



MINISTERIO  
DE EDUCACION  
Y CIENCIA

## **Curriculum vitae Standardized form**

Total number of pages: 8

Name: Patricia Ortega Sáenz

Date: april, 13<sup>th</sup> 2012

## PERSONAL DATA

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Family name: Ortega Sáenz

Forename: Patricia

Date of birth: September, 3<sup>rd</sup> 1969

Gender: Female

Nacionality: Spanish

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## PRESENT PROFESIONAL POSITION

Institution: University of Seville

Faculty, School or Institute: Instituto de Biomedicina de Sevilla (IBIS)

Department: Fisiología Médica y Biofísica (Faculty of Medicine)

Address: Avda. Manuel Siurot, s/n. Hospital Virgen del Rocío HUVR, Edif. de Laboratorios 2<sup>a</sup> Planta.

Post Cod: 41013 Province: Seville

Country: Spain

Telephone (indicate prefix, number and extension): +34955012644

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E-mail: patricia.ortega.exts@juntadeandalucia.es

Profesional status: Associate Professor Contratada Start date: 22 January, 2010

Doctora

Administrative status

Full-time

Part-time

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## PRESENT RESEARCH AREA

Key words

Sensitivity to hypoxia, carotid body, adrenomedullar cells, stem cells and Parkinson disease.

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## ACADEMIC BACKGROUND

Bachelor	Centre	Date
Pharmaceutical Sciences	University of Seville	1988-1993

Ph.D.	Centre	Thesis Supervisor	Date
Pharmaceutical Sciences	Dpto Fisiología Médica y Biofísica, (Fac. Medicine U.Seville)	Dr. José López Barneo	1993-1999

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## PAST SCIENTIFIC EXPERIENCE (\*)

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<i>Position</i>	<i>R&amp;D Centre</i>	<i>Institution</i>	<i>Start date</i>	<i>End date</i>
PhD student	Dpto Fisiología Médica y Biofísica	University of Seville	1993	1999
Postdoctoral	Dpto Fisiología Médica y Biofísica (Univ. Seville)	University of Seville	1999	2003
Becaria Investigación con cargo a la Fundación Juan March	Laboratorio de Investigaciones Biomédicas	Hospitales Universitarios Virgen del Rocío (HUVR)	2002	2003
Profesora Ayudante Doctora	Laboratorio de Investigaciones Biomédicas	Hospitales Universitarios Virgen del Rocío (HUVR)	10/2004	9/2007
Profesora Contratada doctora	Instituto de Biomedicina de Sevilla (IBiS)	Hospitales Universitarios Virgen del Rocío (HUVR)	10/2007	1/2010

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## LANGUAGES

*Spanish and English*

## PARTICIPATION IN RESEARCH PROJECTS

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*PROJECT TITLE:* Modulación de Canales de Potasio por O<sub>2</sub> y de Canales de Sodio por TRH  
*FINANCIAL ENTITY:* DGICYT  
*LENGHT FROM:* 1992 *TO:* 1995  
*PRINCIPAL INVESTIGATOR:* José López Barneo

*PROJECT TITLE:* Caracterización Molecular y Funcional de los Canales Iónicos Regulados por O<sub>2</sub>  
*FINANCIAL ENTITY:* DGICYT  
*LENGHT FROM:* 1994 *TO:* 2000  
*PRINCIPAL INVESTIGATOR:* José López Barneo

*PROJECT TITLE:* Fisiología molecular.  
*FINANCIAL ENTITY:* Junta de Andalucía  
*LENGHT FROM:* 2001 *TO:* 2008  
*PRINCIPAL INVESTIGATOR:* Juan José Toledo Aral

*PROJECT TITLE:* Sensibilidad al oxígeno y neurodegeneración  
*FINANCIAL ENTITY:* Fundación Juan March.  
*LENGHT FROM:* 2001 *TO:* 2008  
*PRINCIPAL INVESTIGATOR:* José López Barneo

*PROJECT TITLE:* Sensibilidad al oxígeno y neurodegeneración  
*FINANCIAL ENTITY:* Ministerio de Educación y Ciencia.  
*LENGHT FROM:* 2006 *TO:::* 2009  
*PRINCIPAL INVESTIGATOR:* José López Barneo

