

POSTERS (1)

	<i>Attended</i>
Oral Posters P001-P020 Bone Formation, Cartilage, and Bone Matrix P021- P135 Bone Resorption and its Regulation P136-P182	Thursday 13:00-14:00
Cancer and Metabolic Bone Diseases other than Osteoporosis P183-P237 Osteoporosis: Pathophysiology, Genetics and Epidemiology P238-P337	Friday 13:00-14:00
Osteoporosis: Assessment and Treatment P338 -P490	Saturday 13:00-14:00

ORAL POSTERS 1

(presented in Short Oral Communications 1, Friday 12 May, 16:30 – 17:30)

These posters will be attended on Thursday, 11 May 2006, 13:00 – 14:00

P001 DECREASED FRACTURE RISK IN PATIENTS TREATED WITH ORAL NITRATES

L. Rejnmark*¹, P. Vestergaard¹, L. Mosekilde²

¹The Osteoporosis Clinic, ²Dept of Endocrinology and Metabolism C, University Hospital of Aarhus, Aarhus, Denmark

P002 MECHANISMS OF PYROPHOSPHATE INHIBITION OF MINERALIZATION IN MC3T3-E1 OSTEOBLAST CULTURES

W. N. Addison¹, F. Azari¹, M. T. Kaartinen¹, M. D. McKee*¹

¹Faculty of Dentistry, McGill University, Montreal, Canada

P003 STRONTIUM RANELATE REDUCES NEW VERTEBRAL FRACTURES IN A SEVERE OSTEOPOROTIC MICE MODEL WITH SPONTANEOUS FRACTURES BY IMPROVING BONE MICROARCHITECTURE

V. Geoffroy*¹, C. Marty¹, A. Lalande², M. C. De Vernejoul¹

¹INSERM U606, Hospital Lariboisiere, Paris, ²Groupe Servier, Rheumatology Division, Courbevoie, France

P004 INCREMENTAL PROGNOSTIC VALUES OF RISK FACTORS-BASED MODEL FOR THE PREDICTION OF FRACTURE

N. D. Nguyen*¹, J. A. Eisman¹, J. R. Center¹, T. V. Nguyen¹

¹Bone and Mineral Research Program, Garvan Institute of Medical Research, Sydney, Australia

P005 HIGH RESOLUTION GENOTYPING OF THE ESR1 GENE AND ASSOCIATION WITH HEIGHT

L. Stolk*¹, J. B. J. Van Meurs¹, A. Hofman², H. A. P. Pols¹, A. G. Uitterlinden¹

¹Internal Medicine, ²Epidemiology and Biostatistics, Erasmus MC, Rotterdam, Netherlands

P006 EVIDENCE THAT A POLYMORPHISM IN THE LACTASE PHLORIZIN HYDROLASE GENE CAUSES DIFFERENCES IN HEIGHT INDEPENDENT OF CURRENT CALCIUM INTAKE

W. N. H. Koek*¹, J. B. Van Meurs¹, B. C. J. Van der Eerden¹, A. G. Uitterlinden¹, H. A. P. Pols¹, J. P. T. M. Van Leeuwen¹

¹Internal Medicine, Erasmus MC, Rotterdam, Netherlands

P007 A SINGLE DOSE OF ZOLEDRONIC ACID 5 MG ACHIEVES MORE SUSTAINED BIOCHEMICAL REMISSION VERSUS DAILY 30MG RISEDRONATE IN PATIENTS WITH PAGET'S DISEASE

I. Reid*¹, P. Miller², J. Brown³, W. Fraser⁴, D. Hosking⁵, J. P. Devogelaer⁶, C. Moniz⁷, M. Hooper⁸, Y. Saïdi⁹, G. Su¹⁰, J. Pak¹⁰, J. Davis¹⁰, T. Fashola⁹, J. Krasnow¹⁰, K. Zelenakas¹⁰, K. Lyles¹¹

¹Faculty of Medicine and Health Sciences, University of Auckland, Auckland, New Zealand, ²Colorado Center for Bone Research, Lakewood, CO, United States, ³Le Centre Hospitalier Universitaire de Quebec, Sainte-Foy, Quebec, Canada, ⁴Royal Liverpool, University Hospital, Liverpool, ⁵Nottingham, City Hospital, Nottingham, United Kingdom, ⁶Cliniques Universitaires, St. Luc, Brussels, Belgium,

⁷Kings College, Hospital, London, United Kingdom, ⁸, Repatriation General Hospital, Concord, Australia, ⁹, Novartis Pharma AG, Basel, Switzerland, ¹⁰, Novartis Pharmaceuticals Corporation, East Hanover, ¹¹Duke University and VA Medical Centers, Durham, NC, United States

P008 ANDROGEN RECEPTOR POLYMORPHISM: ASSOCIATION WITH LEAN MASS AND BONE MASS IN MEN OF AFRICAN HERITAGE

J. M. Zmuda*¹, L. Yerges², S. P. Moffett², C. Nestlerode², J. A. Cauley², C. H. Bunker², V. W. Wheeler³, A. L. Patrick³, R. E. Ferrell⁴

¹Epidemiology and Human Genetics, ²Epidemiology, University of Pittsburgh, Pittsburgh, United States, ³Epidemiology, Tobago Health Studies Office, Scarborough, Trinidad and Tobago, ⁴Human Genetics, University of Pittsburgh, Pittsburgh, United States

P009 CALCITONIN PROTECTS AGAINST EXPERIMENTALLY INDUCED OSTEOARTHRITIS

B. C. Sondergaard*¹, K. Henriksen¹, H. Wulf¹, S. Oestergaard¹, L. B. Tanko¹, P. Qvist¹, C. Christiansen¹, M. A. Karsdal¹

¹Pharmacology, Nordic Bioscience, Herlev, Denmark

P010 EPIGENETICS: A MOLECULAR TARGET IN OSTEOARTHRITIS?

H. I. Roach*¹, N. Yamada², K. S. Cheung¹, R. O. Oreffo¹, F. Bronner³

¹Bone and Joint Research Group, University of Southampton, Southampton, United Kingdom, ²Orthopaedic Dept, Tohoku University, Sendai, Japan, ³Health Center, University of Connecticut, Farmington, United States

ORAL POSTERS 2

(presented in Short Oral Communications 2, Saturday 13 May, 16:30 – 17:30)

These posters will be attended on Thursday, 11 May 2006, 13:00 – 14:00

P011 SKELETAL STEM CELLS AND HEMATOPOIESIS: A STEM CELL-MAINTAINED STEM CELL NICHE

A. Funari*¹, B. Sacchetti², S. Michienzi², M. Riminucci¹, P. Bianco²

¹Department of Experimental Medicine, University of L'Aquila, L'Aquila, ²Department of Experimental Medicine and Pathology, University La Sapienza, Rome, Italy

P012 EVIDENCE THAT ACTIVATION OF THE CANONICAL WNT SIGNALLING PATHWAY MAY HAVE DIRECT EFFECTS ON OSTEOCLASTS FROM REGENERATING BONE

T. A. Althnaian*¹, M. Muzylak¹, J. G. Mount¹, H. L. Jessop¹, J. S. Price¹

¹Veterinary Basic Sciences, The Royal Veterinary College, London, United Kingdom

P013 INCREASED BONE FORMATION IN TRANSGENIC MICE EXPRESSING THE TRANSCRIPTION FACTOR FRA-2: IDENTIFICATION OF TARGET GENES USING TRANSCRIPTOME ANALYSIS

A. Bozec*¹, A. Hoebertz¹, T. Garcia², A. Jackson², R. Baron², A. F. Schilling³, H. Scheuch¹, M. Priemel³, M. Amling³, R. Eferl¹, E. F. Wagner¹

¹, Institute of Molecular Pathology, Wien, Austria, ², Prostrakan, Romainville, France, ³Department of Trauma, University School of Medicine, Hamburg, Germany

P014 TRABECULAR BONE OF MALE MICE IS NOT RESPONSIVE TO MECHANICAL LOADING

R. L. de Souza*¹, M. Matsuura², F. Eckstein², L. E. Lanyon¹, C. Chenu¹, A. A. Pitsillides¹

¹Veterinary Basic Science, Royal Veterinary College, London, United Kingdom, ²Institute of Anatomy, Ludwig-Maximilians Universität, Munich, Germany

P015 PTH A MEDIATOR OF BONE ANABOLIC EFFECT OF PAMIDRONATE IN ADULT RATS FED A LOW PROTEIN DIET

P. Ammann*¹, R. Dayer¹, R. Rizzoli¹

¹Division of Bone Diseases, Department of Rehabilitation and Geriatrics, Geneva, Switzerland

P016 DELIVERY OF COMMITTED HUMAN OSTEOCLAST PRECURSORS INTO THE BONE MARROW OF NEWBORN MOUSE MODELS OF AUTOSOMAL RECESSIVE OSTEOPETROSIS

A. Cappariello*¹, A. C. Berardi¹, A. Del Fattore², B. Peruzzi³, M. Longo², A. Rufo², N. Rucci², A. Ugazio¹, G. F. Bottazzo¹, A. Teti²

¹*Medicina Pediatrica, Ospedale Pediatrico Bambino Gesù, Roma*, ²*Medicina Sperimentale, Università De L'Aquila, L'Aquila, Italy*, ³*Istologia e Embriologia Medica, Università di Roma "La Sapienza", Roma*

P017 ROLE OF DLK1 (EGF-LIKE HOMEOTIC PROTEIN) IN BONE MARROW MICROENVIRONMENT: THE IMMUNOMODULATORY EFFECT OF DLK1 ON HUMAN MESENCHYMAL STEM CELLS

B. M. Abdallah*¹, P. Boissy², Q. Tan³, J. Dahlgaard³, G. A. Traustadottir¹, J. Delaisse², M. Kassem¹

¹*Endocrinology and Metabolism dept, Odense University Hospital, Odense C*, ²*Clinical Research Unit and Division of Hematology, Vejle Hospital, Vejle*, ³*Clinical Biochemistry and Genetics, Odense University Hospital, Odense C, Denmark*

P018 CHARACTERIZATION OF AGE-DEPENDENT OSTEOPOROSIS IN STEM CELL ANTIGEN-1 NULL MICE

T. S. Khan*¹, C. Holmes¹, M. D. Grynblas², W. L. Stanford¹

¹*Institute of Biomaterials and Biomedical Engineering, University of Toronto*, ²*Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Canada*

P019 THE CYSTEINE-RICH PROTEIN CYR61 IS A NOVEL INHIBITOR OF OSTEOCLAST DIFFERENTIATION

M. J. Rogers*¹, J. C. Crockett¹, D. Tosh¹, A. Duthie¹, F. Jakob², N. Schuetze²

¹*Bone Research Group, Institute of Medical Sciences, Aberdeen, United Kingdom*, ²*Orthopedic Center for Musculoskeletal Research, University of Wuerzburg, Wuerzburg, Germany*

BONE FORMATION, CARTILAGE, AND BONE MATRIX

These posters will be attended on Thursday, 11 May 2006, 13:00 – 14:00

P020 MICROGRAVITY STIMULATES OSTEOCLASTOGENESIS AND BONE RESORPTION BY INCREASING RANKL/OPG RATIO IN OSTEOBLAST PRIMARY CULTURES

