Bruxelles
M.J. McKinley, Parkville
R.L. Moss, Dallas, Tex.
S.R. Ojeda, Dallas, Tex.
D.W. Pfaff, New York, N.Y.
R.J. Reiter, San Antonio, Tex.
W.H. Sawyer, New York, N.Y.
S. Smith, Pittsburgh, Pa.
L.W. Swanson, La Jolla, Calif.
M.O. Thorner, Charlottesville, Va.
A. Tixier-Vidal, Paris
W.O. Wuttke, Göttingen
E.A. Zimmerman, New York, N.Y.
I. Zucker, Berkeley, Calif.
Drug Dosage

The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.
Contents Vol. 39, 1984

No. 1

Original Paper
Early Postnatal Development of Pituitary Intermediate Lobe Control in the Rat by Dopamine Neurons
Davis, M.D.; Lichtenstein, W.; Schlumpf, M.; Bruinink, A. 1 Evidence for the Role of α-MSH in the Induction of Pseudo-pregnancy in the Rat
Volosin, M.; Celis, M.E................................................................. 13
Effect of Experimental Alterations in Serum Levels of 5α-Androstan-3ß, 17ß-Diol on the Timing of Puberty in the Female Rat
Progesterone-Like Effects of Estradiol on Reproductive Behavior and Hypothalamic Progesterone Receptors in the Female Rat
Parsons, B.; Rainbow, T.C.; Snyder, L.; McEwen, B. . . . . 25 Glucose Modulation of Somatostatin and LHRH Release from Rat Hypothalamic Fragments in vitro
Lengyel, A.J.; Grossman, A.; Nieuwenhuyzen-Kruseman, A.C.; Ackland, J.; Rees, L.H.; Besser, M ................................. 31
Development of an Enzyme Immunoassay for Delta Sleep-Inducing Peptide (DSIP) and Its Use in the Determination of the Metabolic Clearance Rate of DSIP Administered to Dogs
Kato, N.; Honda, Y.; Ebihara, S.; Naruse, H.; Takahashi, Y. 39 Testosterone Raises LHRH Levels Exclusively in the Median Eminence of Castrated Rats
Kalra, P.S.; Simpkins, J.W.; Kalra, S.P.......................... 45
Interaction of Synthetic Ovine Corticotropin Releasing Factor and Arginine Vasopressin on in vitro ACTH Release by the Anterior Pituitary of Rats
Murakami, K.; Hashimoto, K.; Ota, Z................................. 49
Aromatic L-Amino Acid Decarboxylase Activity in the Rat Median Eminence, Neurointermediate Lobe and Anterior Lobe of the Pituitary. Physiological and Pharmacological Implications for Pituitary Regulation
Johnston, C.A.; Spinedi, E.; Negro-Vilar, A ......................... 54
Evidence that Estrogens Inhibit LH Secretion through Opioids in Postmenopausal Women Using Naloxone
Mellis, G.B.; Paoletti, A.M.; Gambacciani, M.; Mais, V.; Fiori, P ............................................................ 60
The Release of Prolactin in the Lactating Rat: Effect of Chloroquine
Grosvenor, C.E................................................................. 64
Ontogeny of the Neuroglandular System Revealed with HPGFRF 44 Antibodies in Human Hypothalamus
Bresson, J.-L.; Clavequin, M.-C; Felmann, D.; Bugnon, C. 68 Medial Preoptic Area, Estrogen, and the Peripubertal Desensitization to the Negative Estrogen Feedback in Female Rats
Döcke, F.; Rohde, W.; Gerber, P.; Kreuz, G .......................... 74
In vitro Biochemical Characterization and Autoradiographic Distribution of Thyrotropin-Releasing Hormone Binding Sites in Rat Brain Sections
Rostène, W.H.; Morgat, J.-L.; Dussaillant, M.; Rainbow, T.C.; Sarrieau, A.; Vial, M.; Rosselin, G. 81

Rapid Communication
Decreased Corticotropin-Releasing Factor-Like Immunoreactivity in Rat Intermediate and Posterior Pituitary after Stalk Secretion Saavedra, J.M.; Rougeot, C; Culman, J.; Israel, A.; Niwa, M.; Tonon, M.C.; Vaudry, H; Dray, F 93

