

The Association for Ocular
Pharmacology and Therapeutics



AOPT 2013 Scientific Meeting
Alicante, Spain | February 7-10, 2013

SCIENTIFIC PROGRAM

Friday, February 8, 2013

Session O1: Drugs and Ocular Blood Flow

Moderators: **Jeff Kiel**, University of Texas Health Science Center at San Antonio, USA
Malinda Fitzgerald, Christian Brothers University/UTCHS, USA

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| 8:15 | O1-01 | DOPPLER OCT FOR THE QUANTIFICATION OF RETINAL BLOOD FLOW IN HUMANS
Leopold Schmetterer, Medical University of Viena, Austria |
| 8:35 | O1-02 | OPTIC NERVE HEAD AUTOREGULATION
Doreen Schmidl, Medical University of Vienna, Department of Clinical Pharmacology, Austria |
| 8:55 | O1-03 | EFFECTS OF FLUPENTHIXOL ON OCULAR BLOOD FLOW AND INTRAOCULAR PRESSURE IN THE RABBIT.
Jeffrey Kiel, UTHSCSA, USA |
| 9:15 | O1-04 | THE ROLE OF SEROTONERGIC NEURONS OF THE PARAMEDIAN RAPHE IN REGULATING CHOROIDDAL BLOOD FLOW IN RATS
Malinda E.C. Fitzgerald, Christian Brothers University/ UTCHS, USA |
| 9:35 | O1-05 | EPISCLERAL VENOUS PRESSURE (EVP) AND INTRAOCULAR PRESSURE (IOP) RESPONSES TO CENTRAL ELECTRICAL STIMULATION IN THE RAT
Clemens Strohmaier, Ophthalmology/Paracelsus University, Austria |
| 9:55 | O1-C | Conclusions |

Session O2: New Strategies for Neuroprotection and Regeneration in Glaucoma

Moderators: **Neville Osborne**, Oxford University, UK and FIO Spain
Abbot Clark, University of North Texas Health Science Center, USA
Shahid Husain, Medical College of South Carolina, USA

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| 10:15 | O2-01 | OPTIC NERVE REGENERATION AND RETINAL GANGLION CELL PROTECTION IN ANIMAL MODELS OF TRAUMATIC NERVE INJURY AND GLAUCOMA
Larry Benowitz, Children's Hospital Boston/Harvard Medical School, USA |
| 10:55 | O2-02 | SIGMA-1 RECEPTOR-MEDIATED NEUROPROTECTION OF RGCS.
Thomas Yorio, UNT Health Science Center, North Texas Eye Research Institute, USA |
| 11:15 | O2-03 | HYDROGEN SULPHIDE: A POTENTIAL SUBSTANCE FOR THE TREATMENT OF GLAUCOMA
Neville N. Osborne, Fundación de Investigación Oftalmológica, Instituto Oftalmológico Fernández-Vega, Oviedo 33012, Spain and Nuffield Laboratory of Ophthalmology, Oxford University, Oxford, UK United Kingdom |
| 11:35 | O2-04 | DELTA OPIOID-RECEPTOR AGONISTS PROTECT RGCS AND OPTIC NERVE AXONS FROM GLAUCOMATOUS INJURY
Shahid Husain, Medical University of South Carolina, USA |
| 11:55 | O2-C | Conclusions |

Session O3: Eye development and myopia

Moderators: **Richard Stone**, Univ. Pennsylvania School of Medicine, USA
Christine Wildsoet, UC Berkeley School Optometry Center for Eye Disease & Development, USA

14:00	O3-01	MYOPIA- THE BIG ELEPHANT IN THE ROOM Jost Jonas, Ophthalmology Universitätsmedizin Mannheim, Germany
14:22	O3-02	THE CENTRAL ROLE OF THE RETINA IN EYE GROWTH AND REFRACTION Ian Flitcroft, Children's University Hospital, Dublin Ireland
14:44	O3-03	SCLERAL MICRO-RNA SIGNATURES IN ADULT AND FETAL EYES AND POSSIBLE ROLES IN OCULAR GROWTH REGULATION Ravikanth Metlapally, UC Berkeley, USA
15:06	O3-04	7-METHYLXANTHINE FOR PREVENTION OF EYE ELONGATION AND MYOPIA PROGRESSION IN MYOPIC CHILDREN Klaus Trier, Trier Research Laboratories, Denmark
15:28	O3-C	Panel

