

2009 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): CO

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

- Paper
- Poster
- FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee'



Scientific Section Descriptions (two-letter code):

- (BE) OCULAR BIOENGINEERING
- (CO) CORNEA AND EXTERNAL DISEASE
- (CA) CATARACT
- (EF) ELECTROPHYSIOLOGY
- (EP) EPIDEMIOLOGY
- (EX) EXPERIMENTAL SURGERY
- (GL) GLAUCOMA
- (LA) LABORATORY
- (LS) LACRIMAL SYSTEM
- (LV) LOW VISION
- (NO) NEURO-OPHTHALMOLOGY
- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
- (PH) PHARMACOLOGY
- (RE) RETINA AND VITREOUS
- (RS) REFRACTIVE SURGERY
- (RX) REFRACTION-CONTACT LENSES
- (ST) STRABISMUS
- (TR) TRAUMA
- (TU) TUMORS AND PATHOLOGY
- (UV) UVEITIS
- (US) OCULAR ULTRASOUND

Deadline: Oct 12, 2009

FORMAT:
Abstract should contain:

- Title**
- Author, Co-authors (maximum 6),**
- Purpose, Methods, Results,**
- Conclusion.**

Poster guidelines:
ARVO Abstract Book (1.10 x 1.70m)

19. FIRST (PRESENTING) AUTHOR (REQUIRED):

Must be the author listed first in abstract body.

- () R1 () R2 () R3 () PIBIC
- (X) PG0 () PG1 () Fellow () Technician

Last Name:Grottone
First Name: Gustavo
Middle:Teixeira

Service (Sector):CASO LAB

CEP Number:275/08

5. ABSTRACT (REQUIRED):

Title:"Magnetic targeting of human cornea endothelial cells"
Authors:Grottone, GT; Cristovam, P;Sogayar, MC; Gomes, JAP.

Purpose:Create a method of targeting human endothelial cells by magnetic attraction after exposure to a coated paramagnetic nanoparticle.

Methods:Four samples of corneas were used in this experiment. Those corneas had their Descemet/Endothelium complex carefully acquired at a dissection microscope. After enzymatic cleavage of this tissue round clumps of cells were seeded at gelatin 0,5% coated dishes and kept for 3 weeks in culture. After the total meltdown of those round clumps of cells, the human corneal endothelial cells two of those samples were exposed to silicon coated ferumoxide for 2 days. After internalization of those nanoparticles the cells were digested again and tested in magnetic field to evaluate their compliance in targeting the tested(magnetized) area at the culture dishes.

Results: Cell cultures which received ferumoxide nanoparticles were able to be attracted by a magnetic field to the targeted areas. Those without the ferumoxide treatment were not able to spread only at the magnetic site.

Conclusion: Silicon-coated ferumoxide seems to provide a new approach in cell therapy. Specific targeting of injected cells may be achieved by this new technique.

Keywords: Cornea Graft, Cell Therapy, Magnetic Field, Nanoparticles.