

Poster presentations

Monday July 12

1. NOVEL OPIOID RECEPTOR LIGANDS FROM NATURAL PRODUCTS

K.M. Smith (1), C.M. Dersch (2), R.B. Rothman (2) and T.E. Prisinzano (1). (1) Department of Medicinal Chemistry, The University of Kansas, Lawrence, Kansas (2) Clinical Psychopharmacology Section, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD

2. Ac-D-Trp-PheNH₂ AND Ac-D-Trp-Phe-GlyNH₂ - A NEW CLASS OF UNUSUAL OPIOID PEPTIDES

L. Gentilucci (1), R. De Marco (1), A. Tolomelli (1), S. Spampinato (2), A. Bedini (2), R. Artali (3) (1) Dept. of Chemistry "Ciamician", Bologna Univ., Bologna, Italy, (2) Dept. of Pharmacol., Bologna Univ., Bologna, Italy, (3) Dept. of Pharm. Sci., Milan Univ., Milano, Italy

3. BU08028, THE FIRST HIGH AFFINITY UNIVERSAL OPIOID RECEPTOR FAMILY LIGAND

W. E. Polgar (1), T. V. Khroyan (1), L Toll (1), G. Cami-Kobeci (2), SM Husbands (2). (1) SRI International, Menlo Park, CA, USA, (2) University of Bath, Bath UK.

4. PHYLOGENETIC DIVERSITY OF THE C-TERMINALLY EXPRESSED HEPTAPEPTIDE UNIT IN PROENKEPHALIN A

E. Bojnik (1), F. Babos (2), A. Magyar (2), A. Borsodi (1), B. Sandor(1), (1) Institute of Biochemistry, Biological Research Centre, Hungarian Academy of Sciences 6726 Szeged, Temesvari krt 62, Hungary, (2) Research Group of Peptide Chemistry, Hungarian Academy of Sciences and Eötvös Lorand University, Budapest, Hungary

5. TOWARD A NATURAL, GENOM-BASED OPIOID PEPTIDE LIBRARY

S. Benyhe and E. Bojnik, Inst Biochem, Biol Res Ctr, Hungarian Acad Sci, Szeged, Hungary

6. DESIGN AND SYNTHESIS OF SMALL SUBSTANCE P (1-7) MIMETICS

R. Fransson (1), A. Carlsson (2), C. Sköld (1), F. Nyberg (2), M. Hallberg (2), A. Sandström (1). (1) Department of Medicinal Chemistry, Uppsala University, Uppsala, Sweden (2) Department of Pharmaceutical Biosciences, Uppsala University, Uppsala, Sweden.

7. CHARACTERISATION OF 5'-AMINO AND AMIDINO-ALKYL NALTRINDOLE DERIVATIVES AT THE KAPPA-OPIOID RECEPTOR

J. Casal-Dominguez (1), F. A. Bradbury(2), J. R. Traynor (2), S. M. Husbands (1), and S. J. Bailey (1). (1) Dept. of Pharmacy and Pharmacology, University of Bath, Bath, UK. (2) Dept. of Pharmacology, University of Michigan, Ann Arbor, MI.

8. PYRIDINYL ISOSTERES OF N-(2-[1,1'-BIPHENYL]-4-YL-ETHYL)-3-(CYCLOPROPYLMETHYL)-1,2,3,4,5,6-HEXAHYDRO-6,11-DIMETHYL- 2,6-METHANO-3-BENZAZOCINE-8-CARBOXAMIDE, A HIGH AFFINITY LIGAND FOR OPIOID RECEPTORS

M. A. VanAlstine (1), Mark P. Wentland (1), D. J. Cohen (2), J. M. Bidlack (2); (1) Dept. of Chemistry and Chemical Biology, Rensselaer Polytechnic Institute, Troy, NY, USA; (2) Dept. of Pharmacology and Physiology, University of Rochester, Rochester, NY, USA

9. DIPRENORPHINE IS A PARTIAL AGONIST AT THE MU, DELTA, AND KAPPA OPIOID RECEPTORS

B. I. Knapp (1), R. L. Dean (2), D. R. Deaver (2), and J. M. Bidlack (1). (1) University of Rochester, Rochester, NY USA, (2) Alkermes, Inc., Waltham, MA USA

10. EL2 LOOP INTERACTIONS FOR BINDING, SELECTIVITY AND ACTIVATION OF THE NOP RECEPTOR: STUDIES WITH SMALL-MOLECULE/PEPTIDE CHIMERIC LIGANDS

NT Zaveri (1), C Olsen (2), F Jiang (2), W Polgar (2), L Toll (1). (1)Astraea Therapeutics, Mountain View, CA; (2)SRI International, Menlo Park, CA 94025

11. BIPHASIC MODULATION OF MU-OPIOID RECEPTOR (MOR) TRANSCRIPTION BY NOCICEPTIN IN NEUROBLASTOMA CELLS CO-EXPRESSING MOR AND NOP RECEPTORS