Session O4: Pharmacokinetics and sustained drug delivery

Moderators: **Uday Kompella**, University of Colorado Anschutz Medical Campus, USA
Rocio Herrero-Vanrell, Universidad Complutense de Madrid, Spain

16:00	O4-01	CONTROLLED DRUG DELIVERY TO THE BACK OF THE EYE BY NONINVASIVE METHODS Ashim Mitra, University of Missouri-Kansas City, USA
16:18	O4-02	ROLE OF DENDRIMER-DRUG CONJUGATES IN SUSTAINED INTRA-OCULAR DRUG DELIVERY Raymond Iezzi, Ophthalmology, Mayo Clinic, USA
16:36	O4-03	NEW APPROACHES IN OCULAR HYPOTENSIVE TOPICAL TREATMENTS BASED ON BIOADHESIVE POLYMERS. Vanessa Andrés-Guerrero, Complutense University of Madrid, Spain
16:54	O4-04	NANOTECHNOLOGY FOR DRUG AND GENE DELIVERY Uday Kompella, University of Colorado Anschutz Medical Campus, USA
17:14	O4-05	MICROSPHERES FOR THE TREATMENT OF CHRONIC DISEASES AFFECTING THE BACK OF THE EYE Rocio Herrero-Vanrell, Complutense University of Madrid, Spain
17:32	O4-C	Panel

Poster Session 1- P1

17:45-19:00

Moderators: **Adolfo Aracil**, Universidad Miguel Hernández-CSIC
Illés Kovács, Semmelweis University, Hungary

- P1-01 TREATMENT OF NEUROTROPHIC KERATOPATHY WITH NICERGOLINE
So-Yoon Kim, Department of Ophthalmology and Visual science Uijeong, Republic of Korea
- P1-02 EFFECTS OF IL-6 AND IL-10 ON AN IN VITRO MODEL OF CORNEAL WOUND HEALING
Isabel Arranz-Valsero, IOBA-University of Valladolid, Spain
- P1-03 CARBON MONOXIDE ACCELERATES WOUND HEALING AFTER CORNEAL EPITHELIAL INJURY
Giuseppina Marrazzo, University of Catania, Italy
- P1-04 CORNEAL INNERVATION AND EPITHELIAL WOUND HEALING IN SP AND ALPHA-CGRP KNOCKOUT MICE
Kamila Mizerska, Universidad Miguel Hernández-CSIC, Spain
- P1-05 TEAR SECRETION INDUCED BY CARBACHOL IS MEDIATED BY Ap4A RELEASE
Begoña Fonseca Vazquez, Universidad Complutense de Madrid, Spain
- P1-06 SYL1001: A NEW TREATMENT FOR OCULAR PAIN ASSOCIATED TO DRY EYE SYNDROME BASED ON RNAi TECHNOLOGY: SAFETY AND TOLERANCE.
Tamara Martinez, Sylentis, Spain
- P1-07 LONG-TERM EYE DRYNESS ENHANCEMENT OF CORNEAL COLD-THERMORECEPTIVE NERVE TERMINALS FIRING IS ASSOCIATED TO CHANGES ON VOLTAGE-GATED Na⁺ CURRENTS
Xavier Gasull, Universitat de Barcelona-IDIBAPS, Spain
- P1-08 CORNEAL COLD NERVE ACTIVITY IN DRY EYE IS MODULATED BY CYCLOSPORINE A.
Carolina Luna, Universidad Miguel Hernández-CSIC, Spain
- P1-09 SODIUM CHANNEL BLOCKERS MODULATE CORNEAL SENSORY NERVES ACTIVITY IN INTACT AND INJURED CORNEAS.
Susana Quirce, Universidad Miguel Hernández-CSIC, Spain
- P1-10 CHANGES IN SENSORY NERVE ACTIVITY OF THE OCULAR SURFACE UNDER ALLERGIC CONJUNCTIVITIS ARE MEDIATED IN PART BY TRPA1 CHANNEL
M. Carmen Acosta, Universidad Miguel Hernández-CSIC, Spain
- P1-11 ATOPIC DERMATITIS IS A RISK FACTOR FOR INTRACORNEAL RING SEGMENT EXTRUSION
Waldir Neira, University of Helsinki, Finland
- P1-12 Ap4A INCREASES CORNEAL EPITHELIAL PERMEABILITY
Ana Guzman-Aranguez, UCM, Spain
- P1-13 EFFECT OF CYCLODEXTRIN ON THE PENETRATION OF DICLOPHENAC SODIUM THROUGH HUMAN AMNIOTIC MEMBRANE
Laszlo Marsovszky, Semmelweis University, Hungary
- P1-14 POLYVINYL CAPROLACTAM-POLYVINYL ACETATE-POLYETHYLENE GLYCOL GRAFT COPOLYMER NANOMICELLE AS A POTENTIAL OCULAR DRUG DELIVERY SYSTEM FOR CYCLOSPORINE A
Haoran Jiang, Shandong Eye Institute, China
- P1-15 LIPOSOMAL FORMULATIONS CONTAINING VITAMIN C FOR DRY EYE TREATMENT. PRELIMINARY STUDIES.
María Angela Caballo González, Complutense University of Madrid, Spain
- P1-16 LACOSAMIDE DECREASES THE HYPEREXCITABILITY OF CORNEAL COLD THERMOSENSITIVE NERVE TERMINALS IN EXPERIMENTAL DRY EYE
Illés Kovács, Semmelweis University, Hungary