A. Rufo*¹, A. Teti¹, N. Rucci¹

¹*Department of Experimental Medicine, University of L'Aquila, L'Aquila, Italy*

P021 THE EFFECTS OF OVARIECTOMY AND TAMOXIFEN ON BONE TISSUE IN THE RAT: A HISTOMORPHOMETRIC AND HISTOPATHOLOGICAL STUDY

H. Aktug*¹, S. Uslu¹, C. Terek², H. Terzi², O. Bilgin², S. Ozsener², M. Turgut³

¹*Histology and Embryology*, ²*Obstetrics and Gynecology, Ege University School of Medicine, Izmir*, ³*Neurosurgery, Adnan Menderes University, Aydın, Turkey*

P022 PREDICTION MODELS FOR EVALUATION OF TOTAL BODY BONE MASS WITH DUAL-ENERGY X RAY ABSORPTIOMETRY AMONG CHILDREN AND ADOLESCENTS

M. Alison*¹, S. Dorgeret¹, D. Marinovic², C. Alberti³, J. Leger², P. Czernichow², G. Sebag¹

¹*Pediatric Imaging*, ²*Pediatric endocrinology*, ³*Biostatistic, Hopital Robert Debré, Paris, France*

P023 CALCIFICATION OF SHARPEY'S FIBRES AND PERIOSTEUM WITH AGE IN THE PORCINE MANDIBLE

A. I. Al-Qtaitat*¹, R. C. Shore², J. E. Aaron¹

¹*Faculty of Biological Sciences*, ²*Leeds Dental Institute, University of Leeds, Leeds, United Kingdom*

P024 IMPLANTATION OF OCTACALCIUM PHOSPHATE (OCP) ENHANCES LONG BONES REPAIR IN THE RATS

M. R. Arab*¹, F. Sargolzaei Avval¹

¹*Anatomy, Zahedan University of Medical Sciences, Zahedan, Iran (Islamic Republic of)*

P025 VITAMIN K ANALOGUES PROMOTE THE DIFFERENTIATION OF PRIMARY HUMAN OSTEOBLASTS

G. J. Atkins¹, K. J. Welldon¹, C. Vincent¹, **D. M. Findlay***¹

¹*Department of Orthopaedics and Trauma, University of Adelaide, Adelaide, Australia*

P026 NITRIC OXIDE PRODUCTION BY BONE CELLS IN RESPONSE TO TRANSLATIONAL VIBRATION

R. G. Bacabac¹, T. H. Smit², J. J. Van Loon¹, **A. Vatsa***¹, J. Klein-Nulend¹

¹*Oral Cell Biology, ACTA-Vrije Universiteit*, ²*Physics and Medical Technology, Vrije Universiteit Medical Center, Amsterdam, Netherlands*

P027 EFFECTS OF HIGH PHOSPHORUS AND/OR LOW CALCIUM DIETS ON TRAINED RAT BONE TISSUE.

L. Bégot*¹, S. Renault¹, C. André¹, X. Butigieg¹, E. Zérath¹, X. Holy¹

¹*Integrated Physiology, IMASSA, Brétigny-sur-Orge, France*

P028 EXPRESSION OF DOMINANT NEGATIVE MUTANT FORM OF RUNX2 INCREASES GSALPHA PROTEIN EXPRESSION AND CAMP ACCUMULATION ON SAOS-2 CELLS

K. Bertaux¹, O. Broux¹, C. Chauveau¹, P. Hardouin¹, J. Jeanfils¹, **J. Devedjian***¹

¹*Laboratoire de Recherche sur les Biomatériaux et les Biotechnologies, Université du Littoral Côte d'Opale, Boulogne-sur-mer Cedex, France*

P029 TERIPARATIDE NASAL SPRAY: PHARMACOKINETICS AND SAFETY VERSUS SUBCUTANEOUS TERIPARATIDE IN HEALTHY VOLUNTEERS

G. C. Brandt*¹, B. M. Spann¹, A. P. Sileno¹, H. R. Costantino², C. Li², S. C. Quay³

¹*Clinical Research*, ²*Formulation Development*, ³*Executive Management, Nastech Pharmaceutical Company Inc., Bothell, United States*

P030 OSTEOBLAST APOPTOSIS ASSAY IN CELL CULTURE SYSTEM

Y. Chung*¹, E. Yu¹, S. Yun¹, Y. Shen¹, J. Kim², S. Lim³, W. Choi⁴, H. Choi⁵

¹*Endocrinology and Metabolism, Ajou University School of Medicine, Suwon*, ²*Obstetrics and Gynecology, Seoul National University School of Medicine*, ³*Internal Medicine, Yonsei University College of Medicine*, ⁴*Internal Medicine, Hanyang University College of Medicine*, ⁵*Obstetrics and Gynecology, Inje University College of Medicine, Seoul, South Korea*

P031 HUMAN EMBRYONIC STEM CELL-DERIVED CONNECTIVE TISSUE PROGENITORS FOR TISSUE ENGINEERING

S. Cohen*¹, L. Leshansky¹, E. Zussman², J. Itskovitz-Eldor¹

¹*Stem Cell Center, Bruce Rappaport Faculty of Medicine*, ²*Department of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel*

P032 REGULATION OF OSTEOBLAST DIFFERENTIATION BY THE RHO/RHO KINASE SIGNALLING PATHWAY

A. E. Coudert*¹, A. Danikas¹, A. E. Grigoriadis¹

¹*Department of Craniofacial Development, King's College London, London, United Kingdom*

P033 DEVELOPMENT OF A BONE GRAFT SUBSTITUTE: OPTIMIZATION OF THE GROWTH OF HUMAN OSTEOBLASTS ON A 3D COLLAGEN SCAFFOLD

F. Tan¹, F. J. O'Brien¹, **J. S. Daly***¹

¹*Anatomy, Royal College of Surgeons in Ireland, Dublin, Ireland*

P034 EFFECTS OF HYALURONAN ON THREE-DIMENSIONAL MICROARCHITECTURE OF SUBCHONDRAL BONE TISSUES IN GUINEA PIG PRIMARY OSTEOARTHRISIS

M. Ding*¹, C. C. Danielsen², I. Hvid³

¹*Orthopaedic Research Laboratory, Department of Orthopaedics, Odense and Aarhus University Hospitals, Odense C*, ²*Department of Connective Tissue Biology, Institute of Anatomy, University of Aarhus*, ³*Department of Orthopaedics, Aarhus University Hospital, Aarhus C, Denmark*

P035 PRECONDITIONING EXERCISE AND ANATOMIC SITE RELATE TO MINERALISATION AND THICKNESS IN EQUINE THIRD METACARPAL ARTICULAR CALCIFIED CARTILAGE

M. Doube*¹, E. C. Firth², A. Boyde¹

¹Dental Institute, Queen Mary, University of London, London, United Kingdom, ²Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand

P036 EFFECT OF SILICON ON OSTEOBLAST SURVIVAL AND ADHESION IN VITRO

W. C. Duivendoorn*¹, A. Middleton², A. TanBeeWan², C. Pretto², A. Spooner², S. D. Kinrade²

¹Department of Chemistry and Biology, ²Department of Chemistry, Lakehead University, Thunder Bay, Canada

P037 MESENCHYMAL STEM CELLS SEEDED ON BONE GRAFTS FOR FILLING CRITICAL BONE DEFECTS IN MICE

A. Dumas¹, M. F. Moreau¹, M. F. Baslé¹, **D. Chappard***¹

¹INSERM, EMI 0335, Angers, France

P038 DEVELOPMENTAL REGULATION OF MMP13/COLLAGENASE3 BY TRIIODOTHYRONINE (T3) AND RUNX2/CBFA1 IN MOUSE OSTEOBLASTIC MC3T3-E1 CELLS

E. Durchschlag*¹, S. Spitzer¹, K. Klaushofer¹, F. Varga¹

¹Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, Hanusch Hospital-Vienna, Vienna, Austria

P039 IDENTIFICATION OF REGULATORY GENES INVOLVED IN HUMAN BONE AND ECTOPIC GLUCOCORTICOID-INDUCED MINERALIZATION

M. Eijken*¹, S. Swagemakers², M. Koedam¹, P. J. Van der Spek², H. A. P. Pols¹, J. P. T. Van Leeuwen¹

¹Department of Internal Medicine, ²Department of Bioinformatics, ErasmusMC, Rotterdam, Netherlands

P040 ALENDRONATE EFFECT IN OPG/RANKL GENE EXPRESSION. STUDY IN PRIMARY HUMAN OSTEOBLASTS IN CULTURE

A. Enjuanes*¹, D. Ozalla¹, M. V. Hernández¹, L. Álvarez¹, J. Riba², M. J. Martínez de Osaba¹, P. Peris¹, A. Monegal¹, N. Guañabens¹

¹Unidad de Patología Metabólica Ósea, ²Servicio de traumatología., IDIBAPS-Hospital Clinic, Barcelona, Spain

P041 EFFECTS OF STANDARD HEPARIN AND A LOW-MOLECULAR-WEIGHT HEPARIN ON ACTIVITY OF MOUSE OSTEOBLASTS IN VITRO

J. Folwarczna*¹, L. Sliwinski¹, W. Janiec¹, H. I. Trzeciak¹, A. Karlinska¹, P. Kwiecien¹

¹Department of Pharmacology, Medical University of Silesia, Sosnowiec, Poland

P042 EXPRESSION OF PERIOSTIN IN OSTEOBLASTS AND OSTEOSARCOMA CELL LINES AND ITS REGULATION BY PTH

D. Fortunati*¹, Å. K. Fjeldheim¹, S. Reppe¹, M. Nielsen¹, F. P. Reinholt², K. M. Gautvik¹

¹Department of Biochemistry, Institute of Basic Medical Sciences, ²Department of Pathology, National University Hospital, Oslo, Norway

P043 TREATMENT OF OSTEOPENIC RHESUS MONKEYS WITH PARATHYROID HORMONE 1-84 FOR 16 MONTHS IMPROVES VERTEBRAL TRABECULAR BONE QUANTITY AND QUALITY

J. Fox*¹, I. A. Monreau², S. Y. Smith², R. E. Gulberg³, C. H. Turner⁴, M. K. Newman¹

¹Nycomed Group, NPS Pharmaceuticals, Salt Lake City, United States, ²Preclinical Services, Charles Rivers Laboratories CTBR, Montreal, Canada, ³Institute of Technology, Georgia Institute of Technology, Atlanta, ⁴Indiana University, Indiana University, Indianapolis, United States

P044 REGULATION OF ATP RELEASE FROM HUMAN OSTEOBLASTS: A CALCIUM DEPENDANT, EXOCYTOTIC VESICULAR MECHANISM

A. Gartland*¹, H. E. Burrell¹, J. P. Dillon¹, J. A. Gallagher¹

¹Human Anatomy and Cell Biology, The University of Liverpool, Liverpool, United Kingdom

P045 BONE TISSUE ENGINEERING – WHEN CELLS AND MATERIALS JUST AIN'T ENOUGH

G. Giannicola*¹, B. Sacchetti¹, A. Corsi¹, G. Citro², S. Michienzi¹, A. Funari³, E. Ferrari¹, U. Mancini², F. Postacchini⁴, G. Cinotti⁵, M. Riminucci³, P. Bianco¹