A. Bedini and S. Spampinato, Dept. Pharmacol. University of Bologna-Irnerio 48-40126 Bologna Italy

- 12. BIVALENT LIGANDS FOR THE CHARACTERIZATION OF OPIOID RECEPTOR HETERODIMERS**
J. Harvey (1, 2), R. van Rijn (1), P. England (2), J. Whistler (1, 2). (1) Ernest Gallo Clinic and Research Center, Emeryville, CA (2) University of California, San Francisco, San Francisco, CA
- 13. ¹⁸F-BETA-ENDORPHIN: NOVEL PEPTIDIC RADIOTRACER FOR OPIOID RECEPTOR PET IMAGING**
B. Reed (1), P. Kothari (2), E. Butelman (1), S. Vallabhajosula (2), S. Frutos (3), T. Muir (3), J.M. Bidlack (4), M.J. Kreek (1). (1) Lab. Biol Addictive Diseases, Rockefeller Univ., New York, NY, USA, (2) Citigroup Biomed. Imaging Center, Weill Cornell Med. Coll., New York, NY, USA, (3) Lab. Synthetic Protein Chem., Rockefeller Univ., New York, NY, USA, (4) Dept. Pharmacol. Physiol., Univ. Rochester Sch. Med. Dent., Rochester, NY, USA.
- 14. EXPLORATION OF NOVEL RADIOIODINE-LABELING TECHNIQUES FOR OPIOID PEPTIDES**
J. Pickett, S. Majumdar, and G. Pasternak. Molecular Pharmacology and Chemistry Program, Memorial Sloan-Kettering Cancer Center, New York, NY.
- 15. PREPARATION AND EVALUATION OF SALVINORIN A ANALOGS WITH REDUCED HEPATOTOXICITY**
K. Lovell (1), C. M. Dersch (2), R. B. Rothman (2), and T. E. Prisinzano (1). (1) Department of Medicinal Chemistry, University of Kansas, Lawrence, Kansas, (2) Clinical Psychopharmacology Section, IRP, NIDA, NIH, DHHS, Baltimore, MD.
- 16. DESIGN AND SYNTHESIS OF SALVINORIN A ANALOGUES AS PROBES TO FURTHER EXPLORE THE FURAN RING BINDING POCKET**
T. Vasiljevik (1), C. M. Dersch (2), R. B. Rothman (2), T. E. Prisinzano (1) (1)Dept. of Med. Chem., Univ., Kansas, Kansas, USA. (2)Clin. Pharmacol. Sect, NIDA, NIH, Maryland, USA
- 17. THE EFFECTS OF SUBLINGUAL SALVINORIN A, A NATURALLY OCCURRING KAPPA OPIOID RECEPTOR AGONIST, IN HUMANS**
J. Mendelson (1), J. C. Lopez (1), M. Baggott (1,2), K. Flower (1), E. Everhart (3), T. Munro (4), G. Galloway (1) and B. Cohen (4). (1) CPMCRI, (2) UC Berkeley, (3) UCSF, (4) Harvard
- 18. PERIPHERAL INHIBITION OF OPIOID PEPTIDE DEGRADATION**
S. Miceli (1), M. Schmelz (2), and H. Machelska (1). (1) Anaesthesiologie, Charité – Universitätsmedizin Berlin, Campus Benjamin Franklin, Berlin, (2) Universitätsklinikum und Fakultät für Klinische Medizin Mannheim, Universität Heidelberg.
- 19. METABOLIC STABILITY OF OPIOID PEPTIDES ANALOGUES IN HUMAN PLASMA**
A. Misicka (1), D. Tymecka (1), E. Kalinowska (1), and A. W. Lipkowski (2). (1) Chemistry Department, University of Warsaw, (2) Mossakowski Medical Research Centre Polish Academy of Science, Warsaw, Poland.
- 20. METABOLIC STABILITY OF STRUCTURALLY MODIFIED ARODYN ANALOGS IN BIOLOGICAL MATRICES**
K. A. Patkar, K. Dresner, and J. V. Aldrich, Department of Medicinal Chemistry, The University of Kansas, Lawrence, KS.
- 21. THE SELECTIVE MU-OPIOID RECEPTOR (MOR) ANTAGONIST, ADC5510, REDUCES L-DOPA INDUCED DYSKINESIA (LID) IN THE MPTP MACAQUE MODEL OF PARKINSON'S DISEASE (PD)**
J. B. Koprach (1), S.H. Fox (2), T.H. Johnston (1), A. Goodman (3), B. Le Bourdonnec (3), R.E. Dolle (3), R.N. DeHaven (3), D.L. DeHaven-Hudkins (3), P.J. Little (3), J.M. Brotchie (1). (1) Atuka Ltd., (2) Movement Disorder Clinic, Toronto, ON, Canada; (3) Adolor Corp., Exton, PA, USA
- 22. IN VITRO AND IN VIVO PHARMACOLOGICAL PROFILE OF 6-GLYCINE SUBSTITUTED 14-PHENYLPROPOXYMORPHINANS, HIGH AFFINITY AND POTENT OPIOID ANTINOCICEPTIVE AGENTS**
M. Spetea (1), P. Windisch (1), Y. Guo (2), I. Bileviciute-Ljungar (2), J. Schütz (1), P. Riba (3), K. Kiraly (3), S. Fürst (3), H. Schmidhammer (1) (1)Dept. of Pharm. Chem., Inst. of Pharm., CMBI, Univ. of Innsbruck, Innsbruck, Austria, (2)Dept. of Physiol. and Pharmacol., Karolinska Inst., Stockholm, Sweden, (3)Dept. of Pharmacol. and Pharmacother., Semmelweis Univ., Budapest, Hungary

- 23. LACK OF THE REWARDING EFFECT AND LOCOMOTOR-ENHANCING EFFECT OF MUOPIOID RECEPTOR AGONIST AMIDINO-TAPA**
Y. Aoki, H. Mizoguchi, C. Watanabe, A. Yonezawa, T. Sakurada, S. Sakurada, Department of Physiology and Anatomy, Tohoku Pharmaceutical University, Sendai, Japan
- 24. EFFECTS OF ZYKLOPHIN, A DYNORPHIN ANALOG, ON MOUSE STRIATAL DOPAMINE LEVELS**
Y. Zhang(1), K.A. Patkar(2), E.R. Butelman(1), A. Ho(1), J.V. Aldrich(2), M.J. Kreek(1)(1) Rockefeller Univ NY, NY 10065 (2) Univ of Kansas, Lawrence, KS 6
- 25. ANALGESIC ACTIVITY OF FRAGMENTS OF ATYPICAL OPIOID PEPTIDES**
L. Guzevatykh (1), T. Voronina (1), T. Emelyanova (2), L. Andreeva (2), and N. Myasoedov (2). (1) V.V Zakusov Institute of Pharmacology, RAMN, Moscow, Russia, (2) Institute of Molecular Biology RAN, Moscow, Russia
- 26. mRNA LEVELS OF THE ENDOGENOUS OPIOID LIGANDS AND RECEPTORS IN C57BL/6J AND 129P3/J MICE: STRAIN AND HEROIN EFFECTS**
S.D. Schlussman, J. Cassin, Y. Zhang, O. Levran, A. Ho and M.J. Kreek. The Laboratory on the Biology of Addictive Diseases, The Rockefeller University, New York NY, USA
- 27. ELEVATION OF MOR EXPRESSION IN SH-SY5Y BY CONDITIONED MEDIUM FROM LPS TREATED TPA DIFFERENTIATED HL-60 CELLS**
E. F. Langsdorf (1) and S. L. Chang (1,2). (1) Institute of NeuroImmune Pharmacology and (2) Department of Biological Sciences, Seton Hall University, South Orange, NJ
- 28. 14-3-3 ZETA PROTEIN REGULATES CELL SURFACE EXPRESSION OF THE HUMAN KAPPAOPIOID RECEPTOR (hKOPR) IN NEURO2A CELLS**
J-G. Li, C. Chen, P. Huang, and L.-Y. Liu-Chen. Dept.of Pharmacol. Temple Univ. School of Medicine, Philadelphia, USA.
- 29. ALCOHOL EXPOSURES INDUCE SELECTIVE ALTERATIONS ON ENDOGENOUS OPIOID SYSTEM GENES REGULATION IN RAT AMYGDALA: POSSIBLE EPIGENETIC MECHANISMS**
C. D'Addario, F.F. Caputi, S. Candeletti, R. Rimondini and P. Romualdi, Dept of Pharmacology, University of Bologna, Via Irnerio 48, 40125 Bologna, Italy
- 30. SHIFT IN EPIGENETIC MECHANISM IN HUMAN ALCOHOLICS: DNA DEMETHYLATION IN A SINGLE NUCLEOSOME MAY UNDERLIE PRODYNORPHIN UPREGULATION**
I. Bazov (1), H. Watanabe (1), O. Kononenko (1), M.M.H. Taqi (1), D. Sheedy (2), C. Harper (2), T. Yakovleva (1) and G. Bakalkin (1). (1) Dept. Pharmaceutical Biosciences, Uppsala Univ., Sweden, and (2) Sydney Univ., NSW, Australia
- 31. OPIOIDERGIC PKB/AKT SIGNALLING INDUCES GSK3 PHOSPHORYLATION AND GLUT4 TRANSLOCATION**
D.A. Eisinger (1), H. Ammer (1). (1) Institute of Pharmacology, Toxicology and Pharmacy, University of Munich, Munich, Germany
- 32. SITE- AND TISSUE-SPECIFIC METHYLATION OF CpGs FLANKING ENKEPHALINENCODING SEQUENCES IN PRODYNORPHIN**
I. Bazov (1), M.M.H. Taqi (1), H. Watanabe (1), D. Sheedy (2), C. Harper (2), F. Nyberg (1), T. Yakovleva (1) and G. Bakalkin (1), (1) Dept. Pharm. Biosciences, Uppsala Univ., Sweden, (2) Discipline of Pathology, Sydney Univ., NSF, Australia
- 33. METHYLATION OF CpG SITES FORMED BY PRODYNORPHIN SNPs ASSOCIATED WITH ALCOHOLISM: ANALYSIS IN HUMAN BRAIN**
M.M.H. Taqi, I. Bazov, A. Kuzmin, H. Watanabe, O. Kononenko, A. Gerashchenko, D. Sheedy (1), C. Harper (1), T. Yakovleva and G. Bakalkin. Dept. Pharm. Biosciences, Uppsala Univ., Sweden, (1) Discipline of Pathology, Sydney Univ., NSF, Australia
- 34. DIFFERENTIAL METHYLATION OF CPG-RICH REGIONS OF PDYN GENE IN HUMAN POSTMORTEM BRAIN TISSUES AND PBMCS**
V. Yuferov (1), D.A. Nielsen (1,3), O. Levran (1), M. Randes i(1), S. Hamon (1), A. Ho (1), S. Morgello (2), M.J. Kreek (1). (1) Rockefeller Univ., New York, NY, USA (2) Mount Sinai Med. Cntr, New York, NY, USA (3) Baylor Coll. of Med. & M E. DeBakey V.A. Med. Cntr, Houston, TX, USA

