昭衍 JOINN

Biomere
a JOINN company

YOUR GLOBAL PRECLINICAL CRO
MASSACHUSETTS • CALIFORNIA • CHINA

biomere.com

OCULAR CAPABILITIES

Our global team of industry-leading scientists employ a variety of state-of-the-art techniques and imaging modalities to investigate the pharmacodynamics (PD), pharmacokinetics (PK) and safety of novel compounds targeted to treat ocular diseases.

Corneal neovascularization, choroidal neovascularization, cataract, glaucoma, and dry eye models are currently available from JOINN (China). Biomere (USA) has a variety of ocular models under development and has interest in collaborative model development on new and unique ocular models. Our combined preclinical and clinical research experience distinctively positions us to support our clients' nonclinical ophthalmic needs.

COMPREHENSIVE DOSING TECHNIQUES	SPECIES
Topical eye	Mouse, rat, rabbit, NHP
Intravitreal injection	Mouse, rat, rabbit, NHP
Subretinal injection	Mouse, rat, rabbit, NHP
Subconjunctival injection	Mouse, rat, rabbit, NHP
Intracameral injection	Mouse, rat, rabbit, NHP
Suprachoroidal	Rabbit, NHP
Systemic delivery including oral, subcutaneous, intraperitoneal, intrathecal, intratracheal, and intravenous	Mouse, rat, rabbit, NHP

**Ocular models (such as corneal neovascularization, choroidal neovascularization, cataract, glaucoma, and dry eye) currently available with our partner, JOINN, in China.

GLOBAL PORTFOLIO OF CRO RESOURCES SUPPORTING THE DEVELOPMENT OF OPHTHALMIC DRUGS & DEVICES

(CH=CHINA)

- Early discovery through phase I clinical studies
- GLP (CH)
- Efficacy and proof of concept studies
- Tolerance and safety studies
- Pharmacokinetics studies
- Genetic animal models
- Comprehensive dosing techniques
- State-of-the-art ocular technology
- Specialized surgical procedures
- Tissue collection and analysis
- Histology and pathology (CH)

OCULAR MODELS

- Dry Eye (CH)
- Allergic Conjunctivitis (MA, CH)
- Corneal Neovascularization (CH)
- Corneal Degeneration (CH)
- Corneal Wound (MA, CH)
- Cataract (CH)
- Rodent Laser CNV (MA, CH)
- Uveitis (MA, CH)
- Acute & Chronic Glaucoma (MA, CH)
- Retinal Optic Nerve Damage (CH)
- Retinal Neovasularization (MA, CH)
- Retinopathy of Prematurity (CH)
- Sodium Iodate (MA, CH)
- Diabetic Retinopathy (CH)
- Wet & Dry AMD (MA, CA)

昭衍 JOINN

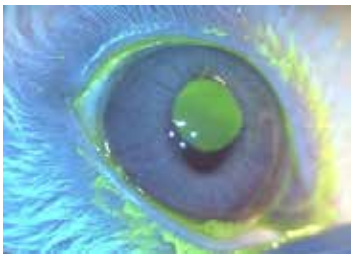
Biomere
a JOINN company

YOUR GLOBAL PRECLINICAL CRO
MASSACHUSETTS • CALIFORNIA • CHINA

biomere.com

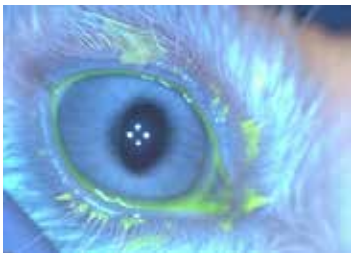
CORNEAL WOUND MODEL

Day 0 (6mm corneal wound)



Day 2 (Wound decreasing in size with Recombinant Human Epidermal Growth Factor drops

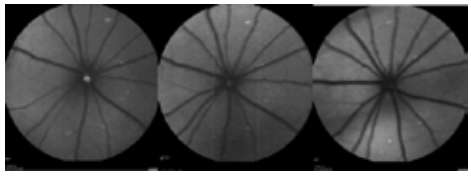
Day 4 (Wound is completely healed)



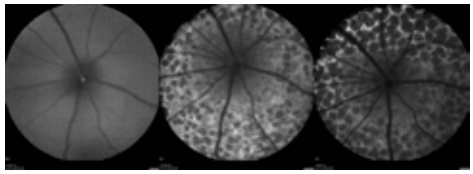
RODENT SODIUM IODATE

Fundus Autofluorescence

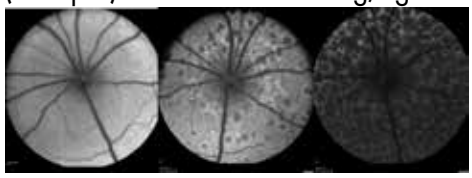
(Group 1) Vehicle



(Group 2) Sodium Iodate 40 mg/kg

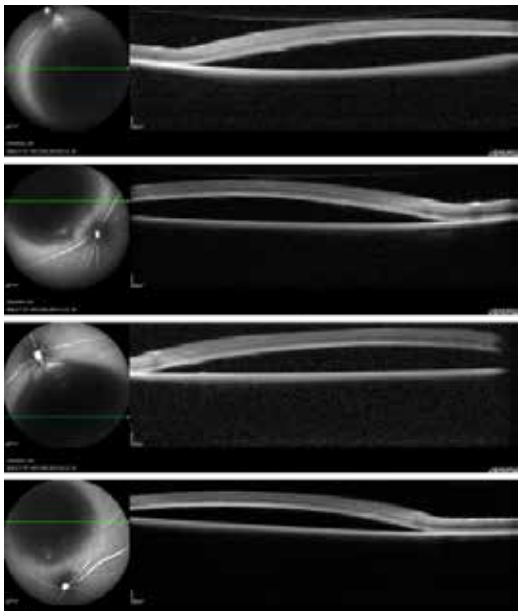


(Group 3) Sodium Iodate 60 mg/kg



MOUSE SUBRETINAL INJECTIONS

OCT Images acquired immediately follow 1 µL SR dose)