¹Department of Experimental Medicine and Pathology, ²Department of Clinical Orthopedy, University of Rome La Sapienza, Rome, ³Department of Experimental medicine, University of L'Aquila, L'Aquila, ⁴Department of science of locomotor apparatus, ⁵Department of clinical science, University of Rome La Sapienza, Rome, Italy

P046 GENE EXPRESSION OF OSTEOBLAST TRANSCRIPTION FACTORS RUNX2 AND OSTERIX IN MODELS OF OSTEOBLAST DIFFERENTIATION AND IMPACT OF RUNX2 KNOCK DOWN

M. Giesen*¹, H. Siggelkow¹, K. Schäfer², G. Wulf³, M. Hüfner¹, V. Ritz¹

¹Gastroenterology and Endocrinology, ²Cardiology and Pulmonology, ³Hematology, University of Göttingen, Göttingen, Germany

P047 FRIZZLED-RELATED PROTEIN 3 GENE POLYMORPHISM AND RISK OF OSTEOLYSIS AFTER TOTAL HIP ARTHROPLASTY

A. Gordon*¹, L. Southam², J. Loughlin², I. Stockley³, R. Eastell¹, M. Wilkinson³

¹Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, ²Institute of Musculoskeletal Sciences, Nuffield Orthopaedic Centre, Oxford, ³Department of Orthopaedics, The Northern General Hospital, Sheffield, United Kingdom

P048 IRON INHIBITS HYDROXYAPATITE CRYSTAL GROWTH IN VITRO

P. Guggenbuhl*¹, R. Filmon¹, D. Chappard¹

¹INSERM, EMI 0335, LHEA, Angers, France

P049 Evidence for involvement of a factor X in the propagation of the osteoarthritic phenotype

K. Hashimoto*¹, N. Yamada¹, S. Kokubun¹, H. I. Roach²

¹Department of Orthopaedics, Tohoku University Graduate School of Medicine, Sendai, Japan, ²Bone and Joint Research Group, University of Southampton, Southampton, United Kingdom

P050 BOTH DIRECT AND COLLAGEN-MEDIATED SIGNALS ARE REQUIRED FOR ACTIVE VITAMIN D3-ELICITED DIFFERENTIATION OF HUMAN OSTEOBLASTIC CELLS

R. Hata*¹, Y. Maehata¹, S. Takamizawa¹, S. Ozawa¹, Y. Kato¹

¹Department of Biochemistry and Molecular Biology, Kanagawa Dental College, Yokosuka, Japan

P051 HIGHLY SPECIFIC TNFSF14 ELISA DESIGNED BY BIOINFORMATICS –A NEW TOOL FOR BONE RESEARCH

N. Brinskelle-Schmal¹, **G. Hawa***¹, A. Lukas², J. Marc³

¹Research and Development, Biomedica Gruppe, ²Research and Development, Emergentec Biodevelopment GmbH, Vienna, Austria, ³Faculty of Pharmacy, University of Ljubljana, Ljubljana, Slovenia

P052 APOLIPOPROTEIN E DEFICIENCY MICE GIVEN HIGH-FAT DIET CAUSE MATURATION ARREST IN OSTEOBLASTS, LOW ENDCORTICAL BONE FORMATION AND OSTEOPENIA

H. Hirasawa*¹, S. Tanaka¹, A. Sakai¹, S. Moriwaki², S. Niida², M. Tsutsui³, H. Miyata⁴, M. Ito⁵, T. Nakamura¹

¹Orthopaedic surgery, University of Occupational and Environmental Health, Kitakyushu, ²Bone and Joint Disease, Research Institute, National Center for Geriatrics and Gerontology, Aichi, ³Pharmacology, ⁴Laboratory Animal Research Center, University of Occupational and Environmental Health, Kitakyushu, ⁵Radiology, Nagasaki University Hospital, Nagasaki, Japan

P053 GENOME-WIDE ANALYSIS OF SHOCK WAVE-INDUCED GENE EXPRESSION IN HUMAN OSTEOBLAST CULTURES FROM HYPERTROPHIC FRACTURE NON-UNIONS

A. Hofmann*¹, U. Ritz¹, A. Ackermann¹, M. Kuntz¹, N. Mladenovic¹, C. Schmid¹, A. Meurer¹, J. Heine¹, P. Rommens², J. Rompe³

¹Orthopaedic Surgery, ²Trauma Surgery, Johannes Gutenberg University, Mainz, ³Orthopaedics, Orthotrauma Clinic, Gruenstadt, Germany

P054 REDUCED FAILURE INDEX FROM LOCALIZED BONE LOSS CANNOT BE OVERCOME BY UNIFORM BONE FORMATION

H. Hong*¹, B. Borah², R. J. Phipps², T. E. Dufresne², G. J. Gross²

¹Image Analysis, ²Drug Development, Procter and Gamble Pharmaceuticals, Mason, United States

P055 POSSIBLE INVOLVEMENT OF CELL DEATH IN PHOSPHATE-INDUCED CRYSTAL FORMATION IN A CELL CULTURE SYSTEM

L. F. A. Huitema*¹, R. P. Weeren², B. J. Helms³, B. A. Vaandrager³

¹Biochemistry and Cell Biology, and Equine Sciences, ²Equine Sciences, ³Biochemistry and Cell Biology, Faculty of Veterinary Medicine, Utrecht University, Utrecht, Netherlands

P056 BMP-2-MEDIATED REGULATION IN OSTEOGENESIS OF HUMAN MESENCHYMAL STEM CELLS UNDER DEXAMETHASONE-FREE CONDITION

I. Kim¹, Y. Zhang¹, T. Cho¹, Y. Song¹, K. Lee², Y. Park², I. Rho³, F. Weber⁴, P. Choung⁵, M. Kim⁵, J. Lee⁵, **S. Hwang***⁵

¹Dental Research Institute, College of Dentistry, Seoul National University, ²Dept. of Biomedical Engineering, College of Medicine, BK 21 Program for Biomedical Science, Korea Artificial Organ Center, Korea Univ, ³Department of Chemical Engineering, Seoul National University of Technology, Seoul, South Korea, ⁴Lab. for Osteology, Dept. of Craniomaxillofacial Surgery, University Hospital Zuerich, Zuerich, Switzerland, ⁵Department of Oral and Maxillofacial Surgery, College of Dentistry, Seoul National University, Seoul, South Korea

P057 INORGANIC PHOSPHATE STIMULATES TRANSCRIPTION OF MATRIX GLA PROTEIN GENE IN GROWTH PLATE CHONDROCYTES THROUGH THE ERK SIGNALING PATHWAY

M. Julien*¹, D. Magne², A. Clochard¹, M. Rolli-Derkinderen³, O. Chassande⁴, C. Cario-Toumaniantz³, Y. Chereif⁵, P. Weiss⁶, J. Guicheux⁶

¹Research Center on Osteoarticular and Dental Tissue Engineering, INSERM EMI9903, Nantes, ²Université du Littoral, Cote d'Opale, LR2B-Inserm-ERI 002, Boulogne-sur-mer, ³Faculté des Sciences, Institut du Thorax, INSERM U533, Nantes, ⁴Biomatériaux et Réparation Tissulaire, INSERM U443, Bordeaux, ⁵Ecole Nationale Vétérinaire, Unité d'Anatomie Pathologique, UMR 703 INRA ENVN, ⁶Research center on Osteoarticular and Dental Tissue, INSERM EMI9903, Nantes, France

P058 REGULATION OF MINERALIZATION BY TRANSGLUTAMINASES IN OSTEOBLAST CULTURES

H. F. Al-Jallad¹, Y. Nakano¹, **M. T. Kaartinen***¹

¹Faculty of Dentistry, McGill University, Montreal, Canada

P059 HARMFUL EFFECT OF FLUORIDE ON FORMATION OF APATITE CRYSTALS

M. Kakei*¹, T. Sakae², M. Yoshikawa³

¹1st. Dept. of Oral Anatomy, Meikai Univ. School of Dentistry, Sakado, ²Dept. of Histology, Embryology, Anatomy, Nihon Univ. School of Dentistry, Matsudo, ³Dept. of Orthodontics, Meikai Univ. School of Dentistry, Sakado, Japan

P060 ANDROGEN RECEPTOR COORDINATES BOTH OSTEOBLASTIC DIFFERENTIATION AND MINERALIZATION

H. Kang*¹, C. Huang², J. Chang², K. Huang³

¹Center for menopause and reproductive medicine research, Graduate Institute of Clinical Medical Scie, ²Graduate Institute of Clinical Medical Sciences, Chang Gung University, ³Center for menopause and reproductive medicine research, Chang Gung Memorial Hospital, Kaohsiung, Taiwan

P061 BONE ULTRASTRUCTURE BY RAMAN IMAGING

M. Kazanci*¹, P. Roschger², E. P. Paschalis², K. Klaushofer², P. Fratzl¹

¹Biomaterials, Max-Planck Institute of Colloids and Interfaces, Potsdam, Germany, ²Ludwig Boltzmann Institute of Osteology, Hanusch Hospital, Wien, Austria

P062 COMPLEMENTARY INFORMATION ON IN VITRO CONVERSION OF AMORPHOUS CALCIUM PHOSPHATE TO HA FROM RAMAN MICROSPECTROSCOPY AND WIDE ANGLE SCATTERING

M. Kazanci¹, **E. P. Paschalis***², K. Klaushofer², P. Fratzl¹

¹Biomaterials, Max-Planck Institute of Colloids and Interfaces, Potsdam, Germany, ²Ludwig Boltzmann Institute of Osteology, Hanusch Hospital, Wien, Austria

P063 ISOLATION AND CHARACTERIZATION OF MESENCHYMAL STEM CELLS DERIVED FROM UMBILICAL CORD BLOOD

J. Kim*¹, M. KIM¹, J. Park¹, H. Choi²

¹Obstetrics and Gynecology, Seoul National University Hospital, ²Obstetrics and Gynecology, Sanggye Paik Hospital, Seoul, South Korea

P064 OSTEOGENESIS VERSUS CHONDROGENESIS BY BMP-2 AND BMP-7 IN ADIPOSE STEM CELLS

M. Knippenberg¹, **M. N. Helder**², **B. Zandieh Doulabi**¹, **A. Vatsa***¹, **P. I. J. M. Wuisman**², **J. Klein-Nulend**¹

¹Oral Cell Biology, ACTA- Uva and Vrije Universiteit, ²Orthopaedic Surgery, VU University Medical Center, Amsterdam, Netherlands

P065 POLYSACCHARIDES AS NANOCOATINGS OF BONE IMPLANTS

H. Kokkonen*¹, **J. Ilvesaro**², **M. Morra**³, **H. A. Schols**⁴, **M. Nagel**⁵, **J. Tuukkanen**¹

¹Department of Anatomy and Cell Biology, University of Oulu, Oulu, Finland, ²Department of Medicine, Division of Hematology-Oncology, University of Alabama, Birmingham, United States, ³, Nobil Bio Ricerche, Villafranca dAsti, Italy, ⁴Laboratory of Food Chemistry, Wageningen University, Wageningen, Netherlands, ⁵Department of Biomaterials and Biocompatibility, University of Technology of Compiègne, Compiègne, France

P066 EFFECTS OF CHANGES IN MECHANICAL LOADING ON ENDOCHONDRAL BONE FORMATION IN HINDLIMB-SUSPENDED RATS

S. Kong*¹, **S. Kim**², **H. Kim**²

¹Brain Korea 21 Project for Medical Science, Orthopaedic Surgery, ²Orthopaedic Surgery, College of Medicine Yonsei University, Seoul, South Korea

