

## Retina

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The retina is a thin layer of neural cells that lines the back of the eyeball of vertebrates and some cephalopods. It is comparable to the film in a camera. In vertebrate embryonic development, the retina and the optic nerve originate as outgrowths of the developing brain. Hence, the retina is part of the central nervous system. It is the only part of the CNS that can be imaged directly. The vertebrate retina contains photoreceptor cells that respond to light; the resulting neural signals then undergo complex processing by other neurons of the retina. The retinal output takes the form of action potentials in retinal ganglion cells whose axons form the optic nerve. Several important features of visual perception can be traced to the retinal encoding and processing of light. A third category of photosensitive cells in the retina is not involved in vision. A small proportion of the ganglion cells, about 2% in humans, contain the pigment melanopsin and respond primarily to blue light, about 470 nm. The signals from these cells do not go through the optic nerve, and thus can function in many totally blind individuals. The information about light goes through the retinohypothalamic tract directly to the SCN and are necessary for the organism's adjustment of its circadian rhythms. The unique structure of the blood vessels in the retina has been used for biometric identification. ([From the Wikipedia article Retina](#).)

### Recent Publications on Retina:



- [Influence of Lipophilicity on Drug Partitioning into Sclera, Choroid-RPE, Retina, Trabecular Meshwork, and Optic Nerve.](#)  
*In vitro bovine eye tissue:phosphate buffered saline (PBS; pH 7.4)...*21st November, 2009  
University of Colorado Denver.- J Pharmacol Exp Ther. 2009 Nov 19. ([DOI Direct Link](#))
- [Basic technique and anatomically imposed limitations of confocal scanning laser Doppler flowmetry at the optic nerve head level.](#)  
*Many studies have suggested an association between blood flow...*21st November, 2009  
Bascom Palmer Eye Institute, University of Miami Miller School of- Acta Ophthalmol. 2009 Nov 19. ([DOI Direct Link](#))
- [Cyclooxygenase-2 expression in the normal human eye and its expression pattern in selected eye tumours.](#)  
*Purpose: Cyclooxygenase-2 (COX-2) is an enzyme involved in neoplastic...*21st November, 2009  
Institute of Neuroscience and Pharmacology, Eye Pathology Section,- Acta Ophthalmol. 2009 Nov 19. ([DOI Direct Link](#))
- [Current Molecular Understanding and Future Treatment Strategies for Pathologic Ocular Neovascularization.](#)  
*The leading cause of blindness in the developed world results from several...*21st November, 2009  
Center for Retina and Macular Disease, 250 Avenue K SW, Winter Haven, FL- Curr Mol Med. 2009 Nov;9(8):971-983.