*PROJECT TITLE:* Caracterización del mecanismo sensor de glucosa en el cuerpo carotideo de rata y su modificación en condiciones de hiperglucemia crónica  
*FINANCIAL ENTITY:* Ministerio de Ciencia y tecnología.  
*LENGHT FROM:* 2003 *TO:* 2006  
*PRINCIPAL INVESTIGATOR:* Antonio Castellano Orozco

*PROJECT TITLE:* Estudios proteómicos de los mecanismos operantes durante la isquemia  
*FINANCIAL ENTITY:* Consejería de Salud de la Junta de Andalucía.  
*LENGHT FROM:* 1/1/2006 *TO:::* 31/12/ 2006  
*PRINCIPAL INVESTIGATOR:* Alberto Pascual Bravo

*PROJECT TITLE:* Mecanismos iniciadores de la respuesta a isquemia  
*FINANCIAL ENTITY:* Consejería de Salud de la Junta de Andalucía.  
*LENGHT FROM:* 1/1/2007 *TO:* 31/12/ 2007  
*PRINCIPAL INVESTIGATOR:* Alberto Pascual Bravo

*PROJECT TITLE:* Sensibilidad al oxígeno y neurodegeneración  
*FINANCIAL ENTITY:* Fundación Marcelino Botín  
*LENGHT FROM:* 2007 *TO:* 2009  
*PRINCIPAL INVESTIGATOR:* José López Barneo

*PROJECT TITLE:* CIBERNED  
*FINANCIAL ENTITY:* Instituto de Salud Carlos III. Fundación CIEN  
*LENGHT FROM:* 01/04/06 *TO:* 31/12/09  
*PRINCIPAL INVESTIGATOR:* José López Barneo

PROJECT TITLE: Pulmotension  
FINANCIAL ENTITY: Comunidad Europea  
LENGHT FROM: 01/01/06 TO: 31/12/09  
PRINCIPAL INVESTIGATOR: José López Barneo

PROJECT TITLE: Expansión del cueropocarotídeo humano y caracterización fenotípicca para su uso en terapiua celular de enfermedades neurodegenerativas  
FINANCIAL ENTITY: Consejeria de Salud de la Junta de Andalucía.  
LENGHT FROM: 01/01/2010- 31/12/2012  
Awarded Budget: 128.640,00 €  
PRINCIPAL INVESTIGATOR: Patricia Ortega Sáenz

## PUBLICATIONS

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AUTHORS (in order of authorship): J. López-Barneo, , **P. Ortega-Sáenz**, A. Molina, A. Franco-Obregón, J. Ureña y A. Castellano.  
TITLE: Oxygen sensing by ion channels.  
JOURNAL/BOOK REF: Kidney Internacional, 1997 VOL 51: 454-461

AUTHORS (in order of authorship): A. Molina, **P. Ortega-Sáenz**, and J. López-Barneo.  
TITLE: Pore mutations alter closing and opening kinetics in Shaker K<sup>+</sup> channels.  
JOURNAL/BOOK REF: Journal of Physiology.1998. VOL 509.2:327-337

AUTHORS (in order of authorship): **P. Ortega-Sáenz**, R. Pardal, A. G. Castellano and J. López-Barneo.  
TITLE: ...Collapse of conductance is prevented by a glutamate residue conserved in vottage-dependent K channels  
JOURNAL/BOOK REF: J. General Physiology 2000. VOL 116: 181-190

AUTHORS (in order of authorship): J. López-Barneo,, R. Pardal and **P. Ortega-Sáenz**.  
TITLE: Cellular mechanism of oxygen sensing.  
JOURNAL/BOOK REF: Annual Review Physiology .2001.VOL 63: 259-287

AUTHORS (in order of authorship): **P. Ortega-Sáenz**, R. Pardal, M. García-Fernández and J. López-Barneo.  
TITLE: Rotenone selectively occludes sensitivity to hypoxia in rat carotid body glomus cells.  
JOURNAL/BOOK REF: Journal of Physiology .2003.VOL 548(3): 789-800

AUTHORS (in order of authorship): **Ortega-Sáenz, P.**, García-Fernández M., Pardal, R. Alvarez E. and J. López-Barneo.  
TITLE: Studies on glomus cells sensitivity to hypoxia in carotid body slices.  
JOURNAL/BOOK REF: Advances in Experimental Medicine and Biology 2003. VOL.536:65-73

AUTHORS (in order of authorship): García-Fernández M., **Ortega-Sáenz, P.**, Pardal, R. and J. López-Barneo.  
TITLE: Glucose sensing cells in the carotid body.  
JOURNAL/BOOK REF: Advances in Experimental Medicine and Biology 2003. VOL.536:47-53

