BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.

NAME Enrique J. de la Rosa	POSITION TITLE Senior Scientist Centro de Investigaciones Biológicas Consejo Superior de Investigaciones Científicas Madrid, Spain
eRA COMMONS USER NAME	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Universidad Autónoma de Madrid, Spain	BA	1981	Biochem & Mol Biol
Universidad Autónoma de Madrid, Spain	PhD	1984	Biochem & Mol Biol

A. Positions and Honors.

Positions and Employment

July/2002	Promoted to Senior Researcher CSIC (Intermediate level, out of 3).
Since Dec/1993	Scientific staff member of Centro de Investigaciones Biológicas CSIC (Entry level, out of 3)
Jun/1992 to Nov/1993.	Postdoctoral fellow at Centro de Investigaciones Biológicas CSIC (Madrid, Spain), Growth Factors in Vertebrate Development Laboratory (Dr. Flora de Pablo).
Oct/1989 to Jun/1992.	Postdoctoral fellow at Instituto Cajal CSIC (Madrid, Spain), Developmental Neurobiology Laboratory (Dr. Alfredo Rodríguez-Tébar).
Jan/1986 to Sep/1989.	Visiting fellow at Max-Plank-Institut für Entwicklungsbiologie (Tübingen, Germany), Department of Biochemistry (Dr. Uli Schwarz).
Nov/1980 to Jul/1985.	Doctoral student at Centro de Biología Molecular CSIC-UAM (Madrid, Spain), Cell Envelopes Section (Dr. David Vázquez).

B. Selected peer-reviewed publications (in chronological order).

Autocrine/paracrine role of insulin-related growth factors in neurogenesis: Local expression and effects on cell proliferation and differentiation in retina. C. Hernández-Sánchez, A. López-Carranza, C. Alarcón, **E. J. de la Rosa**[#] and F. de Pablo[#] ([#], contributing equally) (1995). Proc. Natl. Acad. Sci. USA. **92**, 9834-9838.

Modulation of the chaperone heat shock cognate 70 by embryonic (pro)insulin correlates with prevention of apoptosis. **E. J. de la Rosa**[#], E. Vega-Núñez[#], A. V. Morales[#], J. Serna, E. Rubio and F. de Pablo [#] ([#], contributing equally) (1998). Proc. Natl. Acad. Sci. USA **95**, 9950-9955.

C-Raf regulates cell survival and retinal ganglion cell morphogenesis during neurogenesis. B. Pimentel, C. Sanz, I. Varela-Nieto, U. R. Rapp F. de Pablo and **E. J. de la Rosa** (2000). J. Neurosci. **20**, 3254-3262.

In vivo regulation of cell death by embryonic (pro)insulin and the insulin receptor during early retinal neurogenesis. B. Díaz, J. Serna, F. de Pablo and **E. J. de la Rosa** (2000). Development **127**, 1641-1649.

Cell death in early neural development: beyond the neurotrophic theory. **E. J. de la Rosa** and F. de Pablo (2000). Trends Neurosci. **23**, 454-458.

Unprocessed proinsulin promotes cell survival during embryonic neurulation. C. Hernández-Sánchez, E. Rubio, J. Serna, **E. J. de la Rosa** and F. de Pablo (2002). Diabetes **51**, 770-777.

Generation of retinal ganglion cells is modulated by caspase-dependent programmed cell death. R. Mayordomo, A. I. Valenciano, **E. J. de la Rosa**[#] and F. Hallböök[#] ([#], contributing equally) (2003). Eur. J. Neurosci. **18**, 1744-1750.

Upstream AUGs in embryonic proinsulin mRNA control its low translational level. C. Hernández-Sánchez, A. Mansilla, **E. J. de la Rosa**, G. E. Pollerberg, E. Martínez-Salas and F. de Pablo (2003). EMBO J. **22**, 5582-5592.

Balance of pro-apoptotic TGF-β and anti-apoptotic insulin effects in the control of cell death in the developing mouse retina. N. Duenker, A. I. Valenciano, A. Franke, C. Hernández-Sánchez, R. Dressel, M. Behrendt, F. de Pablo, K. Krieglstein and **E. J. de la Rosa** (2005). Eur. J. Neurosci **22**, 28-38.

Proinsulin/insulin is synthesized locally and prevents caspase- and cathepsin-mediated cell death in the embryonic mouse retina. A. I. Valenciano, S. Corrochano, F. de Pablo, P. de la Villa and **E. J. de la Rosa** (2006). J. Neurochem **99**, 524-536.