Saturday, February 9, 2013

Session O5: Novel drugs and devices for IOP lowering

Moderators: **Carol Toris**, University of Nebraska Medical Center, USA
Xavier Gasull, Universitat de Barcelona-IDIBAPS, Spain

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| 8:15 | O5-01 | MICROIMPLANTS IN GLAUCOMA SURGERY - THE AQUESYS SHUNT
Herbert Reitsamer, SALK/PMU, Austria |
| 8:35 | O5-02 | EFFECTS OF INVESTIGATIONAL COMPOUNDS ON INTRAOCULAR PRESSURE & MECHANISM OF IOP REDUCTION IN MONKEY EYES
Janet Serle, Mount Sinai Medical Center, USA |
| 8:55 | O5-03 | QUANTITATIVE DIFFERENCES AMONG NOVEL GLAUCOMA DEVICES IN A HUMAN PERFUSION MODEL
Carol Toris, University of Nebraska Medical Center, USA |
| 9:15 | O5-04 | MELATONIN AND ITS ANALOGUE 5-MCA-NAT POTENTIATE THE OCULAR HYPOTENSIVE EFFECT MEDIATED BY ADRENERGIC RECEPTORS: SIGNIFICANCE FOR GLAUCOMA TREATMENT
Fernando Huete-Toral, Universidad Complutense de Madrid, Spain |
| 9:35 | O5-05 | UNIQUE RESPONSE PROFILE OF TM CELLS TO THE NOVEL SEGRA, GW870086X
Dan Stamer, Duke University, USA |
| 9:55 | O5-C | Conclusions |

Session O6: Imaging and therapy monitoring

Moderators: **Neil Lagali**, Linköping University, Sweden
Thomas Fuchsluger, Düsseldorf University Eye Hospital, Germany