AUTHORS (in order of authorship): J. López-Barneo,Raquel del Toro, Konstantin Levitsky, María D. Chiara and **Patricia Ortega-Sáenz**  
TITLE: Regulation of oxygen sensing by ion channels.  
JOURNAL/BOOK REF: Journal of Applied Physiology 2004. VOL.96:1187-1195

AUTHORS (in order of authorship): José I. Piruat, C. Oscar Pintado, **Patricia Ortega-Sáenz**, Marta Roche and José López-Barneo

TITLE: The mitochondrial SDHD gene is required for Early Embryogenesis, and its partial deficiency result in persistent carotid body glomus cells activation with full responsiveness to hypoxia.

JOURNAL/BOOK REF: Molecular and Cellular Biology 2004. VOL.24, No. 24:10933-10940

AUTHORS (in order of authorship): J. López-Barneo , Montoro, R., **P. Ortega-Sáenz** and Ureña, J.

TITLE: Oxigen-regulated ion channels: functional roles and mechanisms

JOURNAL/BOOK REF: O2 regulation of Ion Channels ad Gene Expresión (1998) capítulo Libro

AUTHORS (in order of authorship): J. López-Barneo, **Ortega-Sáenz, P.**, García-Fernández M. and Pardal, R.

TITLE: Oxigen sensing, oxygen sensitive ion channels and mitochondrial function in arterial chemoreceptors

JOURNAL/BOOK REF: Hypoxic pulmonary vasoconstriction: cellular and molecular mechanisms (2004) ISBN:1-4020-7857-9

AUTHORS (in order of authorship): José López-Barneo, **Patricia Ortega-Sáenz**, José I. Piruat and María García-Fernández.

TITLE: Oxygen sensing by ion channels and mitochondrial function in carotid body glomus cells

JOURNAL/BOOK REF: : Review. Signaling Pathways in acute oxygen sensing. Wiley Chichester Novartis Foundation Symposium 272, 2005 p54-72

AUTHORS (in order of authorship): , **Patricia Ortega-Sáenz**, Alberto Pascual Raquel Gómez Díaz and José López-Barneo.

TITLE: Acute Oxygen Sensing in Heme Oxygenase-2 Null Mice

JOURNAL/BOOK REF: : Journal of General Physiology vol 128, 4 pag 405-411 Octubre 2006

AUTHORS (in order of authorship): , **Patricia Ortega-Sáenz**, Alberto Pascual, José I. Piruat and José López-Barneo.

TITLE: Mechanism of Acute Oxygen sensing by the carotid body : lessons from genetically modified animals

JOURNAL/BOOK REF: : Review. Respiratory Physiology and Neurobiology, 2007, 157 (1) pag 140-147

AUTHORS (in order of authorship): , Ricardo Pardal, **Patricia Ortega-Sáenz**, Rocío Duran and José López-Barneo.

TITLE: Stem Cells with Glial Phenotype Sustain Neurogenesis During Physiologic Hypoxia in the Adult Mammalian Carotid Body

JOURNAL/BOOK REF: : Cell 2007 Oct 19;131(2):364-77.

AUTHORS (in order of authorship): , María García-Fernández, **Patricia Ortega-Sáenz**, Antonio Castellano and José López-Barneo.

TITLE: Mechanism of Low-Glucose Sensitivity in Carotid Body Glomus Cells

JOURNAL/BOOK REF: : Diabetes. 2007 Dec;56(12) pag2893-2900

AUTHORS (in order of authorship): : Bishop, T., Gallagher, D., Pascual, A., Lygate, C. A., de Bono, J. P., Wijeyekoon, B., **Ortega-Saenz, P. O.**, Oster, H., Nicholls, L. G., Teixeira, D., Lopez-Barneo, J., Channon, K. M., Maxwell, P. H., Pugh, C. W., Davies, A. M., Carmeliet, P., and Ratcliffe, P. J.

TITLE: Dysfunctional hyperplasia of sympatho-adrenal tissues and systemic hypotension in *PHD3*<sup>-/-</sup> mice.