- 35. POSSIBLE INVOLVEMENT OF INCREASED TRANSCRIPTION OF CHEMOKINE RECEPTORS WITH HISTONE MODIFICATIONS IN THE METHAMPHETAMINE-INDUCED BEHAVIORAL SENSITIZATION**
M. Saeki, M. Narita, D. Ikegami, M. T-Narita, S. Imai, N. Kuzumaki, T. Suzuki. Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan
- 36. DISTINCT PHYSIOLOGICAL ROLE OF SPINAL MOR-1 SPLICE VARIANTS**
H. Mizoguchi, C. Watanabe, A. Yonezawa, T. Sakurada, and S. Sakurada, Department of Physiology and Anatomy, Tohoku Pharmaceutical University, Sendai, Japan
- 37. EPIGENETIC MECHANISMS INVOLVED IN THE INDUCTION OF MU OPIOID RECEPTORS IN T CELLS BY INTERLEUKIN-4**
J. Kraus, L. Lehmann, C. Börner, and V. Höllt. Dept. of Pharmacology and Toxicology, Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany
- 38. INCREASED EXPRESSION OF SPINAL CHEMOKINE RECEPTORS VIA EPIGENETIC MODULATION UNDER LONG-LASTING NEUROPATHIC PAIN**
H. Horiuchi, M. Narita, S. Imai, D. Ikegami, M. T-Narita, K. Miyashita, M. Furuya, N. Kuzumaki, T. Suzuki. Dept. Toxicol, Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan
- 39. DYNAMIC ASSOCIATION OF P300 WITH THE PROMOTER OF THE G PROTEINCOUPLED RAT DELTA OPIOID RECEPTOR GENE DURING NGF-INDUCED NEURONAL DIFFERENTIATION**
Y.L. Chen (1, 2) N. Monteith (1), P.-Y. Law (3) and H.H. Loh (3). (1)Department of Biological Sciences and (2)the Center for Development and Behavioral Neuroscience, the State University of New York at Binghamton, Binghamton, NY 13902, (3)Department of Pharmacology, University of Minnesota, MN 55455
- 40. JAK/STAT SIGNALING MEDIATES POMC TRANSCRIPTION IN LYMPHOCYTES**
M. Busch-Dienstfertig (1), T. Wolfram (2), N. Vogel (1), C. Stein (1), (1) Dept. of Anesthesiology, Charité Campus Benjamin Franklin, Freie Universität Berlin, Germany, (2) Fachhochschule Lausitz, Senftenberg, Germany
- 41. MORPHINE INHIBITS THE INDUCTION OF CANNABINOID RECEPTOR TYPE 1 BY MODULATION OF NF-KAPPA-B SIGNALING**
C. Börner, V. Höllt and J. Kraus, Dept. of Pharmacology and Toxicology, Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany
- 42. ORPHANIN FQ/NOCICEPTIN ACTIVATES NUCLEAR FACTOR KAPPA B IN NEURONAL CELLS**
C. L. Donica (1), H. O. Awwad (2) and K. M. Standifer (1,2). (1) OK Center for Neuroscience, (2) Dept Pharmaceutical Sciences, OUHSC, OKC, USA
- 43. EFFECT OF CHRONIC MORPHINE TREATMENT ON EXPRESSION OF THE ALTERNATIVELY SPLICED VARIANT MRNAS FROM THE MU OPIOID RECEPTOR (OPRM1) GENE IN SELECTED MOUSE BRAIN REGIONS**
J. Xu (1), A. Faskowitz (1), G.C. Rossi (2), M. Xu (1) G.W. Pasternak (1), Y.-X. Pan (1). (1) Dept of Neurology and Molecular Pharmacology and Chemistry Program, Memorial Sloan Kettering Cancer, New York, NY, 10021 USA, (2) Dept of Psychology, Long Island University, C.W. Post College, Brookville, NY, 11548 USA.
- 44. THE DELTA-OPIOID RECEPTOR DIVERSITY IN HUMAN SKIN**
C. Neumann (1), P. Bigliardi (1) and M. Bigliardi-Qi (1). (1) Service of Dermatology and Venereology, CHUV, Lausanne, Switzerland.
- 45. MORPHINE TOLERANCE PRODUCED BY ARRESTIN-DEPENDENT IMPAIRMENT OF MOR RESENSITIZATION**
V.C. Dang, B. Chieng, Y. Azriel and M.J. Christie, Brain and Mind Research Institute, University of Sydney, NSW 2006 Australia.
- 46. WITHDRAWAL FROM CHRONIC MORPHINE, BUT NOT COCAINE INDUCE MARKED UPREGULATION OF MGLUR5 BINDING IN THE MOUSE BRAIN**
A. Bailey, V. Viegas, E. Martignoni I. Kitchen FHMS, Surrey Univ., Surrey, UK
- 47. AMOUNT OF MU-OPIOID RECEPTORS EFFECTING OPIOID-INDUCED BEHAVIOR**
G. Asgarpur, A. Becker, H. Schröder, V. Höllt, G. Grecksch, Dept of Pharmacology, Medical Faculty Magdeburg, Germany