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| 10:15 | O6-01 | IMAGING THE INTEGRATION OF BIOENGINEERED STROMAL IMPLANTS IN A NEW SURGICAL MODEL
Neil Lagali, Linköping University, Sweden |
| 10:35 | O6-02 | HIGH-RISK KERATOPLASTY-WHY DO WE NEED SYSTEMIC IMMUNOSUPPRESSION?
Thomas A. Fuchsluger, Düsseldorf University Eye Hospital, Germany |
| 10:55 | O6-03 | FLUORESCENCE MULTI-LASER SCANNING MICROSCOPY OF THE CORNEA AND OCULAR ADNEXA: A NEW ERA FOR FUNCTIONAL CONFOCAL MICROSCOPY IN OPHTHALMOLOGY
Gilles Thuret, Jean Monnet University, France |
| 11:15 | O6-04 | CORRELATION BETWEEN OPTICAL COHERENCE TOMOGRAPHY AND RETINAL FOVEAL MORPHOLOGY
Nicolás Cuenca, Universidad de Alicante, Spain |
| 11:35 | O6-05 | γ -CYCLODEXTRIN NANOPARTICLE EYE DROPS FOR OCULAR DRUG DELIVERY
Einar Stefansson, University of Iceland National Hospital, Iceland |
| 11:55 | O6-C | Conclusions |

Session **O7: New treatments for retinal disease**

Moderators: **Olaf Strauss**, Charite University Medicine Berlin, Germany
Achim Krauss, GlaxoSmithKline, USA

14:00	O7-01	ANTI VEGF THERAPY - CURRENT CONCEPTS, UNRESOLVED QUESTIONS AND FUTURE DIRECTIONS Leopold Schmetterer, Medical University of Vienna, Austria
14:25	O7-02	TOPICAL PAZOPANIB EFFECT ON VEGF-INDUCED RETINAL VASCULAR LEAKAGE AND NEOVASCULARIZATION Achim Krauss, GlaxoSmithKline, USA
14:40	O7-03	DEVELOPMENT OF ANTISENSE OLIGONUCLEOTIDES FOR OCULAR DISEASE – EMPHASIS ON PRECLINICAL OCULAR PK, SAFETY AND PHARMACOLOGY AND CLINICAL TRANSLATION Husam Younis, ISIS Pharmaceuticals, USA
15:00	O7-04	NANOTECHNOLOGY-GUIDED TARGETED THERAPY FOR RETINAL VASCULAR DISEASES Ashwath Jayagopal, Vanderbilt Eye Institute, USA
15:20	O7-05	THE LOCAL RENIN-ANGIOTENSIN-SYSTEM UNDER SYSTEMIC INFLUENCE: NEW TARGETS FOR THERAPY Olaf Strauß, Charite University Medicine Berlin, Germany
15:40	O7-06	NEUROPROTECTION OF RETINAL PHOTORECEPTORS BY NORGESTREL, A SYNTHETIC PROGESTIN Francesca Doonan, University College Cork, Ireland
16:00	O7-C	Conclusions

Session **O8: Clinic meets research: aspects of translational sciences**

Moderators: **Oliver Zeitz**, Bayer HealthCare, Germany
Jesús J. Pintor, Universidad Complutense de Madrid, Spain

16:30	O8-01	CLINICIAN'S PERSPECTIVE: INTERPRETATION OF CLINICAL TRIALS AND IMPACT ON DAILY DECISION MAKING Lars Wagenfeld, University Medical Center Hamburg-Eppendorf, Germany
16:52	O8-02	DEVELOPMENT OF SYL040012, FROM PROOF OF CONCEPT TO PHASE II Covadonga Pañeda, Sylentis, Spain
17:14	O8-03	ENDPOINTS IN CLINICAL DEVELOPMENT FOR RETINAL DISEASE Oliver Zeitz, Bayer HealthCare Global Clinical Development, Germany
17:36	O8-C	Panel

Poster Session 2- P2

17:45-19:00

Moderators: **Laura Fernández-Sánchez**, Universidad de Alicante, Spain
Xavier Gasull, Universitat de Barcelona-IDIBAPS, Spain