P067 LONG CHAIN POLYUNSATURATED FATTY ACIDS AFFECT CYTOKINE AND TYROSINE KINASE ACTIVITY IN MC3T3-E1 PRE-OSTEOBLAST CELLS

M. C. Kruger*¹, **L. M. Fray**¹, **W. H. Chua**¹, **L. Fremon**¹

¹Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand

P068 MEMBRANE-ANCHORED NEUTRAL ENDOPEPTIDASE NEPRILYSIN (NEP) IS UP-REGULATED IN HUMAN OSTEOBLAST CULTURES AFTER EXTRACORPOREAL SHOCK WAVE THERAPY

M. Kuntz*¹, **A. Hofmann**¹, **U. Ritz**¹, **A. Ackermann**¹, **N. Mladenovic**¹, **C. Schmid**¹, **A. Meurer**¹, **J. Heine**¹, **P. Rommens**², **J. Rompe**³

¹Orthopaedic Surgery, ²Trauma Surgery, Johannes Gutenberg University, Mainz, ³Orthopaedics, Orthotrauma Clinic, Gruenstadt, Germany

P069 EXPERIMENTAL BONE CELL MODEL TO STUDY GENE EXPRESSION IN THE DIFFERENTIATION PATHWAY AFTER X-IRRADIATION

P. Lau*¹, **C. E. Hellweg**¹, **C. Baumstark-Khan**¹

¹German Aerospace Center, Institute of Aerospace Medicine, Cologne, Germany

P070 STRO-1 EXPRESSION IS ALTERED DURING OSTEOBLASTIC DIFFERENTIATION OF HUMAN MESENCHYMAL STEM CELLS

S. T. Lehtonen*¹, P. Hakso¹, P. P. Lehenkari¹

¹*Department of Surgery, Clinical Research Center, University of Oulu, Oulu, Finland*

P071 RESPONSE OF MESENCHYMAL STEM CELL DERIVED OSTEOBLASTS TO SEX HORMONES IS INFLUENCED BY ESTROGEN RECEPTOR GENOTYPE

H. Leskelä*¹, A. Olkku², S. Lehtonen¹, A. Mahonen², J. Koivunen³, M. Turpeinen⁴, J. Uusitalo⁴, O. Pelkonen⁴, L. Kangas⁵, P. Lehenkari¹

¹*Clinical Research Center, Department of Surgery, University of Oulu, Oulu,* ²*Department of Medical Biochemistry, University of Kuopio, Kuopio,* ³*Department of Anatomy and Cell Biology,* ⁴*Department of Pharmacology and Toxicology, University of Oulu, Oulu,* ⁵*Hormos Medical, Ltd, Turku, Finland*

P072 THE MATERIAL LITAR USED IN THE COURSE OF REPLACING BIG BONE TISSUE DEFECTS

S. D. Litvinov*¹, A. N. Mitroshin², A. S. Kibitkin²

¹*Faculty of Chemistry, Samara State Technical University, Samara,* ²*Faculty of General Medicine, Penza State Medical Institute, Penza, Russian Federation*

P073 MATHEMATICAL DESCRIPTION OF BONE FORMATION IN RATS

V. G. Koveshnikov¹, **V. I. Luzin***¹, O. V. Andrieieva¹, D. A. Astrakhantsev¹

¹*Department of Normal Anatomy, State medical university, Luhansk, Ukraine*

P074 EFFECTS OF FGF-2 RELEASE FROM A SYNTHETIC POLYMER ON BONE MASS AND MICROARCHITECTURE

G. Mabileau¹, E. Aguado¹, M. F. Baslé¹, **D. Chappard***¹

¹*INSERM, EMI 0335, Faculty of medicine, Angers, France*

P075 DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS INTO OSTEOBLASTS

A. Mahmood*¹, B. M. Abdallah¹, M. Kassem¹

¹*Department of Endocrinology, Odense University Hospital, Odense, Denmark*

P076 DYNAMICALLY APPLIED PRESSURE AFFECTS THE ARCHITECTURE AND OSTEOGENIC DIFFERENTIATION OF HUMAN BONE CELLS

K. Maniura*¹, P. Wick¹, S. Ackerknecht¹, J. Kaiser¹, A. Bruinink¹

¹*MaTisMed, Empa, St. Gallen, Switzerland*

P077 MICRO-MECHANICAL PROPERTY OF FRACTURE CALLUS IN HEALING BONE

I. Manjubala*¹, D. R. Epari², G. N. Duda², P. Fratzl¹

¹*Department of Biomaterials, Max Planck Institute for Colloids and Interfaces, Potsdam,* ²*Center for Musculoskeletal Surgery, Charité - Universitätsmedizin Berlin, Berlin, Germany*

P078 DO POLYGLUTAMINE TRACTS IN HUNTINGTIN INFLUENCE GLUTAMATE SIGNALLING IN BONE?

D. J. Mason*¹ A. Hughes¹ B. A. Evans² A. Rosser¹

¹*School of Biosciences,* ²*Department of Child Health, Cardiff University, Cardiff, United Kingdom*

P079 DO OSTEOCYTES CULTURED IN 3D TYPE I COLLAGEN GELS ACTIVATE GLUTAMATE-MEDIATED SIGNALLING PATHWAYS IN RESPONSE TO COMPRESSIVE LOADING?

D. J. Mason*¹ B. A. E. Evans² A. Burleigh¹, K. Duggen¹ O. Lorraine¹, A. Pexa³ A. Deussen³ J. Ham⁴

¹*School of Biosciences,* ²*Department of Child Health, Cardiff University, Cardiff, United Kingdom,* ³*Institute of Physiology, Carl Gustav Carus, Dresden, Germany,* ⁴*Centre for Endocrine and Diabetes Sciences, Cardiff University, Cardiff, United Kingdom*

P080 EVIDENCE OF SNARE-DEPENDENT GLUTAMATE RELEASE MECHANISMS IN MEGAKARYOCYTES AND PARACRINE SIGNALING THROUGH HETEROTYPIC INTERACTIONS WITH MESENCHYMAL STEM CELLS

C. J. McGrath*¹, G. J. Spencer¹, P. G. Genever¹

¹Department of Biology, University of York, York, United Kingdom

P081 IDENTIFICATION AND FUNCTIONAL ANALYSIS OF PROCESSED AMYLOID PRECURSOR PROTEIN FRAGMENTS IN OSTEOBLASTS

J. McLeod*¹, H. D. Lewis², P. G. Genever¹

¹Dept. of Biology, University of York, York, ²Dept. of Molecular and Cellular Neuroscience, Merck Sharp and Dohme, Harlow, United Kingdom

P082 MICROTOMOGRAPHY PROVIDES THREE-DIMENSIONAL IMAGING REPRESENTATION OF BONE INGROWTH IN CALCIUM PHOSPHATE BIOMATERIALS

N. Miño-Fariña*¹, J. L. Pereira-Espinel¹, D. Ayala², A. González-Cantalapiedra¹, M. Ginebra², M. López-Peña¹, F. Muñoz-Guzón¹, D. Tost², S. Grau²

¹Ciencias Clínicas Veterinarias, Facultad de Veterinaria de Lugo, Lugo, ²Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya, Barcelona, Spain

P083 THE MATURATION OF THE MINERAL PARTICLES IN BONE TISSUE FROM HEALTHY INDIVIDUALS AND CASES OF CELIAC AND PAGET'S DISEASE

B. M. Misof*¹, P. Roschger¹, H. Amenitsch², S. Bernstorff³, K. Klaushofer¹, P. Fratzl⁴

¹Ludwig Boltzmann Institute of Osteology, Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, Vienna, ²Institute of Biophysics and X-Ray Structure Research, Austrian Academy of Science, Graz, Austria, ³Sincrotrone Trieste, Area Science Park, Basovizza-Trieste, Italy, ⁴Dept. of Biomaterials, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany

P084 GENOME-WIDE EXPRESSION PROFILING REVEALS REDUCED GENE EXPRESSION OF STANNIOCALCIN 1 IN BONE FRACTURE NON-UNIONS AND ITS ACTIVATION AFTER SHOCK WAVE THERAPY

N. Mladenovic*¹, A. Hofmann¹, U. Ritz¹, A. Ackermann¹, M. Kuntz¹, C. Schmid¹, A. Meurer¹, P. Drees¹, J. Heine¹, P. Rommens², J. Rompe³

¹Orthopaedic Surgery, ²Trauma Surgery, Johannes Gutenberg University, Mainz, ³Orthopaedics, Orthotrauma Clinic, Gruenstadt, Germany

P085 EXPRESSION AND REGULATION OF TENASCINS IN BONE DEVELOPMENT AND REPAIR

B. I. Morrison*¹, C. N. Pagel¹, T. M. Campbell¹, R. Chiquet-Ehrismann², E. J. Mackie¹

¹School of Veterinary Science, University of Melbourne, Parkville, Australia, ²Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

P086 THE INFLUENCE OF IMPLANT MATERIAL ON EXTRACELLULAR MATRIX ADSORPTION AND CONFORMATION IN VITRO

V. Muhonen*¹, C. Fauveaux², G. Olivera², J. L. Duval², A. Danilov³, M. D. Nagel², J. Tuukkanen¹

¹Department of Anatomy and Cell Biology, University of Oulu, Oulu, Finland, ²Department of Biomaterials and Biocompatibility, University of Technology of Compiègne, Compiègne, France, ³Department of Medical Technology, University of Oulu, Oulu, Finland

P087 THE PERICHONDRAL RING OF LACROIX AS EXPRESSION OF MEMBRANOUS OSSIFICATION IN THE ENDOCHONDRAL BONES

C. Nyssen-Behets*¹, B. Lengel¹

¹Experimental Morphology Unit, Université catholique de Louvain, Brussels, Belgium

P088 EFFECTS OF IRRADIATION ON BONE REMODELLING AROUND DENTAL IMPLANTS IN DOG MANDIBLES: HISTOLOGICAL STUDY

M. Brasseur¹, V. Brogniez¹, V. Grégoire², W. D'Hoore³, H. Reyckler⁴, B. Lengelé⁵, C. Nysse-Behets*⁵

¹Prosthodontics Department, ²Radiation Oncology Department, ³Epidemiology Unit, ⁴Oral and Maxillofacial Surgery Department, ⁵Experimental Morphology Unit, Université Catholique de Louvain, Brussels, Belgium

P089 HIP GEOMETRY, METABOLIC AND TISSUE PROPERTIES ARE ASSOCIATED WITH COLIA SP1 GENOTYPES

B. M. Obermayer-Pietsch*¹, C. M. Bonelli¹, D. Walter¹, H. Clar², H. Dobnig¹, A. Fahrleitner-Pammer¹

¹Internal Medicine, ²Orthopedic Surgery, Medical University Graz, Graz, Austria

P090 WNT SIGNALING PATHWAY PARTICIPATES IN THE REGULATION OF GLUTAMINE SYNTHETASE AND OSTEOCALCIN EXPRESSION IN HUMAN OSTEOBLASTIC CELLS

A. Olkku*¹, A. Mahonen¹

¹Institute of Biomedicine, Department of Medical Biochemistry and Molecular Biology, University of Kuopio, Kuopio, Finland