- 48. WITHDRAWAL FROM CHRONIC MORPHINE INDUCES MARKED UPREGULATION OF V1A VASOPRESSIN RECEPTOR IN THE MOUSE BRAIN**
A. Bailey, M. Alshehri, T. Sahabandu, I. Kitchen FHMS, Surrey Univ., Surrey, UK
- 49. CHANGES IN THE ADENYL CYCLASE PATHWAY WITHIN GABAERGIC NEURONS IN THE PAG IS ASSOCIATED WITH MORPHINE TOLERANCE**
E. N. Bobeck, R. A. Haseman, M. M. Morgan, and S. L. Ingram, Washington State University, Vancouver, Vancouver WA
- 50. HIGH POTENCY INHIBITION OF 5-HT₃ RECEPTORS BY MORPHINE**
D. Baptista-Hon, D. Sharp, T. Deeb and T. Hales. Institute of Academic Anaesthesia, Centre for Neuroscience, University of Dundee, Dundee DD1 9SY, UK
- 51. CONDITIONAL KNOCKOUT OF p38-ALPHA MAPK IN SEROTONERGIC NEURONS BLOCKS KAPPA OPIOID DEPENDENT BEHAVIORS**
M.R. Bruchas, D. Messinger, A. Schindler, H. Shankar, B.B. Land, J.L. Lemos, M. Miyatake, C. Chavkin. Dept. Pharmacol, Univ Wash, Seattle, USA
- 52. REPEATED MORPHINE EXPOSURE PROMOTES THE INSERTION OF GLUR2-LACKING AMPA RECEPTORS AT HIPPOCAMPAL SYNAPSES: AN ELECTROPHYSIOLOGICAL STUDY *IN VITRO***
J. Liu, Y. Xia, P. Shinnick-Gallagher, J. A. Morón. Dept. of Anesthesiology, Columbia University Medical Center., New York, USA
- 53. REGULATION OF AMPA RECEPTOR TRAFFICKING BY MORPHINE IN THE HIPPOCAMPUS**
Y Xia, J Liu, SK Billa, NL Bjorklund, JA Morón. Dept. of Anesthesiology, Columbia University Medical Center, New York, USA
- 54. ENDOGENOUS OREXINS CONTRIBUTE TO STRESS-INDUCED ANALGESIA THROUGH ENDOCANNABINOID SIGNALING IN THE VENTROLATERAL PERIAQUEDUCTAL GRAY**
L.-Y. Chang (1) and L.-C. Chiou (1). (1) Grad. Inst. Pharmacol., Natl. Taiwan Univ. Taipei, Taiwan.
- 55. STRESS-RELATED CHANGES IN OPIOID EXPRESSION IN THE AMYGDALA.**
S. Gouty, J. Silveira, G. Bull, D. Turk, T.E. Cote and B.M. Cox, Dept. of Pharmacology, Uniformed Services University, Bethesda, MD, USA
- 56. ABILITY OF OPIOID LIGANDS TO DESENSITIZE ENDOGENOUS MU OPIOID RECEPTOR IN LOCUS COERULEUS NEURONS**
J. Llorente (1), J. McPherson (1), C. P. Bailey (2), W. L. Dewey (3), E. Kelly (1) and G. Henderson (1). (1) Dept. Phys. Pharm., Uni. Bristol, UK, (2) Dept. Pharmacy and Pharmacol., Uni. Bath, UK, (3) Dept. Pharm. and Tox., Virginia Commonwealth Uni., Richmond, VA, USA.
- 57. CO-ACTIVATION OF DELTA-OPIOID AND ALPHA-2-ADRENERGIC RECEPTORS ACTIVATES PKC-EPSILON TO ENABLE SPINAL ANALGESIC SYNERGY**
G.L. Wilcox (1,3-5), K.F. Kitto (2-4), C.A. Fairbanks (1-4), L.S. Stone (6-8), R.O. Messing (9), A.C. Overland (1,3). (1) Grad Prog in Neurosci; (2) Pharmaceutics, Col of Pharmacy; (3) Neurosci, (4) Pharmacol and (5) Derm, Med Sch, U of Minnesota, Mpls MN 55455; (6) Fac of Dent, Edwards Centre for Res on Pain, Depts of (7) Pharm and Tox, (8) Anesth, Fac of Med, McGill U, Montreal QC H3A 1A4, Canada; (9) Dept of Neurol, Gallo Cntr, UCSF, Emeryville CA 94608
- 58. CORTICAL DELTA-OPIOID RECEPTORS AND Na⁺-K⁺ HOMEOSTASIS IN HYPOXIC/ISCHEMIC STRESS**
Dongman Chao (1), Xiaozhou He (2), Yilin Yang (2), Xuezhong Kang (3) and Ying Xia (1). (1) Yale University School of Medicine, USA, (2) Third Medical College of Soochow University, China, (3) Shanghai Research Center for Acupuncture and Meridians, China
- 59. P-TYPE CALCIUM CHANNELS IN PURKINJE NEURONS OF RAT ARE MODULATED BY μ-OPIOID RECEPTOR IN G-PROTEIN-INDEPENDENT MANNER**
O. Krishtal, O. Iegorova, and A. Fisyunov. Bogomoletz Institute of Physiology, 4 Bogomoletz Street, Kiev 01024, Ukraine
- 60. AUTORADIOGRAPHIC STUDIES ON MU- AND DELTA RECEPTOR IN THE RAT BRAIN AFTER TREATMENT WITH GROWTH HORMONE**
J. Johansson, A. Grönbladh, F. Nyberg and M. Hallberg, Dept Pharm Biosciences, Uppsala University, Sweden

- 61. BETA-ARRESTIN 1 REGULATION OF THE ACTIN CYTOSKELETON AFFECTS DELTA RECEPTOR FUNCTION AT THE CELLULAR AND BEHAVIORAL LEVELS**
K. Roberts (1), N. Desai (1), A. Pradhan (1), N. Mittal (1) T. Hales (2), C. Evans (1), W. Walwyn (1). (1) Dept Psych. and Biobehav. Sci., UCLA, CA (2) Ctr Neurosci., U. Dundee, UK.
- 62. NOVEL DYNAMIC COMPLEXES BETWEEN THE DELTA-OPIOID RECEPTOR, STAT5B AND SELECTIVE G PROTEIN SUBUNITWS**
E-M. Georganta, A. Agalou, Z. Georgoussi. Lab. of Cell. Signal. and Mol. Pharmacol., Inst. of Biol., N.C.S.R. «Demokritos», Athens, Greece
- 63. CHARACTERIZATION OF OPIOID RECEPTORS IN HUMAN SKBR-3 MAMMARY CARCINOMA CELLS**
E.K. Speckmaier, H. Ammer, Institute of Pharmacology, Toxicology and Pharmacy, Ludwig-Maximilians-University of Munich, Muenchen, Germany.
- 64. INVOLVEMENT OF UBIQUITINATION IN OPIOID-INDUCED DOWNREGULATION OF RGS4**
Q. Wang (1), J. Traynor (2). (1) Dept. of Pharmacology and (2) Substance Abuse Research Center, Univ. of Michigan, Ann Arbor, USA.
- 65. ROLE OF JNK ISOFORMS IN LIGAND-DIRECTED MU AND KAPPA OPIOID RECEPTOR INACTIVATION**
E.J. Melief, M. Miyatake, C. Chavkin. Dept Pharmacol, Univ Wash, Seattle WA
- 66. MOR FUNCTION IS ALTERED IN A GALPHA[O] NULL MOUSE**
J. Thomson (1), J. Traynor (1,2); (1) Department of Pharmacology and (2) Substance Abuse Research Center, University of Michigan, Ann Arbor, MI
- 67. STUDY OF OPIOID ACTION IN MOPR PHOSPHORYLATION-DEFICIENT (PD) MICE**
J.B. Wang (1), E. Barbier (1), Y. Chiu (2) B. Feng (1) and L.Y. Liu-Chen (2) (1) Dept. of Pharmaceut. Sci. Univ. of Maryland Baltimore, Sch. of Pharmacy, (2) Dept. of Pharmacol, Temple Univ Med Sch., Philadelphia, PA. USA
- 68. FUNCTIONAL LINK BETWEEN PHOSPHOLIPASE D2-SIGNALING AND OPIOID RECEPTOR ENDOCYTOSIS**
T. Koch, L. Q. Yang, A. Seifert, V. Rankovic, and V. Höllt. Institute of Pharmacol. and Toxicol., Magdeburg University, Germany.
- 69. RELATIONSHIP OF MU-OPIOID RECEPTOR PHOSPHORYLATION TO RECEPTOR INTERACTION WITH ARRESTIN AND INTERNALIZATION**
G. Rivero (1), M. Baptist (1), J. McPherson (1), S. Al-Sabah (2), C. Krasel (2), C.P. Bailey (3), G. Henderson (1) and E. Kelly (1) (1) Dept of Physiology and Pharmacology, Univ of Bristol, UK; (2) School of Pharmacy, Univ of Reading, UK; (3) Dept of Pharmacy and Pharmacology, Univ of Bath, UK
- 70. PHOSPHORYLATION OF THE C-TERMINUS OF THE MU-OPIOID RECEPTOR**
S. Oldfield (1), A. Butcher (2), A. Tobin (2), G. Henderson (1), E. Kelly (1). (1) Dept of Physiology and Pharmacology, Univ. of Bristol, UK (2) Department of Cell Physiology and Pharmacology, Univ. of Leicester, UK.
- 71. REASSESSING THE ROLE OF CAMKII IN OPIOID-INDUCED MU-OPIOID RECEPTOR DESENSITIZATION AND INTERNALIZATION.**
Y. J. Chen, E. Kelly, and G. Henderson. Dept of Physiology and Pharmacology, Univ of Bristol, UK.
- 72. SPINAL MU-DELTA OPIOID RECEPTOR INTERACTIONS IN RODENTS**
P. Riba, K. Király, A.K. Szentirmay, P. Molnar, T. Friedmann, M. Al-Khrasani and S. Furst. Department of Pharmacology and Pharmacotherapy, Semmelweis University, Budapest, Hungary
- 73. CONSTITUTIVELY ACTIVE MU OPIOID RECEPTORS: A NOVEL THERAPEUTIC TARGET FOR PAIN?**
C. Evans (1), H. Lam (1), M. Maga (1), N. Desai (1), N. Maidment (1), T. Hales (1) W. Walwyn. (1) Dept Psychiat & Biobehav Sci., UCLA-NPI, CA, (2) Ctr Neurosci., U. Dundee, UK.