- P2-01 INTRAVENOUS LIPOPOLYSACCHARIDE (LPS)-INDUCED BLOOD AQUEOUS BARRIER PERMEABILITY CHANGE ASSESSED BY FLUOROPHOMETRY IN RABBITS
Tim Lam, Covance, USA
- P2-02 MELATONIN ANALOGUE AGOMELATINE REDUCES INTRAOCULAR PRESSURE IN RABBIT WITH NORMOTENSIVE AND HYPERTENSIVE CONDITIONS
Alejandro Martínez Águila, UCM, Spain
- P2-03 DEVELOPMENT OF SYL040012, A siRNA FOR TREATING INCREASED INTRAOCULAR PRESSURE ASSOCIATED TO GLAUCOMA
Covadonga Pañeda, Sylentis, Spain
- P2-04 TRAFFICKING OF AQUAPORIN-1 MEDIATED BY Ap4A IN RABBIT NON PIGMENTED CILIARY EPITHELIAL CELLS: INVOLVEMENT OF P2Y2 RECEPTOR IN IOP RAISE
Alba Martin-Gil, UCM, Spain
- P2-05 INTRACELLULAR ELECTRICAL PROPERTIES AND CHLORIDE TRANSPORT CHARACTERISTICS OF PORCINE CILIARY EPITHELIAL CELLS
Chi-Ho To, Hong Kong Polytechnic University, Hong Kong
- P2-06 RETINAL P2X7 RECEPTORS IN A MURINE MODEL OF GLAUCOMA
Maria J. Pérez de Lara, Universidad Complutense de Madrid, Spain
- P2-07 UNDERCORRECTION OF REFRACTIVE ERROR AND COGNITIVE FUNCTION
Jost Jonas, Medical Faculty Mannheim of the Ruprecht-Karls-University, Germany
- P2-08 INTRAVITREAL BEVAZICUMAB FOR RETINOPATHY OF PREMATURITY: REFRACTIVE ERROR RESULTS
Jost Jonas, Universitätsmedizin Mannheim Medical Faculty, Germany
- P2-09 NEUROPROTECTIVE EFFECT OF TUDCA ON GLIAL CELLS IN RETINAL DEGENERATION.
Laura Fernández-Sánchez, University of Alicante, Spain
- P2-10 SAFRANAL, A CONSTITUENT OF CROCUS SATIVUS (SAFFRON), SLOWS RETINAL DEGENERATION AND VISION LOSS
Laura Fernández-Sánchez, University of Alicante, Spain
- P2-11 ADDITIONAL NEUROPROTECTIVE EFFECTS OF NORGESTREL IN RETINITIS PIGMENTOSA: PRESERVATION OF RETINAL CYTOARCHITECTURE AND SYNAPTIC CONNECTIVITY
Violeta Gomez-Vicente, Universidad de Alicante, Spain
- P2-12 A PROOF-OF-PRINCIPLE OF THE NEUROPROTECTIVE ROLE OF TUDCA ON RETINAL GANGLION CELLS
Violeta Gomez-Vicente, Universidad de Alicante, Spain
- P2-13 TOLERANCE OF SUB-TENON INJECTION OF PLGA NANOPARTICLES AND MICROPARTICLES
Irene Bravo-Osuna, University Complutense of Madrid, Spain
- P2-14 FREEZE-DRYING MATRICES AS PROLONGED RELEASE SYSTEM FOR INTRAVITREAL ADMINISTRATION OF BEVACIZUMAB
Susi Burgalassi, University of Pisa, Italy
- P2-15 MU-PH1, A NEW MURINE MÜLLER-DERIVED RETINAL CELL LINE WITH PHOTORECEPTOR PROPERTIES
Violeta Gómez-Vicente, Universidad de Alicante, Spain
- P2-16 LONG-TERM RESULTS OF THE TREATMENT WITH BEVACIZUMAB IN JUXTAPAPILLARY RETINAL CAPILLARY HEMANGIOMA
Cristina Marin-Lambies, Hospital Universitario y Politecnico La Fe Valencia, Spain

Sunday, February 10, 2013

Session O9: From Biomarkers to Therapies for Regeneration

Moderators: **Nicolás Cuenca**, Universidad de Alicante, Spain
Juana Gallar, Universidad Miguel Hernández-CSIC, Spain