P091 EXTRACELLULAR NUCLEOTIDES INHIBIT MINERALISATION OF BONE NODULES FORMED BY RAT OSTEOBLASTS

I. R. Orriss*¹, J. C. Utting¹, A. Brandao-Burch¹, G. Burnstock¹, T. R. Arnett¹

¹Anatomy and Developmental Biology, University College London, London, United Kingdom

P092 FLEXERCELL OPTIMISATION STUDY USING MC3T3-E1 OSTEOBLAST-LIKE CELLS AND PRIMARY OSTEOBLASTS WITH NOVEL FULL-FIELD CHARACTERISATION OF MECHANICAL STIMULATION

C. E. Ott*¹, S. Ahrens¹, M. Thompson², U. Kornak¹, G. Duda², S. Mundlos¹

¹Institute for Medical Genetics, ²Center for Musculoskeletal Surgery, Charite - Universitätsmedizin Berlin, Berlin, Germany

P093 PROTEASE-ACTIVATED RECEPTOR-INDEPENDENT INDUCTION OF INTERLEUKIN-6 IN OSTEOBLASTS BY THROMBIN

C. N. Pagel¹, S. Song¹, L. Loh¹, E. M. Tudor², R. N. Pike³, E. J. Mackie*¹

¹School of Veterinary Science, ²Department of Pharmacology, University of Melbourne, Parkville, ³Department of Biochemistry and Molecular Biology, Monash University, Clayton, Australia

P094 DIFFERENTIAL EFFECTS OF ALENDRONATE AND RISEDRONATE ON COL1A1 EXPRESSION IN MOUSE MC3T3-E1 OSTEOBLASTIC CELLS

E. Durchschlag¹, E. P. Paschalis*¹, R. Zoehrer¹, F. Varga¹, R. J. Phipps², K. Klaushofer¹

¹Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 4th Med Dept, Ludwig Boltzmann Institute of Osteology, Vienna, Austria, ²Research and Development, Procter and Gamble Pharmaceuticals, Mason, United States

P095 MECHANICAL AND HISTOMORPHOMETRIC CHARACTERIZATION OF TRABECULAR BONE OF THE FEMORAL HEAD OF OSTEOARTHRITIC PATIENTS

E. Perilli*¹, F. Baruffaldi¹, M. Baleani¹, R. Fognani¹, M. Visentin¹, S. Stea¹, F. Traina¹

¹Laboratorio di Tecnologia Medica, Istituti Ortopedici Rizzoli, Bologna, Italy

P096 DIGITAL X-RAY RADIOGRAMMETRY (DXR) FOR DETECTION OF PERIARTICULAR DEMINERALIZATION IN EARLY RHEUMATOID ARTHRITIS

A. Pfeil*¹, J. Böttcher¹, A. Petrovitch¹, G. Lehmann², M. L. Schäfer¹, A. Malich³, W. A. Kaiser¹, G. Hein², G. Wolf²

¹Friedrich-Schiller-University Jena, Institute of Diagnostic and Interventional Radiology, ²Friedrich-Schiller-University Jena, Clinic of Internal Medicine III, Jena, ³Sued-Harz Klinikum, Department of Radiology, Nordhausen, Germany

P097 QUANTIFYING PERIARTICULAR DEMINERALIZATION USING DIGITAL X-RAY RADIOGRAMMERTY AND PERIPHERE MULTI-SITE QUANTITATIVE ULTRASOUND IN RHEUMATOID ARTHRITIS

A. Pfeil*¹, J. Böttcher¹, H. J. Mentzel¹, G. Lehmann², M. L. Schäfer¹, A. Kramer¹, A. Petrovitch¹, A. Malich³, W. A. Kaiser¹, G. Hein², G. Wolf²

¹Friedrich-Schiller-University Jena, Institute of Diagnostic and Interventional Radiology, ²Friedrich-Schiller-University Jena, Clinic of Internal Medicine III, Jena, ³Sued-Harz Klinikum, Department of Radiology, Nordhausen, Germany

P098 JOINT SPACE NARROWING IN RHEUMATOID ARTHRITIS DETECTED BY RADIOGRAMMETRY KIT (RK)

A. Pfeil*¹, J. Böttcher¹, G. Lehmann², B. E. Seidl¹, M. L. Schäfer¹, A. Kramer¹, A. Petrovitch¹, A. Malich³, W. A. Kaiser¹, G. Wolf², G. Hein²

¹Friedrich-Schiller-University Jena, Institute of Diagnostic and Interventional Radiology, ²Friedrich-Schiller-University Jena, Clinic of Internal Medicine III, Jena, ³Sued-Harz Klinikum, Department of Radiology, Nordhausen, Germany

P099 LONGITUDINAL STUDY FOR DETECTION OF JUXTA-ARTICULAR DEMINERALIZATION AND JOINT SPACE NARROWING BY DIGITAL X-RAY RADIOGRAMMETRY (DXR) AND RADIOGRAMMETRY KIT (RK) IN RHEUMATOID ARTHRITIS

J. Böttcher*¹, A. Pfeil¹, M. L. Schäfer¹, G. Lehmann², A. Kramer¹, A. Malich³, W. A. Kaiser¹, G. Hein², G. Wolf²

¹Friedrich-Schiller-University, Institute of Diagnostic and Interventional Radiology, ²Friedrich-Schiller-University, Clinic of Internal Medicine III, Jena, ³Sued-Harz Klinikum, Department of Radiology, Nordhausen, Germany

P100 EVIDENCE FOR THE PRESENCE OF PURE PRE-OSTEOBLASTIC OR PURE PRE-ADIPOCYTIC CELL POPULATIONS AMONG MOUSE BONE MARROW MESENCHYMAL STEM CELLS

S. Post*¹, B. M. Abdallah¹, J. F. Bentzon², M. Kassem¹

¹Molecular Endocrinology Unit KMEB, Department of Endocrinology, Odense University Hospital, Odense C, ²Department of Cardiology Research Unit, Skejby University Hospital, Aarhus, Denmark

P101 EVIDENCE FOR IN VITRO OSTEOGENESIS BY HUMAN MESENCHYMAL STEM CELLS IN 3D-CULTURES

P. L. Rasmussen*¹, J. S. Burns¹, M. Kassem¹

¹The Molecular Endocrinology Unit, Odense University Hospital, Odense C, Denmark

P102 MECHANICAL LOADING INHIBITS BONE ELONGATION THROUGH THE REGULATION OF CHONDROCYTE PROLIFERATION

A. Reich*¹, E. Monsonogo-Ornan¹

¹Animal Science, Volcani Center, Bet Dagan, Israel

P103 MECHANICAL STIMULATION OF RAT BONE: DIFFERENTIAL GENE-EXPRESSION

C. M. A. Reijnders*¹, N. Bravenboer², B. T. T. M. Van Rens³, H. W. Van Essen¹, H. Van Beek⁴, M. A. Blankenstein², P. Lips¹

¹Endocrinology, ²Clinical Chemistry, VU University Medical Center, ³Faculty of Human Movement Sciences, Free University, ⁴Clinical Epidemiology and Biostatistics, VU University Medical Center, Amsterdam, Netherlands

P104 AMELOBLASTIN IS EXPRESSED, REGULATED AND HAVE A STIMULATORY EFFECT IN HUMAN BONE CELLS

M. V. Tamburstuen¹, H. S. Berner¹, S. Reppe², I. Slaby¹, G. Kvalheim³, G. Pezeshki⁴, A. Spahr⁵, S. P. Lyngstadaas⁶, J. E. Reseland*¹

¹Oral Research Laboratory, ²Department of Medical Biochemistry, University of Oslo, ³Department of Oncology, The Norwegian Radium Hospital, Oslo, Norway, ⁴Dept of Conservative Dentistry and Periodontology, ⁵Dept of Concervative Dentistry and Periodontology, University of Ulm, Ulm, Germany, ⁶Oral Research Laboratory, The Norwegian Radium Hospital, Oslo, Norway

P105 BONE MATERIAL PROPERTIES IN BRUCK SYNDROME: A CASE REPORT

P. Roschger¹, R. Zoehrer¹, E. Durchschlag¹, R. L. Van Bezooijen², R. A. Bank³, P. Fratzl⁴, E. Paschalis*¹, K. Klaushofer¹

¹Ludwig Boltzmann Inst. of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 4th Medical Department, Hanusch Hospital, Vienna, Austria, ²Dept. of Endocrinology C4-R, Dept. of Molecular Biology, Leiden University, Medical Center, ³Gaubius Laboratory TNO Prevention and Health, Division of Vascular and Connective Tissue Research, Division of Vascular and Connective Tissue Research, Leiden, Netherlands, ⁴Dept. of Biomaterials, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany

P106 QUANTITATIVE ANALYSES OF SECRETED PROTEINS FROM HUMAN MESENCHYMAL STEM CELLS: EFFECTS OF DLK-EXPRESSION

H. Rosenqvist*¹, I. Kratchmarova², J. Bunkenborg², R. Matthiesen², C. R. Ingell², B. Abdallah³, O. N. Jensen², M. Kassem³

¹Department of Biochemistry and Molecular Biology, ²Biochemistry and Molecular Biology, University of Southern Denmark, ³Molecular Endocrinology Unit, University Hospital of Odense, Odense, Denmark

P107 TIME EVOLUTION OF THE BONE MINERALIZATION DENSITY DISTRIBUTION DUE TO HIGH-TURNOVER DISEASES AND ANTIRESORPTIVE THERAPY

D. Ruffoni¹, P. Fratzl¹, P. Roschger², K. Klaushofer², R. Weinkamer*¹

¹Department of Biomaterials, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany, ²Department Hanusch Hospital, Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidl, Vienna, Austria

P108 QUANTITATIVE ASSESSMENT OF FORMATION AND RESORPTION SURFACES AND OSTEOCYTE 3D DISTRIBUTION IN THE MOUSE FIBULA FROM NANO-CT IMAGING

P. L. Salmon*¹, A. Y. Sasov¹

¹Application Research, Skyscan, Aartselaar, Belgium

P109 IMPLANTATION OF OCTACALCIUM PHOSPHATE (OCP) ENHANCES ALVEOLAR RIDGE IN RAT MANDIBLE

F. Sargolzaei Avval¹, M. R. Arab¹

¹Anatomy, Zahedan University of Medical Sciences, zahedan, Iran (Islamic Republic of)

P110 BONE MINERAL DENSITY IN CHILDREN WITH CHRONIC NON-SPECIFIC LUNG DISEASES

L. A. Scheplyagina*¹, I. V. Kruglova¹, T. Y. Moisseyeva¹

¹Laboratory of Osteoporosis, Research Center of Children Health, Russian Academy of Medical Sciences, Moscow, Russian Federation

P111 CLINICAL SIGNIFICANCE OF OSTEODENSITOMETRY IN CHILDREN

L. A. Scheplyagina*¹, I. V. Kruglova¹, T. Y. Moisseyeva¹

¹Laboratory of Osteoporosis, Research Center of Children Health, Russian Academy of Medical Sciences, Moscow, Russian Federation

P112 MICROARRAY ANALYSIS OF GENE EXPRESSION IN OSTEOBLAST CULTURES FROM PATIENTS WITH HYPERTROPHIC FRACTURE NON-UNIONS

C. Schmid*¹, A. Hofmann¹, U. Ritz¹, A. Ackermann¹, N. Mladenovic¹, M. Kuntz¹, A. Meurer¹, J. Heine¹, P. Rommens², J. Rompe³