- 74. DESENSITIZATION OF MOPrs AT NERVE TERMINALS**
J. Lowe, S. Andrews, and C. P. Bailey. Dept. of Pharm. and Pharmacol., Bath Uni., UK
- 75. REGULATION OF HUMAN MU-OPIOID RECEPTOR (HMOP) DYNAMICS IN THE MEMBRANE UPON ACTIVATION OF OTHER G PROTEIN-COUPLED RECEPTORS**
L. Moulédous, S. Mazères, C. Marie-Louise, A. Lopez, S. Cabantous, L. Salomé, J-M Zajac and C. Mollereau. CNRS/IPBS, 205 route de Narbonne, F-31077 Toulouse. University of Toulouse (UPS), France.
- 76. CLINICALLY EMPLOYED “MU” OPIOID AGONISTS SELECTIVELY ACTIVATE MU-DELTA HETEROMERIC RECEPTORS IN HEK-293 CELLS AND RHESUS MONKEYS**
A.S. Yekkirala (1,2), M.L. Banks (3), S.S. Negus (3) and P.S. Portoghese (1,2). (1) Dept. of Med. Chem., Coll. of Pharm.; (2) Dept. of Pharmacol., Medical School., Univ. of Minnesota, Minneapolis, MN; (3) Dept. of Pharmacol. & Toxicol. Virginia Commonwealth Univ., Richmond, VA, USA.
- 77. MU/DELTA OPIOID RECEPTOR HETEROMER TRAFFICKING IN RESPONSE TO PROLONGED MORPHINE TREATMENT**
E. W. Ong (1), M. L. Junek (1), A. Gupta (4), L. A. Devi (4), and C. M. Cahill (1,2,3). (1) Dept. of Pharmacol. and Tox., (2) Dept. of Anesth., and (3) Centre for Neurosci. Studies, Queen’s Univ, Kingston, Canada, (4) Dept of Pharmacol. and Syst. Ther., Mt. Sinai Sch. of Med., NY, USA.
- 78. NOVEL PEPTIDE ENDOCANNABINOIDS REVEAL AGONIST DIRECTED SIGNALING BY CANNABINOID RECEPTORS**
I. Gomes (1), A. Gupta (1), A. Ma’ayan (1), P. T. Ram (2), L. A. Devi (1). (1) Dept. of Pharmacol. & Sys. Ther., Mount Sinai School of Medicine, New York, (2) Dept. of Sys. Biol., M. D. Anderson Cancer Center, Texas, USA.
- 79. GROWTH HORMONE AFFECTS THE GABAB RECEPTOR DENSITY IN RAT BRAIN**
A. Grönbladh, J. Johansson, F. Nyberg, M. Hallberg. Dept. Pharm. Biosciences, Uppsala University, Sweden
- 80. A SIMPLE SYNTHESIS OF 3,4,5-TRIMETHOXYPHENYL ACRYLAMIDES AND EVALUATION OF THEIR ANTI-NARCOTIC ACTIVITY**
Y.J. Lee (1), S.H. Moon(1), E.J. Kim(2), S. Oh(1) (1)Dept. of Neurosci., School of Medicine, Ewha Womans Univ., Seoul, Korea, (2) Dept of Pharmacol. NIFDS, KFDA, Seoul, Korea