No. 2

Original Paper
Influence of Continuous Illumination on Estrous Cycle of Rats: Time Course of Changes in Levels of Gonadotropins and Ovarian Steroids until Occurrence of Persistent Estrus Takeo, Y 97
Effect of Norepinephrine on the Pituitary Adrenocorticotropic Activation by Ether Stress and on the in vitro Release of ACTH by the Adenohypophysis of Male and Female Newborn Rats Hary, L.; Dupouy, J.P.; Chatelain, A 105
Lateral Hypothalamic Mediation of Hypergastrinemia Induced by Intracisternal Bombesin Taché, Y.; Grijalva, C.V.; Gunion, M.W.; Cooper, P.H.; Walsh, J.H.; Novin, D. 114
Further Studies on Norepinephrine-Induced Suppression of Pul satile Luteinizing Hormone Release in Ovariectomized Rats Gallo, R.V. 120
Evidence that Somatostatin Releases Endogenous Substance(s) Responsible for Its Presynaptic Inhibitory Effect on Rat Vas deferens and Guinea Pig Neum Vizi, E.S.; Horváth, T.; Somogyi, G.T. 142
Contents

Bimodal Effect of Progesterone on in vitro Dopamine Function of the Rat Corpus striatum
Dluzen, D.E.; Ramirez, V.D.....................................................149

Effects of Monoamine Neurotoxins Injected in Different Brain Areas on Gonadotropin and Androgen Secretion in the Male
Mas, M.; Gonzalez, M.C.; Rodriguez, M.; Castro, R.; Oak- tian, S............................................................156

Pituitary Receptors for Corticotropin-Releasing Factor: no Effect of Vasopressin on Binding or Activation of Adenylyl Cyclase
Holmes, M.C.; Antoni, F.A.; Szentendrei, T............................ 162

Corticotropin-Releasing Factor Regulates Proopiomelanocortin Messenger Ribonucleic Acid Levels in vivo
Bruhn, T.O.; Sutton, R.E.; privier, C.L.; Vale, W.W..............170

Serum and CSF Concentrations of Testosterone and LH Related to Negative Feedback in Male Rhesus Monkeys

Rapid Communications

Novel Ligand Specificity of Pituitary Vasopressin Receptors in the Rat
Antoni, F. A ...........................................................186

Coexistence of Tyrosine Hydroxylase-Like and Gamma-Aminobutyric Acid-Like Immunoreactivities in Neurons of the Arcuate Nucleus
Everitt, B.J.; Hökfelt, T.; Wu, J.-Y.; Goldstein, M............. 189

Announcement ................................................................. 192

No. 3

Original Paper

Long-Term Treatment with Estradiol Induces Reversible Alterations in Tuberoinfundibular Dopaminergic Neurons: a Decreased Responsiveness to Prolactin
Demarest, K.T.; Regele, G.D.; Moore, K.E......................... 193

Endogenous Prostaglandins Affect Growth Hormone and Thyrotropin Release at a Hypothalamic, not a Pituitary Level
Kasting, N.W.; Martin, J.B................................................. 201

Relationship between Hypothalamic Serotoninergic Activity and Prolactin and Growth Hormone Secretion in the Domestic Cockerel
Hall, T.R.; Harvey, S.; Chadwick, A....................................... 206

Effects on Plasma Luteinizing Hormone and Follicle-Stimulating Hormone with Varying the Gonadotropin-Releasing Hormone Pulses in Hypothalmo-Pituitary Ovarietecto-Disconnection
Clarke, L.J.; Cummins, J.T.; Doughton, B.W..........................214

Modulation of Lordosis Behavior of Female Rats by Naloxone, ß-Endorphin and Its Antiserum in the Mesencephalic Cen tral Gray: Possible Mediation via GnRH
Sirinathsinghji, D.J.S.......................................................222

Effects of Castration and Ethanol on Amygdaloid Substance P Immunoreactivity
Dees, W.L.; Kozlowski, G.P..................................................231
Dermorphin Stimulates Prolactin Secretion in the Rat

Adaptation of the Adrenocortical Response during Repeated Stress in Thalamic Pigeons
Ramade, F.; Baylé, J.-D............................................................245

Formation of a Direct Arterial Blood Supply to the Anterior Pituitary Gland following Complete or Partial Interruption of the Hypophyseal Portal Vessels

Central Electrophysiologic Correlates of Pulsatile Luteinizing Hormone Secretion in the Rhesus Monkey

Triiodothyronine Receptors in Adult Rat Brain: Topographical Distribution and Effect of Hypothyroidism
Dozin, B.; De Nayer, P..........................................................261

Direct Pituitary Effects of Estrogen and Progesterone on Gonadotropin Secretion in the Ovariectomized Ewe
Clarke, I.J.; Cummins, J.T......................................................267

Role of Alpha₂ and Alpha₁ Adrenergic Receptors in the Growth Hormone and Prolactin Response to Insulin-Induced Hypoglycemia in Man
Tatar, P.; Vigas, M.................................................................275

Rapid Communications
Short-Day Exposure Eliminates the LH Response to Naloxone in Golden Hamsters
Eskes, G.A.; Wilkinson, M.; Bhanot, R.................................281