JOURNAL/BOOK REF: **Mol. Cell. Biol.** 28: 3386-400. 1

AUTHORS (in order of authorship): J. Lopez-Barneo, **P. Ortega-Saenz**, R. Pardal, A. Pascual , and J.I. Piruat

TITLE: Carotid Body oxygen sensing

JOURNAL/BOOK REF: : J Europ Respir. 2008 (32) pag1386-1398

AUTHORS (in order of authorship):. José López-Barneo, Ricardo Pardal, **Patricia Ortega-Sáenz**, Javier Villadiego, and Juan Jose Toledo-Aral.

TITLE:The neurogenic niche in the carotid body and its applicability to antiparkinsonian cell therapy.

JOURNAL/BOOK REF: J. Neural Transmission. 2009. VOL:116(8) p 175-182

AUTHORS (in order of authorship): López-Barneo, J., **Ortega-Sáenz, P.**, Pardal, R., Pascual, A., Piruat, J.I., Durán, R., y Gómez-Díaz, R. (2009)

TITLE:Oxygen sensing in the carotid body.

JOURNAL/BOOK REF: Annals of the New York Academy of Sciences. 1177:119-131.

AUTHORS (in order of authorship): Pardal R., **Ortega-Sáenz P.**, Durán R., Platero-Luengo A., y López-Barneo J.

TITLE:The carotid body, a neurogenic niche in the adult peripheral nervous system.REF.

JOURNAL/BOOK REF: Archives Italiennes de Biologie. Vol. 148 (2010); pp: 95-105. CLAVE : R.

AUTHORS (in order of authorship): **Ortega-Sáenz P**, Levitsky KL, Marcos-Almaraz MT, Bonilla-Henao V, Pascual A, López-Barneo J.

TITLE:Carotid body chemosensory responses in mice deficient of TASK channels.

JOURNAL/BOOK REF: J Gen Physiol. 2010 Apr;135(4):379-92.

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## PATENTS AND UTILITY MODELS

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*INVENTORS (in order of authorship):* López- Barneo, José, Ureña López, Juan, Franco Obregón, Alfredo, Castellano Orozco, Antonio, Montoro Laseca, Rafael, Molina Pachón, Antonio y Ortega Sáenz, Patricia

*TITLE:* Utilización en composiciones farmacológicas de agentes con efecto reductor o inductor de hipoxia

*APPLICATION FORM No:* ES 2 119 614 B1 *PRIORITY COUNTRY:*Spain *PRIORITY DATE:*

01/07/1999

*HOLDER ENTITY :* University of Seville

*OTHER COUNTRIES WHICH THE PATENT HAS BEEN EXTENDED TO:*

*COMPANIES THAT ARE LICENSING IT:*

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*INVENTORS (in order of authorship):* Ricardo Pardal, Patricia Ortega-Sáenz, Rocío Durán, Victoria Bonilla-Henao, Antonio Ordóñez, Juan José Toledo-Aral, José López Barneo

*TITLE:* Carotid body derived stem cells and their uses

*APPLICATION FORM No:* P200702167 *PRIORITY COUNTRY:* Spain *PRIORITY DATE:* Aug-2<sup>nd</sup>-2007

*HOLDER ENTITY:* University of Seville

*OTHER COUNTRIES WHICH THE PATENT HAS BEEN EXTENDED TO:* America Europa and Australia

*COMPANIES THAT ARE LICENSING IT:*

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## PhD THESIS DIRECTED

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*TITLE:* Células Neurosecretoras Sensoras de Oxígeno y Glucosa

*MARÍA GARCIA FERNANDEZ:*

*UNIVERSIDAD:* University of Seville *FACULTAD/ESCUELA:*Faculty of Medicine

*AÑO:* 2005 *CALIFICACION:* Sobresaliente Cum Laude

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## OTHER ACHIEVEMENTS

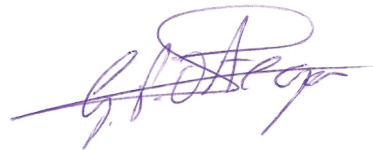
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### AWARDS

Pre-doctoral fellowship, "**Formación de Personal Investigador (FPI), MEC**", to carry out Ph.D. studies at the of Fisiología Médica y Biofísica. University of Seville, Spain. 1994-1997.

Post-doctoral fellowship from "**Beca de Formacion en Investigación (BEFI), FIS**" Instituto de Salud Carlos III". April 1998-May 2002.

Becaria Investigación con cargo a "Ayudas 2000 a la Investigación" de la Fundación Juan March. 01/05/2002- 01/11/2003



Fdo.: Patricia Ortega Sáenz  
Seville, 12 april 2012