Tuesday July 13

- 1. INVOLVEMENT OF SPINAL CB2 RECEPTOR ON THE NEUROPATHIC PAIN IN DIABETIC MICE**
M.Asato, M. Ohsawa, T. Koizumi, J. Kamei, Dept. Pathophysiol. Ther., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan
- 2. THE EFFECT OF PARECOXIB ON NEUROPATHIC PAIN IS RAT STRAIN DEPENDENT: ROLE OF THE CANNABINOID SYSTEM**
H. Schröder, V. Höllt and A. Becker, Dept. Pharmacol & Toxicol, University of Magdeburg, Germany
- 3. 14-METHOXYMETOPON INHIBITS THERMAL AND MECHANICAL HYPERSENSITIVITY IN A MOUSE MODEL OF CANCER PAIN**
M. Spetea (1), M.F. Asim (1), C.R. Bohotin (1), C.E. Constantin (2), H. Schmidhammer (1), M. Kress (2) (1)Dept. of Pharm. Chem., Inst. of Pharm., CMBl, Univ. of Innsbruck, and (2)Div. of Physiol., Dept. of Physiol. and Med. Phys., Innsbruck Med. Univ., Austria
- 4. OPIOID USE IN CANCER PAIN MANAGEMENT: COMMON FINDINGS IN CLINICAL STATUS AND BASIC SCIENCE**
S. Hattori (1), H. Sano (1), M. Yokota (1), S. Imai (2), N. Kuzumaki (2), M. Narita (2), T. Suzuki (2). (1) Dept. of Anesthesiology and Pain Service, Cancer Institute Hospital of JFCR, Tokyo, Japan, (2) Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan
- 5. UP-REGULATION OF BRADYKININ RECEPTORS FUNCTION IN THE DORSAL ROOT GANGLIA UNDER THE ACUTE PANCREATITIS PAIN-LIKE STATE**
Y. Takemura(1,2), M. Narita(1), S. Furuta(1), K. Miyashita(1), S. Imai(1), M. T-Narita(1), N. Kuzumaki(1), M. Yamazaki(2), T. Suzuki(1) (1) Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan (2) Dept. Anesthesiology, Grad. Sch. Med. Pharmaceut. Sci. Res. Univ. Toyama, Toyama, Japan
- 6. ANTI-NOCICEPTIVE DRUG TOLERANCE AT THE MU OPIATE RECEPTOR**
J. Enquist, M. Ferwerda, J. Kim, S. Bartlett, J. Whistler; EGCRG, Department of Neurology, University of California San Francisco
- 7. COMBINED OXYCODONE AND MORPHINE INCREASED THE ANTINOCICEPTIVE EFFECTS AND DECREASED THE DEVELOPMENT OF TOLERANCE IN MICE**
P.P. Yang (1,2), P.Y. Law (3), H.H. Loh (3), P.L. Tao (2) (1) Grad. Inst. Med. Sci, Taipei Med. Univ., Taipei, Taiwan, R.O.C. (2) Dept. of Pharmacol., Natl. Def. Med. Ctr., Taipei, Taiwan, R.O.C. (3) Dept. of Pharmacol., U. of Minnesota, Minneapolis, USA.
- 8. EFFECTS OF DOPR AND MOPR AGONISTS ON CAPSAICIN- AND FORMALIN-INDUCED NOCICEPTIVE BEHAVIORS AND NEURONAL ACTIVATION**
H. Beaudry, D. Dubois and L. Gendron, Université de Sherbrooke, Canada
- 9. POSSIBLE INVOLVEMENT OF OPIOIDERGIC NERVE SYSTEMS ON ANTINOCICEPTIVE EFFECT OF DHA**
K. Nakamoto, T. Nishinaka, W. Fujita (Hamabe) and S. Tokuyama, Department of Clinical Pharmacy, School of Pharmaceutical Sciences, Kobe Gakuin University, Kobe, Japan
- 10. STUDIES OF POSSIBLE ANTI-ADDITIVE EFFECTS AND MECHANISMS OF LOW DOSE MEMANTINE IN CHRONIC MORPHINE TREATMENT RATS**
Shiou Lan Chen (1), Pao Luh Tao (2), Jau Shyong Hong (3), Ru Band Lu (1), (1) Department of Psychiatry, College of Medicine and Hospital, National Cheng Kung University, Tainan, Taiwan, (2) Department of Pharmacology, National Defense Medical Center, Taipei, Taiwan, (3) National Institute of Environmental Health Sciences, National Institutes of Health, USA.
- 11. REMIFENTANIL EXPOSURE PRODUCES HYPERALGESIA IN RATS**
E. M. Jutkiewicz (1), F. A. Bradbury (2), and J. R. Traynor (1). (1) Department of Pharmacology, University of Michigan, (2) Cell and Developmental Biology, University of Michigan.
- 12. MIXED MU/NOP AGONISTS, DIFFERENTIAL EFFECTS IN ACUTE AND CHRONIC PAIN**
L. Toll (1), T.V. Khroyan (1), W.E. Polgar (1), J. Orduna (1), N.T. Zaveri (2), F. Jiang (1). (1) SRI International, Menlo Park, CA (2) Astraea Therapeutics, Mountain View, CA.

- 13. DYNORPHIN MEDIATES LATENT PAIN SENSITIZATION IN MICE UNDERGOING SURGERY WITH REMIFENTANIL ANAESTHESIA**
A. Campillo, D. Cabañero, A. Romero, MM. Puig, Pain Research Unit, IMIM-Hospital del Mar-UAB, Barcelona, Spain*
- 14. SPINALLY ADMINISTERED ATYPICAL ANTIPSYCHOTIC, RISPERIDONE BLOCKS BOTH SYSTEMICALLY ADMINISTERED OPIOID AND CANNABINOID ANALGESIA DIFFERENTIAL CONTRIBUTION OF SPINAL 5-HT7 AND 5-HT2A RECEPTORS IN TWO DIFFERENT ANALGESIC SYSTEM**
A. Dogrul (1), M. Seyrek (1), O. Yesilyurt (1), S. Deveci (2), S. Kahraman (3), (1) Pharmacology, (2) Pathology, (3) Neurosurgery, Gulhane Academy of Medicine, Ankara, Turkey, Ankara, Turkey
- 15. CAPSAICIN-SENSITIVE AFFERENTS ARE RESPONSIBLE FOR ENHANCED DOR-MEDIATED THERMAL BUT NOT MECHANICAL ANTI-ALLODYNIC EFFECTS IN NEUROPATHIC RATS**
CM Cahill, S. Holdridge, P. Grenier, S. Lecour, Dept of Pharmacology & Toxicology and Anesthesiology & Perioperative Medicine and Centre for Neuroscience Studies, Queen's University, Kingston, ON, Canada
- 16. INVOLVEMENT OF AXONAL mRNA TRANSPORT AND LOCAL PROTEIN SYNTHESIS OF OPIOID RECEPTORS AND TRPV1 CHANNEL IN NEUROPATHIC AND INFLAMMATORY PAIN**
M. Rouault, C. Stein. Charité-Universitätsmedizin Berlin, Germany
- 17. THE ROLE OF NITRIC OXIDE IN THE ANTINOCICEPTIVE EFFECTS AND EXPRESSION OF DOR DURING NEUROPATHIC PAIN**
A. Hervera (1), R. Negrete (1), S. Leáñez (1), J. Martín-Campos (2), O. Pol (1). (1) Grup de Neurofarmacologia Molecular, (2) Grup de Bioquímica, Institut de Recerca Hospital Sant Pau & Institut de Neurociències, Universitat Autònoma de Barcelona, Spain
- 18. INTRATHECALLY INJECTED INHIBITORS OF DIPEPTIDYL PEPTIDASE IV, ILE-PRO-ILE AND VILDAGLIPTIN ARE ANTIHYPERALGESIC BY STIMULATING ENDOMORPHIN-2 GENERATION IN RAT SPINAL CORD DORSAL HORN**
K. Király (1), A.-M. Lambeir (2), M. Kozsurek (3), Z. Puskár (3), A.Z. Rónai (1). (1) Dept. Pharmacol. Pharmacother., (3) Dept. Anat., Semmelweis Univ., Budapest, Hungary; (2) Lab. Med. Biochem., Univ. Antwerp, Belgium
- 19. OPIOIDS MAY NOT BE THE DRUG OF CHOICE IN WOMEN**
A. Bendixsen. Pain Center South, Odense University Hospital, Denmark.
- 20. THE REINFORCING EFFECTS OF OXYCODONE IN HEROIN USERS AND OPIOID ABUSING CHRONIC PAIN PATIENTS**
J. Jones (1), M. Sullivan (1), J. Manubay (1), S. Vosburg (1), Z. Cooper (1), S. Comer (1) (1) Div.on Sub. Abuse, NYSPI and Columbia Univ. NY, NY
- 21. ANALYSIS OF MOLECULAR MECHANISM UNDERLYING THE CONTROL OF NEURAL STEM CELL DIFFERENTIATION BY THE STIMULATION OF DOPAMINE RECEPTORS LOCATED ON EMBRYONIC STEM CELLS**
A. Suzuki (1), N. Kuzumaki (1), M. T-Narita (1), S. Imai (1), Y. Okada (2), H.J. Okano (2), H. Okano (2), T. Suzuki (1), M. Narita (1) (1) Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci. Tokyo, Japan, (2) Dept. Physiol., Keio Univ. Sch. Med. Tokyo, Japan
- 22. OPIOID SYSTEM REGULATES NEURAL AND ENDOTHELIAL CELL DIFFERENTIATION FROM ES CELLS**
N. Kuzumaki (1), A. Suzuki (1), M. T-Narita (1), K. Yamamizu (3), S. Furuta (1), S. Imai (1), H. Okano (2), J.K. Yamashita (3), T. Suzuki (1), and M. Narita (1). (1) Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan, (2) Dept. Physiol., Keio Univ. Sch. Med. Tokyo, Japan, (3) Laboratory of Stem cell Differentiation, Stem Cell Research Center, Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan
- 23. MORPHINE ACCELERATES THE NEUROPATHOGENESIS OF SIV INFECTION IN RHESUS MACAQUES**
S. Buch (1), P. Cheney (2) and O. Narayan (2) (1) Dept. of Pharamcol & Exptl. Neurosci, Omaha, Nebraska and (2) Dept of Physiology, Kansas Med Ctr, Kansas