¹Orthopaedic Surgery, ²Trauma Surgery, Johannes Gutenberg University, Mainz, ³Orthopaedics, Orthotrauma Clinic, Gruenstadt, Germany

P113 MYELOID PROGENITOR CELLS SUPPRESS OSTEOGENIC DIFFERENTIATION OF MESENCHYMAL PROGENITOR CELLS

B. Vogel¹, T. Vogel¹, E. Rohde², D. Strunk², A. Göpferich³, M. B. Schulz*¹

¹Pharmaceutical Technology, Karl-Franzens-University, ²Division of Haematology and Department of Transfusion Medicine, Medical University, Graz, Austria, ³Pharmaceutical Technology, University of Regensburg, Regensburg, Germany

P114 IMMUNOLOCALIZATION OF SCLEROSTIN (SOST) IN CARTILAGE AND BONE OF RATS TREATED WITH INTERMITTENT PTH ADMINISTRATION

G. Silvestrini*¹, P. Ballanti¹, M. Leopizzi¹, S. Berni¹, E. Bonucci¹

¹*Dept. Experimental Medicine and Pathology, La Sapienza University of Rome, Rome, Italy*

P115 DIFFERENTIAL REGULATION OF MMPs IN CHONDROCYTES AND THEIR INVOLVEMENT IN THE DEVELOPMENT OF TIBIAL DYSCHONDROPLASIA IN BROILERS AND TURKEYS

S. Simsa*¹, A. Hasdai¹, E. Monsonogo Ornan¹

¹*Animal Science, The Volcani Center, Bet Dagan, Israel*

P116 ENDOSTATIN RETARDS THE CARTILAGE PHASE IN THE MODEL OF ECTOPIC OSSIFICATION

A. J. Sipola*¹, J. Ilvesaro², E. Biri³, P. Jalovaara³, F. Stenbäck⁴, T. Hautala⁵, J. Tuukkanen¹

¹*Anatomy and Cell Biology, University of Oulu, Oulu, Finland*, ²*Medicine Hematology and Oncology, University of Alabama at Birmingham, Birmingham, United States*, ³*BTRG Department of Orthopaedic Surgery*, ⁴*Department of Pathology*, ⁵*Department of Internal Medicine, University of Oulu, Oulu, Finland*

P117 POSTNATAL CATCH-UP IN PIGLETS BONE DEVELOPMENT AFTER PRENATAL DEXAMETHASONE TREATMENT

E. Sliwa*¹, M. R. Tatar¹, T. Piersiak², P. Dobrowolski², T. Studzinski¹

¹*Department of Animal Physiology, The Agricultural University of Lublin*, ²*Department of Comparative Anatomy and Anthropology, Maria Curie-Skłodowska University, Lublin, Poland*

P118 DEXAMETHASONE (DEX) AND ALPHA-KETOGLUTARATE (AKG) INFLUENCE THE BONE DEVELOPMENT DURING BOTH MATERNAL AND NEONATAL ADMINISTRATION IN PIGS

E. Sliwa*¹, M. R. Tatar¹, T. Studzinski¹

¹*Department of Animal Physiology, The Agricultural University of Lublin, Lublin, Poland*

P119 OOPHOECTOMY AND VITAMIN D3 DEFICIENCY DO NOT AFFECT THE REPARATIVE PHASE OF FRACTURE HEALING IN RATS

L. B. Solberg*¹, G. Melhus¹, S. Dimmen², J. Madsen², L. Nordsletten², F. P. Reinholt¹

¹*Institute of Pathology, Rikshospitalet University Hospital*, ²*Orthopaedic center, Ullevål University Hospital, Oslo, Norway*

P120 PRENATAL ADMINISTRATION OF 3-HYDROXY-3-METHYLBUTYRATE (HMB) TO PIGS INCREASES PEAK BONE MASS IN OFFSPRING

M. R. Tatar*¹, E. Sliwa¹, W. Krupski², T. Studzinski³

¹*Department of Animal Physiology, The Agricultural University of Lublin*, ²*II Department of Radiology*, ³*Department of Animal Physiology, Medical University of Lublin, Lublin, Poland*

P121 ALPHA-KETOGLUTARATE (AKG) ADMINISTRATION TO PREGNANT SOWS INCREASES MINERALIZATION, GEOMETRICAL AND MECHANICAL ENDURANCE OF SKELETON IN THEIR OFFSPRING

M. R. Tatar*¹, E. Sliwa¹, W. Krupski², T. Studzinski³

¹*Department of Animal Physiology, The Agricultural University of Lublin*, ²*II Department of Radiology*, ³*Department of Animal Physiology, Medical University of Lublin, Lublin, Poland*

P122 FUNDECTOMY INDUCES OSTEOPENIA OF AXIAL SKELETON IN PIGS

M. R. Tatar*¹, E. Sliwa¹, W. Krupski², T. Studzinski³

¹*Department of Animal Physiology, The Agricultural University of Lublin*, ²*II Department of Radiology*, ³*Department of Animal Physiology, Medical University of Lublin, Lublin, Poland*

P123 POST-GASTRECTOMY OSTEOPENIA OF FEMUR IN PIGS

E. Sliwa*¹, M. R. Tatar¹, W. Krupski², T. Studzinski³

¹*Department of Animal Physiology, The Agricultural University of Lublin*, ²*II Department of Radiology*, ³*Department of Animal Physiology, Medical University of Lublin, Lublin, Poland*

P124 MORPHOLOGICAL DIVERSITY OF HYPERTROPHIC CHONDROCYTES IN GROWTH CARTILAGE

L. Tatarczuch*¹, Y. A. Ahmed¹, H. M. S. Davies¹, E. J. Mackie¹

¹ School of Veterinary Science, University of Melbourne, Parkville, Australia

P125 THE INFLUENCE OF EXTREMELY LOW FREQUENCY MAGNETIC FIELD ON THE MINERALIZATION PROCESS

G. Taton¹, M. Karwala-Szytula¹, T. Rok¹, E. Rokita¹, Z. Tabor¹, A. Wrobel², F. Beckmann³, T. Donath³, J. Fischer⁴, **G. Taton***¹

¹Department of Biophysics, ²Institute of Physics, Jagiellonian University, Cracow, Poland, ³GKSS-Research Center, Geesthacht, ⁴Hannover Medical School, Hannover, Germany

P126 THE EFFECTIVENESS OF COX-2 INHIBITIONS IN THE PREVENTION OF HETEROTOPIC OSSIFICATION, AN EXPERIMENTAL STUDY IN RABBITS

P. G. Tsailas*¹, G. C. Babis¹, K. Nikolopoulos¹, P. Nikiforides¹

¹1st Orthopaedic Department University of Athens, KAT Hospital, Kifisia, Greece

P127 EVALUATION OF PHOTOPOLYMERS, CAPABLE FOR RAPID PROTOTYPING ON PROLIFERATION AND MORPHOLOGY OF OSTEOBLASTS

C. Turecek*¹, M. Schuster², F. Varga¹, R. Liska², B. Kaiser³, J. Stampfl³, K. Klaushofer¹

¹4th Medical Department, Hanusch Hospital, Ludwig Boltzmann Institute of Osteology, ²University of Technology, Institute of Applied Synthetic Chemistry, ³University of Technology, Institute of Materials Science and Technology, Vienna, Austria

P128 INTERCELLULAR COMMUNICATION IN OSTEOCYTES AFTER MECHANICAL STIMULATION

A. Vatsa*¹, . D. Mizuno², . T. H. Smit³, . C. F. Schmidt², . F. C. MacKintosh⁴, . J. Klein-Nulend¹

¹Oral Cell Biology, ACTA-UvA and Vrije Universiteit, ²Biophysics and Complex Systems, Vrije Universiteit, ³Clinical Physics and Engineering, VU Medisch Centrum, ⁴Theoretical Physics, Vrije Universiteit, Amsterdam, Netherlands

P129 BMP-6 INDUCES NEW BONE FORMATION IN OVARIECTOMIZED MICE AND ENHANCES DIFFERENTIATION OF PRIMARY HUMAN OSTEOBLASTS THROUGH ACTIVATION OF IGF-1 AND EGF PATHWAYS

F. Borovecki*¹, W. A. Grasser², I. Orlic³, V. M. Paralkar², S. Vukicevic³

¹Center for Functional Genomics, School of Medicine, Zagreb, Croatia, ²Pfizer Central Research, Pfizer Inc., Groton, United States, ³Department of Anatomy, School of Medicine, Zagreb, Croatia

P130 HOW THE BEHAVIOR OF OSTEOCLASTS AND OSTEOBLASTS INFLUENCES THE ARCHITECTURE OF TRABECULAR BONE

M. A. Hartmann¹, **R. Weinkamer***¹, Y. Brechet², P. Fratzl¹

¹Department of Biomaterials, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany, ²LTPCM, ENSEEG, Domaine Universitaire de St. Martin d'Herès, Cedex, France

P131 MODULATION OF VEGF ISOFORM AND RECEPTORS mRNA EXPRESSION DURING OSTEOBLAST DIFFERENTIATION IN A MONO- AND CO-CULTURAL MODEL WITH MICROVASCULAR ENDOTHELIAL CELLS

B. Weyand*¹, H. P. Von Schroeder²

¹Bonelab, Department of Dentistry and Department of Plastic and Reconstructive Surgery, University of Toronto, Canada and Municipal Hospital Offenbach GmbH, Germany, Toronto and Offenbach, Germany, ²University Hand Program, Toronto Western Hospital and Bonelab, Faculty of Dentistry, University of Toronto, Toronto, Canada

P132 SERUM PROTEIN ADSORPTION TO HYDROXYAPATITE-COMPOSITE POLYMER SCAFFOLDS

K. Woo*¹, H. Choi¹, J. Baek¹, H. Ryoo¹, G. Kim¹, P. X. Ma²

¹Craniofacial Cell and Developmental Biology, Seoul National University School of Dentistry, Seoul, South Korea, ²Biologic and Material Sciences, University of Michigan, Ann Arbor, United States

P133 ROLES OF THE INJURY-INDUCED INFLAMMATORY RESPONSE IN THE BONY REPAIR OF THE GROWTH PLATE CARTILAGE

C. J. Xian*¹, F. H. Zhou¹, R. Chung¹, G. Arasapam¹, M. Scherer¹, T. Ngo¹, J. C. Cool¹, B. K. Foster¹
¹*Department of Orthopaedic Surgery, Women and Children Hospital, Adelaide, Australia*

P134 SIMVASTATIN PROMOTES THE PROLIFERATION AND MINERALIZATION OF OSTEOBLASTS

Y. Yang*¹

¹*Department of Orthopedics, School of Medicine, Shandong University, Ji'nan, China*

P135 BONE MINERAL AND COLLAGEN QUALITY IN BAPN TREATED RATS

R. Zoehrer*¹, E. Durchschlag¹, P. Roschger¹, I. Manjubala², P. Fratzl², E. P. Paschalis¹, K. Klaushofer¹

¹*Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidl, Hanusch Hospital-Vienna, Vienna, Austria,* ²*Max Planck Institute of Colloids and Interfaces, Department of Biomaterials, Berlin, Germany*