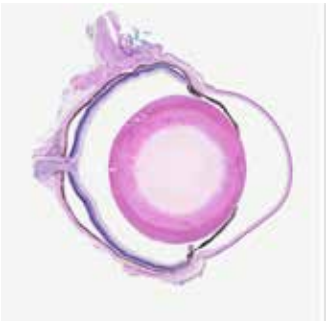


RODENT LASER CNV

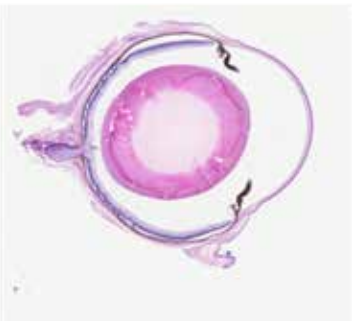
Day 0 (Laser settings: 280mW, 100ms)

Day 14 (Fluorescein Angiography, 102 lens) 100ms)

HISTOLOGY SLIDES



Vehicle Eye (No Retinal Pigment Epithelium cell loss)



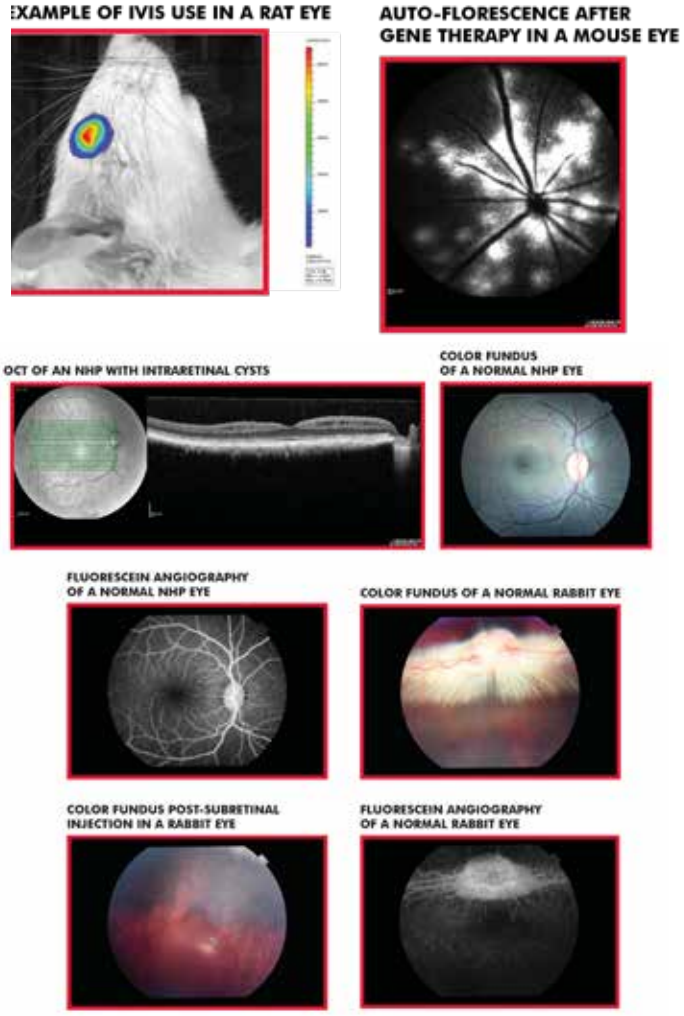
Sodium Iodate Eye (Retinal Pigment Epithelium cell loss)

昭衍 JOINN

Biomere
a JOINN company

YOUR GLOBAL PRECLINICAL CRO
MASSACHUSETTS • CALIFORNIA • CHINA

biomere.com



JOINN's ophthalmology laboratory was established in 2012, in Suzhou. GLP compliant study services are championed by a scientific research team of 35+ professionals. This team is responsible for more than 500 service contracts assisting clients to complete 30 domestic and global IND submissions.

- AAALAC Accredited
- US FDA GLP Inspected
- NMPA GLP Certified
- OECD GLP Certified
- PMDA GLP Inspected
- MFDS GLP Inspected
- CNAS/ILAC-MRA Certified

ASSESSMENT	SPECIES	EQUIPMENT
Slit-lamp/anterior segment	Mouse, rat, rabbit, NHP	Kowa handheld sli-lamp, Topcon slit-lamp, leica surgical scope
Indirect ophthalmosocope/fundus	Mouse, rat, rabbit, NHP	Keeler indirect, Phoenix Micron X2
Optical coherence tomography	Mouse, rat, rabbit, NHP	Heidelberg Spectralis OCT +HRA
Color Fundus	Mouse, rat, rabbit, NHP	Phoenix Micron XL and Micron IV
Electroretinogram (ERG)	Mouse, rat, rabbit, NHP	Celeris (mouse & rat), Diagnosys Epsion (NHP & rabbit)
Intra ocular pressure (IOP)	Rabbit, NHP*	Tonover
Gene expression	Mouse and rat, (rabbit and NHP *ex vivo*)	IVIS Spectrum

**Mouse and rat coming soon*