- 24. CNS EXPOSURE TO MORPHINE AND HIV-1 TAT DISRUPTS OLIGODENDROCYTE STRUCTURE AND SURVIVAL IN INDUCIBLE TRANSGENIC MICE**
S. Fitting (1), P. E. Knapp (1, 2), R.P. Skoff (3) and K.F. Hauser (1) (1) Dept. Pharmacol. Toxicol., (2) Dept. Anat. Neurobiol., Virginia Commonwealth Univ., Richmond, VA, USA; (3) Dept. Anat. Cell Biol., Wayne State Univ., Detroit, MI, USA.
- 25. INVOLVEMENT OF PROTEIN DEGRADATION BY THE PROTEASOME IN MORPHINE PLACE PREFERENCE CONDITIONING**
N. Massaly (1), L. Moulédous (2), F. Botreau (1), M. Baudonnat (3), J. M. Zajac (2), V. David (3), P. Rouillet (1), B. Francés (1). (1) Univ. Toulouse, CRCA, CNRS-UMR5169, Toulouse, (2) IPBS, CNRS-UMR5089, Toulouse, (3) CNIC, CNRS-UMR5228, Bordeaux, France.
- 26. EFFECT OF DEXTROMETHORPHAN ON 3,4-METHYLENEDIOXY-METHAMPHETAMINE-INDUCED REWARDING AND BEHAVIORAL SENSITIZATION IN RATS**
P.-L. Tao (1), H.-W. Chang (1), E.Y.-K. Huang (1), K.-H. Ma (2) (1) Dept. of Pharmacol. (2) Dept. of Biol. and Anat., Natl. Def. Med. Ctr., Taipei, Taiwan, ROC
- 27. THE KAPPA OPIOID RECEPTOR AGONIST SALVINORIN A HAS PROTRACTED EFFECTS ON COCAINE-POTENTIATED DOPAMINE RELEASE AND REWARD**
E.H. Chartoff (1), S.R. Ebner (2), D.N. Potter (1), W.A. Jr Carlezon. (1), M.F. Roitman (2), (1) Dept. of Psychiatry, Harvard Medical School, McLean Hospital (2) Dept. of Psychology, University of Illinois, Chicago
- 28. ALTERED EXPRESSION OF OPIOID GENES DURING HEROIN WITHDRAWAL AND ASSOCIATED STRESS-INDUCED RELAPSE VULNERABILITY IN RATS**
Y. Zhou (1), F. Leri (2), E. Cummins (2), A. Ho (1), M.J. Kreek (1). (1) Rockefeller Univ, NY, USA; (2) Univ of Guelph, GP, Canada.
- 29. MU OPIOID RECEPTOR TRAFFICKING AND RESPONSIVENESS TO DRUGS OF ABUSE**
A. Chang, A. Madhavan and J.L. Whistler. Ernest Gallo Clinic & Research Center, Department of Neurology, University of California, San Francisco, Emeryville, CA USA.
- 30. PHARMACOKINETICS OF KRATOM TEA EXTRACTS IN SPRAGUE DAWLEY RATS**
Bonnie A. Avery (1), Sai Prasad Boddu (1), Edward B. Furr (2), Stephen J. Cutler (2) and Christopher R. McCurdy (2,3), Departments of (1) Pharmaceutics, (2) Medicinal Chemistry and (3) Pharmacology, School of Pharmacy, The University of Mississippi, University, MS 38677 USA
- 31. BLOCKADE OF OPIOID WITHDRAWAL SYNDROME BY ORALLY ADMINISTERED LYOPHILIZED KRATOM (*Mitragyna speciosa*) TEA AND MITRAGYNE IN MICE**
A. El-Alfy (1), L. Wilson (1), E. B. Furr (2), Y. Song (2), S. J. Cutler (2), S. P. Boddu (3), B. A. Avery (3), E. W. Boyer (4) and C. R. McCurdy (1,2). Departments of (1) Pharmacology, (2) Medicinal Chemistry and (3) Pharmaceutics, School of Pharmacy, The University of Mississippi, University, MS 38677, USA, (4) Division of Medical Toxicology, Department of Emergency Medicine, University of Massachusetts Medical School, Worcester, MA 01655, USA.
- 32. PERCEPTIONS ABOUT NARCOTICS DRUGS AND ALCOHOL AMONG MEDICAL STUDENTS IN DEVELOPING COUNTRY**
S. D. Joshi (1), R.K.Bhandari (1). (1) Community Health and Environmental society Nepal, Kathmandu, Nepal
- 33. DECREASED PSYCHOSOCIAL STRESS RESPONSE IN MU OPIOID RECEPTOR KNOCKOUT MICE**
H. Komatsu (1), A. Ohara (1), H. Abe (1), F. S. Hall (2), G. R. Uhl (2), K. Ikeda (3), I. Sora (1). (1) Dept. of Biol. Psychiat., Grad. Sch. of Med., Tohoku Univ., Sendai, Japan, (2) NIDA-IRP, NIH, DHSS, Baltimore, MD., USA, (3) Mol. Psychiat. Res., Tokyo Inst. Psychiat., Tokyo, Japan
- 34. ROLE OF SUBSTANCE P IN THE FUNCTIONAL COMPETENCE OF DELTA OPIOID RECEPTORS**
D. Dubois and L. Gendron. Dépt. physio. et biophys., U. Sherbrooke, Quebec, Canada
- 35. THE EFFECTS OF 6B-NALTREXOL IN OPIATE DEPENDENT SUBJECTS**
J. Mendelson (1), K. Flower (1), M. Jang (1), C. Harris (1), W. Sadee (2), W. Snape (1), and G. Galloway (1). (1) CPMCRI, (2) Ohio State University