BONE RESORPTION AND ITS REGULATION

These posters will be attended on Thursday, 11 May 2006, 13:00 – 14:00

P136 INVOLVEMENT OF ADAM8 IN OSTEOCLASTOGENESIS

M. Ainola*¹, J. Salo², A. Sukupolvi³, M. Liljeström³, M. Hukkanen³, Y. T. Kontinen⁴

¹*ORTON Orthopaedic Hospital, Invalid Foundation,* ²*Department of Orthopaedics and Traumatology, Helsinki University Central Hospital,* ³*Institute of Biomedicine, University of Helsinki,* ⁴*Department of Medicine Invärtes medicin, Helsinki University Central Hospital, Helsinki, Finland*

P137 RANK EXPRESSION IN PERIPHERAL BLOOD AND BONE MARROW MONONUCLEAR CELLS AND IN GIANT CELL TUMOUR OF BONE: RELEVANCE TO A PRE-OSTEOCLAST PHENOTYPE

G. J. Atkins*¹, C. Vincent¹, P. Kostakis², A. N. Farrugia², D. M. Findlay¹, J. Houchins³, A. Evdokiou¹, A. C. W. Zannettino²

¹*Department of Orthopaedics and Trauma, University of Adelaide,* ²*Division of Haematology, Institute of Medical and Veterinary Science, Adelaide, Australia,* ³*Monoclonal Antibody Production, R and D Systems, Minneapolis, United States*

P138 RED DEER BIOLOGY FOR BIOMEDICAL RESEARCH ON HUMAN OSTEOPOROSIS

A. Borsy*¹, B. Balla², I. Gyurján Jr³, V. Stéger³, A. Molnár³, Z. Szabolcsi³, J. Kósa², Z. Zomborszky⁴, P. Papp¹, T. Vellai³, P. Lakatos², L. Orosz³

¹*Institute of Genetics, Agricultural Biotechnology Center, Godollo,* ²*First Department of Internal Medicine, Semmelweis University Medical School,* ³*Department of Genetics, Eötvös Loránd University, Budapest,* ⁴*Department of Fish and Pet Animal Breeding, University of Kaposvár, Kaposvár, Hungary*

P139 FACTORS DETERMINING BONE TURNOVER IN AN ELDERLY POPULATION - NOT PREVIOUSLY TREATED WITH BISPHOSPHONATES

L. M. Brewer*¹, H. Cronin², G. Murillo², M. Healy³, C. Walsh⁴, N. Maher⁵, J. Walsh², M. C. Casey²

¹*Medicine for the Elderly, St. James's Hospital,* ²*Medicine for the Elderly,* ³*Biochemistry Dept., St. James's Hospital,* ⁴*Dept. of Statistics, Trinity College,* ⁵*Falls and Osteoporosis Dept., St. James's Hospital, Dublin, Ireland*

P140 THE ASSOCIATION BETWEEN SEVERAL FACTORS AFFECTING AORTIC CALCIFICATION AND BMD IN POSTMENOPAUSAL WOMEN

W. H. Choi*¹, H. Choi², H. Han³

¹*Endocrinology, Hanyang University Hospital,* ²*OBGY, Sangae Bak Hospital,* ³*Endocrinology, Hanyang University Hospital, Seoul, South Korea*

P141 PHOSPHORUS IN BODY FLUIDS OF CHILDREN AGED 5-16 YEARS

S. N. Chromtzo*¹, L. A. Scheplyagina¹, T. Y. Moisseyeva¹

¹Laboratory of Osteoporosis, Research Center of Children Health, Russian Academy of Medical Sciences, Moscow, Russian Federation

P142 VITAMIN D INHIBITS IL-17 PRODUCTION AND STIMULATES IL-4 PRODUCTION BY PERIPHERAL BLOOD MONONUCLEAR CELLS IN EARLY ARTHRITIS PATIENTS

E. M. Colin*¹, P. Asmawidjaja¹, H. A. P. Pols², J. M. W. Hazes¹, J. P. T. M. Van Leeuwen², E. Lubberts¹

¹Rheumatology, ²Internal Medicine, Erasmus MC, Rotterdam, Netherlands

P143 INVESTIGATIONS INTO THE KINETIC MECHANISM OF INHIBITION OF FARNESYL PYROPHOSPHATE SYNTHASE BY NITROGEN CONTAINING BIPHOSPHONATES

J. E. Dunford*¹, K. Kavanagh², U. Oppermann², F. H. Ebetino³, R. G. G. Russell¹, M. J. Rogers⁴

¹Nuffield Department of Orthopaedic Surgery, ²Structural Genomics Consortium, Botnar Research Centre, University of Oxford, Oxford, United Kingdom, ³New Drug Development, Procter and Gamble Pharmaceuticals, Mason, OH, United States, ⁴Bone Research Group, University of Aberdeen, Aberdeen, United Kingdom

P144 MOLECULAR MODELING COMPARISON OF NITROGEN-CONTAINING BIPHOSPHONATES OF VARYING POTENCY CO-CRYSTALIZED IN FARNESYL DIPHOSPHATE SYNTHASE

F. H. Ebetino*¹, B. Kashemirov², C. E. McKenna², A. G. Evdokimov³, M. E. Pokross³, B. L. Barnett⁴, J. Dunford⁵, K. Kavanagh⁵, M. J. Rogers⁶, M. W. Lundy³, U. Oppermann⁵, R. G. Russell⁵

¹New Drug Development, Procter and Gamble Pharmaceuticals, Mason, ²Chemistry Department, University of Southern California, Los Angeles, CA, ³New Drug Development, Procter and Gamble Pharmaceuticals, Mason, OH, ⁴Chemistry Department, University of Cincinnati, Cincinnati, OH, United States, ⁵Botnar Research Centre, Oxford University, Oxford, ⁶Bone Research Group, University of Aberdeen, Aberdeen, United Kingdom

P145 ANTIRESORPTIVE EFFECTS OF CALCITRIOL ARE INDEPENDENT OF PARATHYROID HORMONE SECRETION IN RATS

R. G. Erben*¹, K. Weber², M. Herber²

¹Dept. of Natural Sciences, University of Veterinary Medicine, Vienna, Austria, ²Institute of Animal Physiology, University of Munich, Munich, Germany

P146 POLYMORPHISMS IN THE INTERLEUKIN-6 GENE PROMOTER AND OSTEOLYSIS AFTER TOTAL HIP ARTHROPLASTY

A. Gordon*¹, A. Hamer², I. Stockley², R. Eastell¹, M. Wilkinson²

¹Academic Unit of Bone Metabolism, University of Sheffield, ²Department of Orthopaedics, The Northern General Hospital, Sheffield, United Kingdom

P147 ELISA FOR SRANKL WITH TYRAMIDE ENHANCEMENT

B. Lindner¹, **G. Hawa***¹

¹Research and Development, Biomedica Gruppe, Vienna, Austria

P148 BACTERIAL TWO-HYBRID SYSTEM TO IDENTIFY PARTNERS OF RAB13 IN OSTEOCLASTS

M. Heikonen*¹, Y. Sun¹, K. G. Büki¹, K. H. Väänänen¹

¹Anatomy, University of Turku, Turku, Finland

P149 IL-6 INHIBITS RANKL-INDUCED OSTEOCLASTOGENESIS

L. Duplomb¹, V. Trichet¹, M. Baud'huin¹, C. Charrier¹, S. Battaglia¹, D. Heymann¹, **F. Blanchard***¹

¹University of Nantes EA3822 INSERM ERI 7, Medicine Faculty, Nantes, France

P150 CHARACTERIZATION OF OSTEOPROTEGERIN BINDING TO GLYCOSAMINOGLYCANS BY SURFACE PLASMON RESONANCE: ROLE IN THE INTERACTIONS WITH RECEPTOR ACTIVATOR OF NUCLEAR FACTOR KB LIGAND (RANKL) AND RANK

S. Theoleyre¹, S. Kwan Tat¹, P. Vusio², F. Blanchard¹, J. Gallagher³, S. Ricard-Blum⁴, Y. Fortun¹, M. Padrines¹, **F. Redini***¹, D. Heymann¹

¹Université de Nantes EA3822 INSERM ERI 7, Medicine Faculty, ²IFR26, Institut de Biologie, Nantes, France, ³Department of Medical Oncology, Christie Hospital NHS Trust, Manchester, United Kingdom, ⁴UMR 5086 CNRS UCBL, Institut de Biologie et Chimie des Proteines, Lyon, France

P151 DETECTION OF CATHEPSIN K IN OSTEOCLASTS BY ELISA AND IMMUNOHISTOCHEMISTRY IN COMMON IN VITRO BONE RESORPTION MODELS

O. Hoffmann*¹, J. Nguemo¹, S. Maitzen², G. Hawa²

¹Pharmacology and Toxicology, University of Vienna, ²Research and Development, Biomedica, Vienna, Austria

P152 THE EVALUATION OF OSTEOPOROSIS RISK IN PATIENTS WITH THYROID CANCERS

W. Horst-Sikorska*¹, W. Nosowicz¹, S. Dabrowski¹, L. Celczynska-Bajew¹

¹Family Medicine Department, University of Medical Sciences, Poznan, Poland

P153 VASCULAR CALCIFICATION IN PATIENTS ON HEMODIALYSIS

B. B. J. Jeren*¹, B. B. R. Rozman¹, P. M. P. Marusic²

¹Hemodialysis, ²Radiology, Clinical hospital Dubrava, Zagreb, Croatia

P154

Abstract withdrawn

P155 EFFECT OF TOPICAL ADMINISTERED CLODRONATE ON THE BONE MINERAL DENSITY AFTER TOTAL HIP ARTHROPLASTY

M. Kellinsalmi*¹, R. Ojala², J. Risteli³, M. Hämäläinen¹, P. Lehenkari¹

¹Department of Surgery, ²Department of Radiology, ³Department of Clinical Chemistry, University Hospital of Oulu, Oulu, Finland

P156 A MOUSE MODEL FOR CRANIOMETAPHYSEAL DYSPLASIA DEMONSTRATES OSTEOBLAST DYSREGULATION AS CAUSE OF HYPEROSTOSIS

J. Kuehnisch*¹, J. Loebner¹, M. Giehl², D. Epari³, H. Thiele⁴, D. Felsenberg², P. Nuernberg⁵, S. Mundlos¹, U. Kornak¹

¹Institute for Medical Genetics, ²Centre of Muscle and Bone Research, ³Center for Musculoskeletal Surgery, Charite, Berlin, ⁴Cologne Centre for Genomics, University of Cologne, Cologne, ⁵Cologne Centre for Genomics, University of Cologne, Berlin, Germany

P157 TREATMENT OF YOUNG MALE MONKEYS FOR 12 MONTHS WITH A HIGHLY POTENT INHIBITOR OF CATHEPSIN K INHIBITS BONE RESORPTION, AND INCREASES BONE MINERAL DENSITY AND STRENGTH

S. Kumar*¹, S. Rehm¹, R. Boyce¹, J. Birmingham¹, G. Stroup¹, C. Jerome², P. Wier¹

¹R and D, GlaxoSmithKline, Collegeville, ²R and D, MDS Pharma, Bothell, United States

P158 SB-462795 (RELACATIB), A CATHEPSIN INHIBITOR, PREVENTS THE LOSS OF BONE MASS AT SEVERAL SITES IN OVARIECTOMIZED CYNOMOLGUS MONKEYS

