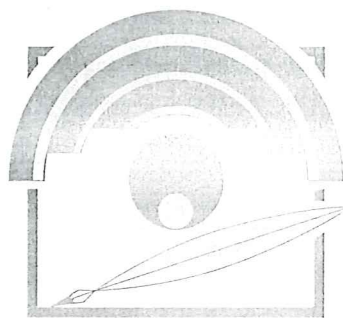




# JERMOV

JOINT EUROPEAN RESEARCH MEETINGS  
IN OPHTHALMOLOGY AND VISION



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**MONTPELLIER - FRANCE**

**October - 15/19 - 1994**

p225 FGF-Saporin for prevention of lens regeneration : *in vivo* experiments on the rabbit

Cohen F.<sup>1,2</sup>, David T.<sup>1</sup>, Pouliquen Y.<sup>1</sup>, Buechler Y.<sup>3</sup>, Mc Donald J.<sup>3</sup>, Nova M.<sup>3</sup> and Courtois Y.<sup>2</sup>

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**Purpose :** To investigate the ability of FGF-saporin (FGF-SAP) to prevent lens regeneration.

**Methods :** Both chemically conjugated and genetically fused FGF-SAP (made in *E. Coli*) were used. Extracapsular extraction of the lens was performed on rabbits and FGF-SAP administered by direct injection into the capsular bag or by implantation of FGF-SAP treated heparinated IOLs. Evaluation of capsular clouding was made by regular slit lamp examination and by post mortem retro illumination of *in situ* pictures of the capsular bag.

We also determined the amount of crystallin proteins synthesized de novo by extracting the proteins from the capsular bag. To determine where FGF-SAP was deposited, immunolocalization of FGF-SAP was performed 1, 5 and 15 days post surgery. The entire globes were prepared for histological examination.

**Results :** Direct injection of FGF-SAP inhibited significantly the regeneration of the lens, but induced transient corneal edema and iris loss of pigments. When FGF-SAP was bound to heparinated IOLs, as observed three months after surgery, it strongly reduced the synthesis of crystallin proteins without side effects. After implantation, FGF-SAP was shown to have bound to the capsules and, to a lesser extent, to the iris. No gross histological damage was found on any tissue as a result of implantation of the drugloaded heparin coated IOL.

**Conclusion :** Our study demonstrated that chemically conjugated and genetically fused FGF-SAP bound to heparin coated IOLs can prevent lens regeneration in the rabbit.

P226 Objective assessment of cataract using digital colour codification

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<sup>2</sup>Instituto de Robótica, Universidad de Valencia (Spain)

**Purpose :** Since the simple viewing of cataracts on the slit-lamp is subjected to observer's bias, we aimed to improve the accuracy of objective assessment of lens opacities.

**Methods :** To enhance contrast and definition of the shape and density of photographed developmental cataracts, we performed statistical analysis of the image captured in grey scale and spread the histogram of intensities to the full range of intensity levels. Then, we assigned different colours to the different intensities which outline the distribution of lens opacities over the midriatic pupil.

**Results :** Thereby, we produced a mean enhancement of the grey scale intensity level of 68/256 (26.5 %), and obtained colour-coded images of the lens opacities.

**Conclusions :** This method appears to be useful for objective evaluation of cataracts.



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# A BSTRACT FORM

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October 15-19, 1994

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DEADLINE : May 1, 1994

## 1 ♦ AUTHORS

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## 3 ♦ ABSTRACT (Photocopies are accepted)

TITLE: OBJECTIVE ASSESSMENT OF CATARACT USING DIGITAL COLOUR CODIFICATION.

MALDONADO M.J.<sup>1</sup>, CORTINA P.<sup>1</sup>, ARNAU V.<sup>2</sup> and MENEZO J.L.<sup>1</sup>

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Conclusions This method appears to be useful for objective evaluation of cataracts.



#### 4 ♦ PRESENTATION PREFERENCE

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#### 5 ♦ AUDIO-VISUAL REQUIREMENTS

Slide Projection      Single ☐      Double ☐

Video : please specify system \_\_\_\_\_

Other \_\_\_\_\_

#### 6 ♦ KEY WORDS

CATARACT, COLOUR CODIFICATION, IMAGE ANALYSIS, DIGITAL STANDARIZATION

LENS OPACIFICATION

#### Membership affiliation code :

- 00 Non-member
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- E Immunology / Microbiology, including Inflammation + Uveal Tract
- F Cell Biology / Extracellular Matrix, including Developmental Biology.
- G Cornea / Ocular Surface, including Lacryal System
- H Clinical Sciences / Epidemiology, including Glaucoma, Instrumentation + Biomaterials
- I Retina and Vitreous
- x J Lens and Cataract

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