- [Local Treatment for Lymphoid Malignancies of the Eye.](#)  
*Lymphoid malignancies may affect the eye either as primary intraocular...*21st November, 2009  
Massachusetts Eye Research and Surgery Institution, Cambridge,- *Anticancer Agents Med Chem.* 2009 Dec;9(10):1123-1128.
- [No loss of melanopsin-expressing ganglion cells detected during postnatal development of the mouse retina.](#)  
*Melanopsin, an opsin protein expressed in mammalian retinal ganglion cells...*20th November, 2009  
Department of Morphology and Cell Biology, Oviedo University, Oviedo,- *Histol Histopathol.* 2010 Jan;25(1):73-82.
- [Contributions to Neuroembryology of Santiago Ramon y Cajal \(1852-1934\) and Jorge F. Tello \(1880-1958\).](#)  
*The contributions of Cajal to Neuroembryology are glossed with the help of...*20th November, 2009  
Department of Human Anatomy and Psychobiology, Faculty of Medicine,- *Int J Dev Biol.* 2009;53(8-9-10):1145-1160. ([DOI Direct Link](#))
- [Sex Steroids Inhibit Osmotic Swelling of Retinal Glial Cells.](#)  
*Osmotic swelling of glial cells may contribute to the development of...*20th November, 2009  
Paul Flechsig Institute of Brain Research, University of Leipzig, Leipzig,- *Neurochem Res.* 2009 Nov 19. ([DOI Direct Link](#))
- [Glycinergic Transmission in the Mammalian Retina.](#)  
*Glycine and gamma-aminobutyric acid (GABA) are the major inhibitory...*20th November, 2009  
Department of Neuroanatomy, Max-Planck-Institute for Brain Research- *Front Mol Neurosci.* 2009;2:6. Epub 2009 Jul 9. ([DOI Direct Link](#))
- [New Mouse Lines for the Analysis of Neuronal Morphology Using CreER\(T\)/loxP-Directed Sparse Labeling.](#)  
*BACKGROUND: Pharmacologic control of Cre-mediated recombination using...*20th November, 2009  
Department of Molecular Biology and Genetics, Johns Hopkins University- *PLoS One.* 2009 Nov 16;4(11):e7859. ([DOI Direct Link](#))
- [Intravenously administered gold nanoparticles pass through the blood-retinal barrier depending on the particle size, and induce no retinal toxicity.](#)  
*The retina maintains homeostasis through the blood-retinal barrier (BRB)....*20th November, 2009  
Department of Ophthalmology, Seoul National University College of Medicine- *Nanotechnology.* 2009 Nov 19;20(50):505101. ([DOI Direct Link](#))
- [\[Effects of rAAV-mediated rhBDNF gene transfection on BDNF gene expression in the retina of a rabbit model of acute high intraocular pressure.\]](#)  
*OBJECTIVE: To observe the changes in the expression of brain derived...*20th November, 2009  
Department of Ophthalmology, Second Affiliated Hospital, Xi'an Jiaotong- *Nan Fang Yi Ke Da Xue Xue Bao.* 2009 Nov 20;29(11):2201-2204.
- [Impact of oral melatonin on the electroretinogram cone response.](#)  
*ABSTRACT: BACKGROUND: In the eye, melatonin plays a role in promoting...*20th November, 2009  
- *J Circadian Rhythms.* 2009 Nov 19;7(1):14. ([DOI Direct Link](#))
- [Central Nervous System Complications of Diabetes in Streptozotocin-Induced Diabetic Rats: A Histopathological and Immunohistochemical Examination.](#)  
*Diabetes mellitus is a common, potentially serious metabolic disorder....*20th November, 2009  
Department of Histology and Embryology, Canakkale Onsekiz Mart University- *Int J Neurosci.* 2009;119(8):1155-1169.
- [Visual fields, eye movements, and scanning behavior of a sit-and-wait predator, the black phoebe \(Sayornis nigricans\).](#)  
*Foraging mode influences the dominant sensory modality used by a forager...*19th November, 2009  
Department of Biological Sciences, Purdue University, West Lafayette, IN,- *J Comp Physiol A Neuroethol Sens Neural Behav Physiol.* 2009 Nov 18. ([DOI Direct Link](#))

## BioNews Results for Retina

- [Finding a protective mechanism for retinal cells could save sight](#)  
*Bionity.com: Nov 21 2009 5:25AM Matching: retina*
- [Advanced Cell Technology Files IND With FDA For First Human Clinical Trial Using Embryonic Stem Cells To Treat](#)  
*Medical News Today: Nov 21 2009 6:14AM Matching: retina*
- [Enfield leading way on NHS braille campaign](#)  
*Enfield and Haringey Independent: Nov 21 2009 9:02AM Matching: retina*
- [Patients Win With Immediate Avastin Payment Reversal](#)  
*Medical News Today: Nov 20 2009 4:10PM Matching: retina*
- [Medical News: Patients Win With Immediate Avastin Payment Reversal](#)  
*BioFind: Nov 20 2009 3:20PM Matching: retina*
- ["Treat and Extend" Dosing of Intravitreal Antivascular Endothelial Growth Factor Therapy for Type 3 Neovascularization/Retinal Angiomatous Proliferation](#)  
*MDLinx: Nov 20 2009 12:12PM Matching: retina*
- [First human stem cell trial using IVF embryos will treat patients facing blindness](#)  
*Mail Online UK: Nov 20 2009 10:02AM Matching: retina*
- [Advanced Cell Technology Files IND With FDA For First Human Clinical Trial Using Embryonic Stem Cells to Treat](#)  
*Pharmacy Choice: Nov 20 2009 1:06AM Matching: retina*
- [Controversial Stem Cell Experiment Could Treat the Blind](#)  
*LiveScience.com: Nov 20 2009 5:18PM Matching: retina*
- [Life Sciences: Researchers from University of Birmingham detail new studies and findings in the area of life sciences](#)  
*NewsRX: Nov 20 2009 2:14PM Matching: retina*
- [Firm seeks OK for stem cell clinical trial](#)  
*Omaha World-Herald: Nov 20 2009 9:41AM Matching: retina*
- [Advanced Cell Technology Files IND With FDA For First Human Clinical Trial Using Embryonic Stem Cells to Treat Eye Disease](#)  
*Individual.com: Nov 20 2009 8:41AM Matching: retina*
- [Company Seeks To Test Stem Cells For Blindness](#)  
*Post Chronicle: Nov 20 2009 7:21AM Matching: retina*
- [Company seeks to test stem cells for blindness](#)  
*People's Daily Online: Nov 20 2009 6:13AM Matching: retina*
- [Company seeks to test stem cells for blindness](#)  
*CHINAdaily: Nov 20 2009 3:53AM Matching: retina*