- 36. AN 18-YEAR FOLLOW-UP OF PATIENTS ADMITTED TO METHADONE TREATMENT FOR THE FIRST TIME**
I. Davstad (1,2), M. Stenbacka (1,2), A. Leifman (1,3), A. Romelsjö (2,4). (1) Stockholm Dependency Centre, Stockholm, Sweden, (2) Karolinska Institute (KI), Dept. of Public Health Sci., Stockholm, Sweden (3) KI, Dept. of Clin. Neurosci., Stockholm, Sweden (4) Centre for Social Alcohol and Drug Research, Stockholm Univ., Stockholm, Sweden.
- 37. INVESTIGATION OF CORRELATION BETWEEN METHADONE DOSES, LENGTH OF SUBSTANCE ABUSE AND SCORES ON THE ZUNG'S INVENTORY OF ANXIETY AND DEPRESSION**
K. Karcher (1), I. Banda (2), Dept.of Neurology and Psychiatry, Sombor, Serbia
- 38. SUBSTANCE ABUSE AND SOME RISK FACTORS IN IRANIAN HIGH SCHOOL STUDENTS**
M. Nouhravesh, S. Momtazi, and M. Fallahnezhad. Zanjan University of Medical Sciences, Zanjan, Iran.
- 39. WATER PIPE SMOKING: GATE DRUG TO NARCOTIC DRUGS IN IRANIAN ADOLESCENTS**
S. Momtazi, M. Nouhravesh, F. Taremiyan, and N. Musavinasab. Zanjan University of Medical Sciences, Zanjan, Iran.
- 40. USING PILL PHOTOS TAKEN WITH A CELL PHONE TO ASSESS ADHERENCE IN A CLINICAL TRIAL**
J. Mendelson (1), J. Guillén (1), J. Coyle, K. Flower (1), and G. Galloway (1). (1) APRL-CPMCRI, San Francisco, CA
- 41. CLINICAL COURSE OF DEVELOPMENT OF ALCOHOL AND OPIOID DEPENDENCE: IMPLICATIONS IN PREVENTIONS**
Saddichha (1), N Manjunatha (1), CRJ Khess (2). (1) National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India, (2) Central Institute of Psychiatry, India
- 42. THE EFFECT OF NALTREXONE ON VOLUNTARY ETHANOL CONSUMPTION IN RATS IS DEPENDENT ON EARLY ENVIRONMENTAL FACTORS**
L. Daoura, I. Nylander. Department of Pharmaceutical Biosciences, Uppsala University, Uppsala, Sweden
- 43. THE INTERSECTION OF CHRONIC PAIN AND ALCOHOL: SPINAL NERVE LIGATION IN ALCOHOL PREFERRING P RATS**
J. Orduna (1), J. Montenegro (1), R. Bell (1), N. Waleh (1), N. T. Zaveri (2), and L. Toll (1). (1) SRI International, Menlo Park, CA, (2) Astraea Therapeutics, Mountain View, CA.
- 44. DUAL EFFICACY OF DELTA OPIOID RECEPTOR SELECTIVE LIGANDS FOR ETHANOL DRINKING AND ANXIETY**
R. van Rijn, L. He and J.L. Whistler, Ernest Gallo Clinic & Research Center, Department of Neurology, University of California, San Francisco, Emeryville, CA USA.
- 45. TARGETING THE DELTA OPIOID RECEPTOR EFFECTIVELY MODULATES ETHANOL CONSUMPTION AND SEEKING AND REPRESENTS A NOVEL TARGET FOR NEW THERAPIES FOR ALCOHOL USE DISORDERS**
C. K. Nielsen (1), J. A. Simms (1), S. Ananthan (2), S. E. Bartlett (1). (1) Ernest Gallo Clinic and Research Center, University of California San Francisco, Emeryville, CA, USA, (2) Organic Chemistry Dept, Southern Research Institute, Birmingham, AL, USA.
- 46. CB2 AGONIST CO-ADMINISTRATION PREVENTS SUSTAINED MORPHINE-MEDIATED SPINAL GLIAL ACTIVATION AND PAIN SENSITIZATION**
E. Varga (1), S. Tumati (1), TM. Largent-Milnes (1), J. Ren (1), TW. Vanderah (1), WR Roeske (1,2), Depts of (1)Pharmacology and (2)Medicine, The University of Arizona Health Sciences Center, Tucson, AZ, USA
- 47. ANANDAMIDE INDUCES FEVER DEPENDENT ON PROSTAGLANDINS, OPIOIDS AND IL-1**
D. Fraga (1), A. R. Zamprônio (2), G. E. P. Souza (1). (1) Faculty of Pharmaceutical Sciences-USP, Ribeirão Preto, Brazil, (2) Dep. Pharmacology-UFPR, Curitiba, Brazil
- 48. CROSS-REGULATION OF CANNABINOID AND PLATELET-DERIVED GROWTH FACTOR RECEPTOR EXPRESSION AND SIGNALING**
M. P. Lim (1), and R. Rozenfeld (1, 2). (1) Department of Pharmacology and Systems Therapeutics, (2) Mount Sinai Alcohol Research Center, Mount Sinai School of Medicine, New York, USA.

- 49. MORPHINE TOLERANCE ENHANCED BY INTRATHECAL CATHETERIZATION; ULTRA-LOW DOSE ANTAGONISTS MAY ATTENUATE TOLERANCE AND GLIOSIS BY INDEPENDENT MECHANISMS**
TA Mattioli (1), M Sutak (1) B Milne (1,2), K Jhamandas (1,2), CM Cahill (1,2). (1) Dept. Pharm. & Tox., (2) Dept. Anesth., Queen's Univ., Kingston, Canada.
- 50. MORPHINE INDUCES DYNAMIN-DEPENDENT ANTINOCICEPTION AND ERK1/2 ACTIVATION IN TOLERANT RATS**
T.A. Macey (1), M.M. Morgan (1), D.M. Hegarty (2), S.A. Aicher (2) and S.L. Ingram (1). (1) WSU Vancouver, Vancouver WA, (2) Oregon Health & Science University, Portland, OR, USA.
- 51. NICOTINE STIMULATES OPIOID SYSTEM THROUGH THE ACTIVATION OF NICOTINIC ACETYLCHOLINE RECEPTOR**
S. Kishioka, K. Ueno, C. Yamamoto, A. Yamamoto, F. Saika, S. Iwai, Y. Kobayashi, N. Kiguchi, T. Maeda Dept. of Pharmacol., Wakayama Med. Univ., Wakayama, Japan.
- 52. A MODEL IN CANCER PAIN TREATMENT-CENTRAL AND PERIPHERAL PAIN COMPONENTS**
A. Lesniak (1), M. Sacharczuk (2), P. Kosson (1), J. Rafałowska (1), R. Gadamski (1), B. Szaniawska (1), M. Bochynska-Czyz (1) A.W. Lipkowski (1). (1) Mossakowski Medical Research Centre Polish Academy of Sciences, Warsaw, Poland., (2) Institute of Genetics and Animal Breeding Polish Academy of Sciences, Wolka Kossowska, Poland.
- 53. MOLECULAR MECHANISMS UNDERLYING THE REDUCED OPIOID REWARD ASSOCIATED WITH ALTERATION OF MICRO-RNA EXPRESSION AND EPIGENETIC MODULATION UNDER THE NEUROPATHIC PAIN**
S. Imai (1), M. Narita (1), K. Niiikura (2), M. Saeki (1), M. T-Narita (1), N. Kuzumaki (1), T. Suzuki (1). (1) Dept. Toxicol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan, (2) Lab. Biol. of Addict. Dis., Rockefeller Univ., NY, USA