S. Kumar*¹, C. Jerome², G. Stroup¹

¹R and D, GlaxoSmithKline, Collegeville, ²R and D, MDS Pharma, Bothell, United States

P159 FIBROBLAST GROWTH FACTOR 8E INCREASES OSTEOCLASTOGENESIS IN VITRO

M. Mattila¹, **T. Laitala-Leinonen***¹, K. Buki¹, K. Väänänen¹, P. Härkönen¹

¹Dept. Anatomy, Inst. Biomedicine, Turku, Finland

P160 REFINEMENTS IN THE USE OF COLUMN CHROMATOGRAPHY TO EXPOSE DIFFERENCES IN RELATIVE BINDING AFFINITIES OF BISPHOSPHONATES TO HYDROXYAPATITE

M. A. Lawson*¹, Z. Xia¹, J. T. Triffitt¹, F. H. Ebetino², R. J. Phipps², R. G. G. Russell¹

¹Nuffield Department of Orthopaedic Surgery, University of Oxford, Oxford, United Kingdom, ²New Drug Development, Procter and Gamble Pharmaceuticals, Mason, OH, United States

P161 REGULATION OF BONE BALANCE - SEQUENTIAL MICRONUTRITION

M. Lugand- Bourgeois*¹

¹Research, Bioresearch and Partners, Monthey, Switzerland

P162 ADAMS IN THE FORMATION OF FOREIGN BODY GIANT CELLS AND OSTEOCLASTS

G. Ma*¹, M. Ainola², M. Liljestrom², M. Hukkanen², J. Salo³, Y. T. Kontinen⁴

¹Department of Medicine, Institute of Biomeidicine, ²Anatomy, Biomedicum, ³Orthopedics and Traumatology, Helsinki University Central Hospital, ⁴Department of Medicine, Biomedicum, Helsinki, Finland

P163 STATINS INCREASE OSTEOPROTEGERIN PRODUCTION AND APOPTOSIS IN OSTEOBLASTIC CELLS

H. Smith*¹, J. H. H. Williams², M. J. Marshall¹

¹Charles Salt Centre, RJA Orthopaedic Hospital, Oswestry, ²Chester Centre for Stress Research, Chester University, Chester, United Kingdom

P164 THE UNIQUE CIRCUMNUCLEAR ORGANIZATION OF MICROTUBULES, THE GOLGI COMPLEX, ER-EXIT SITES AND THE RECYCLING MACHINERY IN OSTEOCLASTS

M. T. K. Mulari*¹, H. K. Väänänen¹

¹Dept. of Anatomy, Inst. of Biomedicine, Univ. of Turku, Turku, Finland

P165 THE EFFECT OF DISSOCIATIVE GLUCOCORTICOID RECEPTOR LIGAND ON OSTEOCLAST DIFFERENTIATION AND BONE RESORPTION IN VITRO

K. A. Nelo*¹, J. M. Ilvesaro², H. A. Järveläinen³, J. K. K. Tuukkanen¹

¹Anatomy and Cell Biology, University of Oulu, Oulu, Finland, ²Hematology and Oncology, University of Alabama at Birmingham, Birmingham, United States, ³AstraZeneca R and D, Lund, Sweden

P166 RELEASE OF CALCIUM FROM THE INORGANIC PHASE OF BONE HAMPERS OSTEOCLAST SURVIVAL, AND AFFECTS THE COUPLING OF BONE FORMATION TO BONE RESORPTION

R. H. Nielsen*¹, K. Henriksen¹, M. G. Sorensen¹, J. Gram², S. Schaller¹, J. Bollerslev³, M. A. Karsdal¹

¹Research and Development, Pharmos Bioscience, Herlev, ²Department of Medicine, Ribe County Hospital, Esbjerg, Denmark, ³Section of Endocrinology, National University Hospital, Oslo, Norway

P167 ISOLATION AND COMPARISON OF THE VACUOLAR PROTON PUMP ISOFORM A3-CONTAINING COMPARTMENTS FROM HUMAN OSTEOCLASTS AND MACROPHAGES

J. K. E. Nyman*¹, K. Väänänen¹

¹Department of Anatomy, Institute of Biomedicine, Turku, Finland

P168 EFFECTS OF CALCITONIN ON THE EXPERIMENTAL OSTEOARTHRITIS DEVELOPMENT IN DOGS. MICROSCOPIC ANALYSIS OF THE TIBIAL SUBCHONDRAL BONE

A. Berners¹, D. H. Manicourt², J. Devogelaer², **C. Nyssen-Behets***¹

¹Experimental Morphology Unit, ²Rheumatology department, Université catholique de Louvain, Brussels, Belgium

P169 THE LENGTH OF PERIOD OF ACTIVE DISEASE AS PREDICTOR OF DECREASING BONE MINERAL DENSITY IN PATIENTS WITH INFLAMMATORY BOWEL DISEASES

Z. Crncevic. Orlic*¹, T. Turk¹, B. Sincic-Mijandrusic¹, D. Jurisic-Erzen¹, E. Fistic², D. Stimac¹
¹Department of internal medicine, ²Laboratory diagnostic department, Clinical hospital center Rijeka, Croatia, Rijeka, Croatia

P170 SERUM LEVELS OF RANKL DECREASE WITH AGE IN HEALTHY WOMEN AND MEN

P. Pietschmann*¹, J. Wendlova², S. Kudlacek³, A. Gleiss⁴, W. Woloszczuk⁵, K. Kersch-Schindl⁶
¹Department of Pathophysiology, Medical University of Vienna, Vienna, Austria, ²Division of Osteological Surgery, Derer's University Hospital and Polyclinic, Bratislava, Slovakia, ³Department of Internal Medicine, Krankenhaus der Barmherzigen Brüder, ⁴Core Unit for Medical Statistics and Informatics, Medical University of Vienna, ⁵Institute of Experimental Endocrinology, Ludwig Boltzmann Society, ⁶Department of Physical Medicine and Rehabilitation, Medical University of Vienna, Vienna, Austria

P171 CD44-hyaluronic acid engagement in osteoclast-like cultures

E. Pivetta*¹, P. Spessotto¹, M. Scapolan¹, C. Danussi¹, B. Wassermann¹, A. Colombatti¹
¹Experimental Oncology 2, Centro di Riferimento Oncologico, Aviano, Italy

P172 HIGH BONE REMODELLING ACCORDING TO VALUES OF C-TELOPEPTIDE IN PATIENTS WITH POSTMENOPAUSAL OSTEOPOROSIS

J. Ramos*¹, D. López¹, G. Velásquez¹, G. S. Riera-Espinoza¹
¹UNILIME UC, Hospital Universitario Angel Larralde. Universidad de Carabobo, Valencia, Venezuela

P173 OSTEOPROTEGERIN AND IBANDRONATE REDUCE TUMOUR BURDEN VIA EFFECTS ON APOPTOSIS AND PROLIFERATION IN A MURINE MODEL OF BREAST CANCER BONE METASTASIS

Y. Zheng¹, H. Zhou¹, **M. J. Seibel***¹, C. R. Dunstan¹
¹Bone Research Programme, Anzac Research Institute, Sydney, Australia

P174 EVIDENCE FOR THE INVOLVEMENT OF ERA AND ERB IN PERIOSTEAL APPosition AND UNCOUPLING OF ENDOCORTICAL RESORPTION AND PERIOSTEAL APPosition IN THE ABSENCE OF ERB

Y. H. Sniekers*¹, H. Weinans², J. H. Waarsing², A. G. H. Ederveen³, J. P. T. Van Leeuwen¹
¹Department of Internal Medicine, ²Department of Orthopaedics, Erasmus Medical Centre, Rotterdam, ³Pharmacology, N.V. Organon, Oss, Netherlands

P175 APOPTOSIS AND WNT SIGNALING DURING UNLOADED CONDITIONS IN HUMAN BONE CELLS

A. Sundaresan*¹, A. Dharmarajan², N. R. Pellis³
¹Biology, Texas Southern University, Houston, United States, ²Biology, University of Southwestern Australia, Perth, Australia, ³Space Life Sciences, NASA, Houston, United States

P176 A NOVEL METHOD FOR EFFICIENTLY TRANSFECTING HUMAN OSTEOCLASTS

A. Taylor*¹, M. J. Rogers¹, D. Tosh¹, F. P. Coxon¹
¹Bone Research Group, University of Aberdeen, Aberdeen, United Kingdom

P177 ACTIVE CROSSTALK BETWEEN OSTEOBLASTS AND OSTEOCLASTS IS DEPENDING ON DIFFERENTIATION STATUS

M. Van Driel*¹, M. Koedam¹, C. J. Buurman¹, H. Chiba², H. A. P. Pols¹, J. P. T. M. Van Leeuwen¹
¹Internal Medicine, Erasmus MC, Rotterdam, Netherlands, ²Pathology, University of Sapporo, Sapporo, Japan

P178 FIBROBLAST-LIKE CELLS IN INTERFACES OF ASEPTICALLY LOOSENED ENDOPROSTHESES EXPRESS MMP-13

S. Wagner*¹, H. Gollwitzer², D. Wernicke³, K. A. Siebenrock⁴, W. Hofstetter⁵

¹Department of Orthopaedic Surgery, Klinikum Grosshadern, Ludwig-Maximilians-Universität München, München, ²Department for Orthopaedic surgery, TU München, Munich, ³Max-Delbrück-Centrum, Max-Delbrück-Centrum, Berlin, Germany, ⁴Clinics of Orthopaedic Surgery, ⁵Group for Bone Biology, Department Clinical Research, University of Berne, Berne, Switzerland

P179 GLYCITEIN INHIBITS OSTEOCLAST GENERATION IN MURINE BONE MARROW CULTURES

M. Winzer*¹, M. Rauner², G. Hofbauer², K. Wahl¹, P. Pietschmann¹

¹Center of Physiology and Pathophysiology, Medical University of Vienna, ²Ludwig Boltzmann Institute of Aging Research, Ludwig Boltzmann Society, Vienna, Austria

P180 DIFFERENTIAL ADSORPTION CHARACTERISTICS OF RISEDRONATE DERIVATIVES ON CERAMIC HYDROXYAPATITE REVEALED BY COLUMN CHROMATOGRAPHY

Z. Xia*¹, M. A. Lawson¹, J. T. Triffitt¹, F. H. Ebetino², C. E. McKenna², M. Marma³, B. Kashimirov², R. G. G. Russell¹

¹Nuffield Department of Orthopaedic Surgery, University of Oxford, Oxford, United Kingdom, ²Procter and Gamble, Pharmaceuticals, Cincinnati OH, ³Department of Chemistry, University of Southern California, Los Angeles, CA, United States

P181 EPIDERMAL GROWTH FACTOR RECEPTOR SIGNALING IS INVOLVED IN OSTEOCLAST DIFFERENTIATION AND SURVIVAL

T. Yi*¹, H. Kim¹, K. Woo¹, G. Kim¹, J. Baek¹

¹Cell and Developmental Biology, Seoul National University, School of Dentistry, Seoul, South Korea

P182 OVERSUPPRESSION OF BONE TURNOVER BLUNTS RESPONSE OF BONE TO ENDOGENOUS PARATHYROID HORMONE

V. Zikan*¹, J. J. Stepan¹

¹Department of Internal Medicine 3, Faculty of Medicine I, Prague, Czech Republic