Differential, age-dependent MEK-ERK and PI3K-Akt activation by insulin acting as a survival factor during embryonic retinal development. T. Chavarría, A. I. Valenciano, R. Mayordomo, J. Egea, J. X. Comella, F. Hallböök, F. de Pablo and **E. J. de la Rosa** (2007). Dev. Neurobiol. **67**, 1777-1788.

The autophagic machinery is necessary for removal of cell corpses from the developing retinal neuroepithelium. M.A. Mellén, **E. J. de la Rosa** and P. Boya (2008). Cell Death Differ **15**,1279-1290 .

Proinsulin attenuates the loss of vision and delays apoptosis of photoreceptors in a mouse model of retinitis pigmentosa. S. Corrochano, R. Barhoum, P. Boya, A. I. Arroba, N. Rodríguez-Muela, V. Gómez-Vicente, F. Bosch, F. de Pablo, P. de la Villa and **E. J. de la Rosa** (2008). Invest Invest Ophthalmol Vis Sci **49**, 4188-4194.

Apoptosis in the trabecular meshwork of glaucomatous patients. J. Baleriola, J. García-Feijoo, J. M. Martínez-de-la-Casa, A. Fernández-Cruz, **E. J. de la Rosa**[#] and R. Fernández-Durango[#] ([#], contributing equally) (2008). Mol Vis **14**:1513-1516.

Functional and structural modifications during retinal degeneration in the rd10 mouse. R. Barhoum, G. Martínez-Navarrete, S. Corrochano, F. Germain, L. Fernández-Sánchez, **E. J. de la Rosa**, P. de la Villa and N. Cuenca (2008). Neuroscience **155**, 698-713.

Vimentin isoform expression in the human retina characterized with the monoclonal antibody 3CB2. M. J. Pérez-Álvarez, C. Isiegas, C. Santano, J. J. Salazar, A. I. Ramírez, A. Triviño, J. M. Ramírez, J. P. Albar, **E. J. de la Rosa** and C. Prada (2008). J Neurosci Res **86**, 1871-1883.

Early neural cell death: number and cues from the developing neuroretina. A. I. Valenciano, P. Boya and **E. J. de la Rosa** (2009). Int J Dev Biol **53**, 1515-1528.

Autophagy is not universally required for phosphatidyl-serine exposure and apoptotic cell engulfment during neural development. M. A. Mellén, **E. J. de la Rosa**[#] and P. Boya[#] ([#], contributing equally) (2009) Autophagy **5**, 964-972.

IGF-I maintains calpastatin expression and attenuates apoptosis in several models of photoreceptor cell death. A. I. Arroba, D. Wallace, A. Mackey, **E. J. de la Rosa**[#] and T. G. Cotter[#] ([#], contributing equally) (2009) Eur J Neurosci **30**, 975-986.

Intracellular Silicon Chips in Living Cells. R. Gómez-Martínez, P. Vázquez, M. Duch, A. Muriano, D. Pinacho, N. Sanvicens, F. Sánchez-Baeza, P. Boya, **E.J. de la Rosa**, J. Esteve, T. Suárez and J.A. Plaza. (2010) Small 6, 499-502.

DNA-PK promotes the survival of young neurons in the embryonic mouse retina. J. Baleriola, T. Suárez and , **E.J. de la Rosa** (2010) Cell Death Differ **17**, 1697-1706.

Patents:

AUTHORS: Enrique J. de la Rosa Cano, Mª Flora de Pablo Dávila, Patricia Boya Tremoleda, Silvia Corrochano Sánchez, Pedro de la Villa Polo, Rima Barhoum Tannous y Fátima Bosch Tubert.
Title: Use of proinsulina for the elaboration of a neuroprotective pharmacological compound, chemical composition and applications.
Registration number: 200601314
Year: 2006.
Agency: Consejo Superior de Investigaciones Científicas and Universidad de Alcalá de Henares y Universidad Autónoma de Barcelona.
Countries: request for extension PCT/ES2007/070097, 21/05/2007. Nacional stages in EU, USA, Canada, Australia.
Licenced to ProRetina Therapeutics, S.L.

AUTHORS: Jaume Esteve, José Antonio Plaza, Rodrigo Gómez, Marta Duch, Elisabet Fernández, Enrique J. de la Rosa, Teresa Suárez, Patricia Vázquez, Patricia Boya.
Title: Intracellular device for the study of intracellular parameters in cells, organs and tissue
Registration number: 200702623
Year: 2007
Agency: Consejo Superior de Investigaciones Científicas y Universidad Autónoma de Barcelona

Spin-off company

EBT: ProRetina Therapeutics S.L. 6, July 2007
Purpose: development of pharmacological tools for the treatment of hereditary distrophies in the retina.