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| 8:15 | O9-01 | IMMUNOLOGICAL ALTERATIONS IN A GLAUCOMA MODEL
Stephanie Joachim, Ruhr University, Germany |
| 8:32 | O9-02 | PATIENTS WITH RETINITIS PIGMENTOSA PRESENT OCULAR AND BLOOD OXIDATIVE STRESS
Regina Rodrigo Nicolás, Instituto de Investigación Sanitaria-La Fe, Spain |
| 8:49 | O9-03 | ALPHA CRYSTALLIN-MEDIATED PROTECTION AGAINST HEAT- AND OXIDATIVE STRESS-INDUCED CELL DEATH
Mark Petrash, University of Colorado, USA |
| 9:06 | O9-04 | NEW PHARMACOLOGICAL CLASSES OF RBP4 ANTAGONISTS FOR INHIBITION OF PATHOGENIC BISRETINOID ACCUMULATION IN THE RETINA
Konstantin Petrukhin, Columbia University, USA |
| 9:23 | O9-05 | STEM CELL-BASED APPROACHES TO THE TREATMENT OF RETINAL DEGENERATIVE DISEASE
Isabel Pinilla, Hospital Clinico Universitario Lozano Blesa, Spain |
| 9:40 | O9-C | Conclusions |

Session O10: New ophthalmic uses for existing drugs

Moderators: **Peter Kador**, Univ. Nebraska Medical Center, USA
Illés Kovács, Semmelweis University, Hungary

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| 9:45 | O10-01 | THIOREDOXIN ACTIVITY AND TBP2 EXPRESSION IN DIABETIC LENSES ARE LINKED TO ALDOSE REDUCTASE ACTIVITY.
Marjorie Lou, University of Nebraska at Lincoln, USA |
| 10:02 | O10-02 | TOPICAL ALDOSE REDUCTASE INHIBITOR KINOSTAT PREVENTS THE CLINICAL DEVELOPMENT OF CATARACT IN DIABETIC DOGS – AN UPDATE
Milton Wyman, Therapeutic Vision, Inc., USA |
| 10:19 | O10-03 | TRANSGENIC AK-SMAA-GFPHAR MICE SUPPORT THE PREMISE THAT ALDOSE REDUCTASE INITIATES DIABETIC RETINOPATHY
Peter Kador, University of Nebraska Medical Center, USA |
| 10:36 | O10-04 | EFFECT OF STATINS ON VISUAL OUTCOMES IN PRIMARY RHEGMATOGENOUS RETINAL DETACHMENTS
Hubert Pham, Georgetown University Hospital/Washington Hospital Center, USA |
| 10:53 | O10-05 | PROBABLE LACK OF CORRELATION BETWEEN INHIBITION OF PGE2 LEVELS AND BLOOD AQUEOUS BARRIER INHIBITION IN A RABBIT MODEL OF OCULAR INFLAMMATION.
L David Waterbury, Raven Biosolutions LLC, USA |
| 11:10 | O10-C | Conclusions |

Session **O11: Corneal and ocular surface pharmacology and therapeutics**

Moderators: **Maria del Carmen Acosta**, Universidad Miguel Hernandez-CSIC, Spain
Yolanda Diebold, Universidad de Valladolid, Spain

11:45	O11-01	NOVEL FORMULATION FOR DRY EYE TREATMENT BASED ON LIPOSOMES AND BIOADHESIVE POLYMERS Marta Vicario-De-La-Torre, Complutense University of Madrid, Spain
12:02	O11-02	GENE THERAPY APPROACHES TO THE CORNEAL ENDOTHELIUM Thomas Fuchsluger, Düsseldorf University Eye Hospital, Germany
12:19	O11-03	CORNEA TISSUE ENGINEERING BASED ON NANOSTRUCTURED SCAFFOLDS AND ACELLULAR XENOGRAFTS Miguel Gonzalez-Andrades, University of Granada, Spain
12:36	O11-04	ALTERED FUNCTION OF CORNEAL NERVES IN OCULAR SURFACE PATHOLOGIES Carlos Belmonte, Universidad Miguel Hernandez-CSIC, Spain
12:53	O11-C	Conclusions