Comparative Immunoelectron Microscopic Localization of Corticotropin-Releasing Factor (CRF) and Oxytocin in the Rat Median Eminence
Dreyfuss, F.; Burlet, A.; Tonon, M.C.; Vaudry, H........................284

Announcement ........................................................................288

Original Paper
Evidence that the Dopaminergic Incerto-Hypothalamic Tract Has a Stimulatory Effect on Ovulation and Gonadotrophin Release
MacKenzie, F.J.; Hunter, A.J.; Daly, C; Wilson, J.C.A. ... 289 Corticotropin Releasing Factor (CRF): Origin and Course of Afferent Pathways to the Median Eminence (ME) of the Rat Hypothalamus
Merchenthaler, I.; Hynes, M.A.; Vigh, S.; Schally, A.V.; Petrusz, P ..................................................296

Bioavailability of Oral Melatonin in Humans

Comparative Stimulation of Growth Hormone Secretion in Anaesthetized Chickens by Human Pancreatic Growth Hormone-Releasing Factor (hpGRF) and Thyrotrophin-Releasing Hormone (TRH)
Harvey, J.; Scanes, C.G.......................................................314
Evidence that Chronic Hyperprolactinemia Affects Skin Temperature Regulation through an Opioid Mechanism
Effect of Crowding on Emotional Reactivity in Male Rats
Armario, A.; Castellanos, J.M.; Balasch, J ......................... 330
Beta-Endorphin and Adrenocorticotropin Release from Rat Adenohypophysis in vitro: Evidence for Local Modulation by Arachidonic Acid Metabolites of the Cyclooxygenase and Lipoxygenase Pathway
Vlaskovska, M.; Knepel, W ............................................. 334
Recovery of the Hypothalamo-Pituitary-Adrenocortical Axis in the Rat after Long-Term Dexamethasone Treatment
Effect of Vertebral, Carotid and Intravenous Infusions of Lysine Vasopressin on Plasma Vasopressin and Cardiovascular Function
Brooks, D.P.; Share, L.; Crofton, J.; Matsui, K.; Rockhold, R.W ......................................................................... 350
Changes in Serotonin Levels, N-Acetyltransferase Activity, Hydroxyindole-O-Methyltransferase Activity, Melatonin Levels in the Pineal Gland of the Richardson’s Ground Squirrel in Relation to the Light-Dark Cycle
Reiter, R.J.; Hurbut, E.C.; Esquifino, A.I.; Champney, T.H.; Steger, R.W ..................................................... 356
Effects of Injections and/or Chronic Implants of Melatonin and 5-Methoxytryptamine on Plasma Thyroid Hormones in Male and Female Syrian Hamsters
Vaughan, M.K.; Richardson, B.A.; Petterborg, L.J.; Holtorf, A.P.; Vaughan, G.M.; Champney, T.H.; Reiter, R.J. 361
Daily Fluctuations in the Activity of the Tuberoinfundibular GABAergic System and Plasma Prolactin Levels
Casaneuva, F.; Apad, J.A.; Masotto, C; Cocchi, D.; Locatelli, V.; Racagni, G.; Muller, E ............................................. 367
Facilitation of Vasopressin Release from the Neurohypophysis by Application of Electrical Stimuli in Bursts. Relevant Stimulation Parameters
Shaw, F.D.; Bicknell, R.J.; Dyball, R.E.J .................................. 371

No. 5

Original Paper
Osmotic Mechanisms Regulating Cerebrospinal Fluid Vasopressin and Oxytocin in the Conscious Rat
Morris, M.; Barnard, R.R., Jr.; Sain, L.E ............................... 377
Supplemental Progesterone Delays Heat Termination and the Loss of Progesterin Receptors from Hypothalamic Cell Nuclei in Female Guinea Pigs
Brown, T.J.; Blauschild, J.D .................................................. 384
Modulation by Leu-Enkephalin of Peptide Release from Perifused Neurointermediate Pituitary. I. Selective Effect on Potassium-, Veratridine- and Isoproterenol-Stimulated Secretion of Vasopressin
Al-Zein, M.; Lutz-Bucher, B.; Koch, B .................................. 392
Somatostatin Analogs Inhibit Somatostatin Secretion from Cultured Hypothalamus Cells
Peterfreund, R.A.; Vale, W.W .............................................. 397
Noradrenaline and Prostaglandin E2 Stimulate LH-RH Release from Rat Median Eminence through Distinct 1-Alpa-Adrenergic and PGE2 Receptors
Heaulme, M.; Dray, F...............................................................403