## Retina Patents:



- 7615567- [Compounds and methods for promoting smoking cessation](#)
- 7617058- [Biometric apparatus and method using bio signals](#)
- 7617193- [Interactive user-controlled relevance ranking retrieved information in an information search system](#)

- 7618143- [Pupilometer](#)
- 7618144- [System and method for tracking eye movement](#)
- 7618177- [Multi-fiber variable intensity wide-angle illuminator](#)
- 7618372- [Laser guided eye measuring device and method for using](#)
- 7618380- [Method of preventing nerve damage positional injury during surgery](#)
- 7618619- [Colored visco-elastic composition](#)
- 7618621- [Mammalian multipotent neural stem cells and compositions, methods of preparation and methods of administration thereof](#)
- 7618622- [Treatment of Parkinson's disease and related disorders using postpartum derived cells](#)
- 7616986- [Optical fiber scanner for performing multimodal optical imaging](#)
- 7616811- [Method and system in a digital image processing chain for adjusting a colour balance, corresponding equipment, and software means for implementing the method](#)
- 7615612- [Polypeptide](#)
- 7615676- [Transgenic screen and method for screening modulators of brain-derived neurotrophic factor \(BDNF\) production](#)
- 7615734- [Image capture device](#)
- 7616095- [Electronic token to provide sequential event control and monitoring](#)
- 7616123- [Apparatus and method for noninvasively monitoring for the presence of alcohol or substances of abuse in controlled environments](#)
- 7616261- [Folding communication terminal apparatus](#)
- 7616366- [MEMS device having a drive coil with curved segments](#)
- 7616390- [Apparatus and method for magnifier and illuminator for reading material](#)
- 7616785- [Living eye judging method and living eye judging device](#)
- 7616788- [System and method for fast biometric pattern matching](#)
- 7618639- [Synergistic phytoceutical compositions](#)
- 7618643- [Growth factor delivery system for the healing of wounds and the prevention of inflammation and disease](#)
- 7618817- [Genetically modified human natural killer cell lines](#)
- 7616187- [Three-dimensional display device and method using hybrid position-tracking system](#)
- 7619798- [Optical deflector and light beam scanning apparatus having a control mechanism utilizing electromechanical transducers for adjusting resonant frequency for stable scanning](#)
- 7619665- [Red eye filter for in-camera digital image processing within a face of an acquired subject](#)
- 7619657- [Recording apparatus, communications apparatus, recording system, communications system, and methods therefor for setting the recording function of the recording apparatus in a restricted state](#)
- 7619585- [Depth fused display](#)
- 7619512- [System and method for alarm signaling during alarm system destruction](#)
- 7619091- [8-hydroxy quinoline derivatives](#)
- 7618958- [Stereospecific anxiolytic and anticonvulsant agents with reduced muscle-relaxant, sedative-hypnotic and ataxic effects](#)
- 7618984- [Sulfonamide compound](#)
- 7619062- [PRO214 polypeptides](#)
- 7619065- [Cystine-knot fold protein](#)
- 7618947- [Modulation of HIF-1 beta expression](#)
- 7620605- [System and method for processing tokenless biometric electronic transmissions using an electronic rule module clearinghouse](#)
- 7620521- [Dynamic weight sensing and classification of vehicular occupants](#)
- 7620491- [Apparatus for and method of performing start preparation for vehicular engine](#)
- 7620479- [Method and apparatus for controlling the strategy of compounding pharmaceutical admixtures](#)
- 7620475- [Dispensing device of portable terminals for acquiring product data in a shopping centre, integrated system for dispensing said portable terminals, and integrated system for selling products through the use of portable terminals](#)
- 7620270- [Method for creating and using affective information in a digital imaging system](#)
- 7620215- [Applying localized image effects of varying intensity](#)

- 7620170- [Computer telephony integration \(CTI\) complete customer contact center](#)
- 7620147- [Orthovoltage radiotherapy](#)
- 7619819- [Method and apparatus for drug product tracking using encoded optical identification elements](#)
- 7620817- [System for security checking or transport of persons by an elevator installation and a method for operating this system](#)
- 7619802- [Suspension for maintaining mirror flatness of a MEMS device in a scanner system or the like](#)

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