Electrical Responses of Pineal Cells to Pineal Indoles and Putative Transmitters in Intact and Blinded Pigeons
Demaine, C; Semm, P ..............................................................408

Ontogenetic Development of the Pro-Enkephalin B (= Pro-Dynorphin) Opioid Peptide System in the Rat Pituitary
Seizinger, B.R.; Liebisch, D.C.; Grimm, G; Herz, A ...............414

Subfornical Organ Efferents Influence the Excitability of Neurohypophyseal and Tuberoinfundibular Paraventricular Nucleus Neurons in the Rat
Ferguson, A.V.; Day, T.A.; Renaud, L.P.................................423

GABA Agonists Inhibit the Vasopressin-Dependent Pressor Effects of Central Angiotensin II
Brennan, T.J.; Morris, M.; Haywood, J.R ............................429

Gonadotropin-Releasing Hormone Increases Plasma Catecholamines and Blood Pressure in Toads
Wilson, J.X.; Van Vliet, B.N.; West, N ................................437

Release of Prostaglandin E2 from the Hypothalamus Depends on Extracellular Ca2+ Availability: Relation to LHRH Release
Ojeda, S.R.; Negro-Vilar, A .....................................................442

Immunohistochemical Characterization of Thyrotropin-Releasing Hormone-Containing Neurons in Rat Septum
Ishikawa, K.; Inoue, K.; Tosaka, H.; Shimada, O.; Suzuki, M. 448

Tissue Distribution and Molecular Forms of a Novel Pituitary Protein in the Rat
Iguchi, H.; Chan, J.S.D.; Seidah, N.G.; Chretien, M. . . . 453

Effects of Alpha-Flupenthixol and Naloxone on CRF-Induced Locomotor Activation
Koob, G.F.; Swerdlow, N.; Seeliger, M.; Eaves, M.; Sutton, R.; Rivier, J.; Vale, W .......................................................459

Relationship between Pineal N-Acetyltransferase Activity, Pineal Melatonin and Serum Melatonin in Rats under Different Lighting Conditions
Ho, A.K.; Grota, L.J.; Brown, G.M ...........................................465

Interactions between Hippocampal Serotonin and the Pituitary-Adrenal Axis in the Septal Driving of Hippocampal Theta-Rhythm
Azmitia, E.C.; McNaughton, N.; Tsaltas, L.; Fillenz, M.; Gray, J.A .................................................................471

Correlation of Muscarinic Receptor Induction in the Ventro-medial Hypothalamic Nucleus with the Activation of Feminine Sexual Behavior by Estradiol
Rainbow, T.C.; Snyder, L.; Berck, D.J.; McEwen, B.S . . . 476

Rapid Communications

Cyclic Variation of Oxytocin in the Blood of Pituitary Portal Vessels of Rats
Sarkar, D.K.; Gibbs, D.M........................................................481

A Reverse Hemolytic Plaque Assay for Microscopic Visualization of Growth Hormone Release from Individual Cells: Evidence for Somatotrope Heterogeneity
Frawley, L.S.; Neill, J.D..........................................................484

Announcements ..................................................................488
Contents

No. 6

Original Paper
Does ß-Endorphin Modulate Basal and Dopamine-Inhibited Prolactin Release by an Action at the Anterior Pituitary?
Cheung, C.Y.......................................................... 489

Ultrastructural and Morphometric Studies on the Neurohypophysial Nerve Terminals of the Rat following Administration of Angiotensin II
Ochiai, H.; Nakai, Y .................................................. 496

Immunohistochemical Localization of Urotensin I Corticotropin-Releasing Factor Immunoreactivity in Neurosecretory Neurons in the Caudal Spinal Cord of Fish
Onstott, D.; Elde, R.......................................................... 503

Site of γ-Aminobutyric Acid (GABA)-Mediated Inhibition of Growth Hormone Secretion in the Rat
Fiók, J.; Kes, Z.; Makara, G.B.; Erdö, L.............................. 510

Regional Specificity in the Effect of Estrogen Implantation within the Forebrain on the Frequency of Pulsatile Luteinizing Hormone Secretion in the Ovariectomized Rat
Akema, T.; Tadokoro, Y.; Kimura, F.................................. 517

Estimation of in vitro Activity of Tuberoinfundibular Dopa-minergic Neurons by Measurement of DOPA Synthesis in the Median Eminence of Hypothalamic Slices
Arita, J.; Kimura, F.......................................................... 524

The Actions of Prostaglandin E2, Naloxone and Testosterone on Starvation-Induced Suppression of Luteinizing Hormone-Releasing Hormone and Luteinizing-Hormone Secretion. In vitro and in vivo Studies Küderling, I.; Dorsch, G.; Waldoth, M.; Pirke, K.-M. .... 530