



MINISTERIO
DE EDUCACION
Y CIENCIA



Curriculum vitae Standardized form

Name: Alberto Pascual Bravo

PERSONAL DATA

Family name: Pascual Bravo

Forename: Alberto

ID/Passport no:

Date of birth: October, 26th 1971

Gender: Male

Nacionality: Spanish

PRESENT PROFESIONAL POSITION

Institution: Spanish Research Council (CSIC)

Faculty, School or Institute: Instituto de Investigaciones Biomédicas de Sevilla (IBiS)

Department:

Address: Hospital Virgen del Rocío. Edif. de Laboratorios 2^a Planta. 41008 Seville

Country: Spain

Telephone (indicate prefix, number and extension): +34955923049

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E-mail: apascual-ibis@us.es

Professional status: Spanish Research Council Scientist Start date: July, 20th 2007

Administrative status

Permanent Staff

Full-time

PRESENT RESEARCH AREA

Key words

Neurodegenerative disorders, Parkinson disease, Hypoxia, Proteomics, Animal models, Viral-assisted gene transfer.

ACADEMIC BACKGROUND

<i>Bachelor</i>	<i>Centre</i>	<i>Date</i>
Biology	University of Seville	1990-1994

<i>Ph.D.</i>	<i>Centre</i>	<i>Thesis Supervisor</i>	<i>Date</i>
Biology	Instituto de Bioquímica y Biología Molecular (CSIC, Sevilla)	Dr. Agustín Vioque	1995-1998

PAST SCIENTIFIC EXPERIENCE (*)

<i>Position</i>	<i>R&D Centre</i>	<i>Institution</i>	<i>Start date</i>	<i>End date</i>
Pre-graduated Student	Instituto de Bioquímica y Biología Molecular	CSIC/US	1993	1993
Pre-graduated Student (Bursary)	Instituto de Bioquímica y Biología Molecular	CSIC/US	1994	1994
PhD student	Instituto de Bioquímica y Biología Molecular	CSIC/US	1995	1998
Postdoctoral	Institut Alfred Fessard	CNRS	1999	2002
Ramón y Cajal Investigator	Laboratorio de Investigaciones Biomédicas	Hospitales Universitarios Virgen del Rocío (HUVR)	02/2003	06/2007
Científico Titular del CSIC	Instituto de Biomedicina de Sevilla (IBiS)	CSIC/US/HUVR	21/06/2007	Today

LANGUAGES

Spanish, English and French

PARTICIPATION IN RESEARCH PROJECTS

- PROJECT TITLE: *"Biología molecular de la carotenogénesis y de la biosíntesis de tRNA en cianobacterias"*

FINANCIAL ENTITY: *Spanish Government*

LENGHT FROM: 1992 TO: 1995

PRINCIPAL INVESTIGATOR: *Dr. Agustín Vioque*

- PROJECT TITLE: *"Expresión de genes en cianobacterias: regulación de la asimilación de amonio y de la carotenogénesis"*

FINANCIAL ENTITY: *Spanish Government*

LENGHT FROM: 1995 TO: 1998

PRINCIPAL INVESTIGATOR: *Dr. Javier Florencio*

- PROJECT TITLE: *"Biotecnología de plantas y microorganismos"*

FINANCIAL ENTITY: *Andalusian Government*

LENGHT FROM: 1991 TO: 1996

PRINCIPAL INVESTIGATOR: *Dr. Agustín Vioque*

- PROJECT TITLE: *"Structure-function relationships in an essential bacterial & human ribonucleoprotein, ribonuclease P"*

FINANCIAL ENTITY: *International Human Frontier Science Organization*

LENGHT FROM: 1997 TO: 2000

PRINCIPAL INVESTIGATOR: *Prof. Sidney Altman*

- PROJECT TITLE: *"Molecular and Systems Analysis of a Multimodal Memory Center"*

FINANCIAL ENTITY: *International Human Frontier Science Organization*

LENGHT FROM: 1999 TO: 2002

PRINCIPAL INVESTIGATOR: *Dr. Thomas Préat*

- PROJECT TITLE: *"MOTILITE CELLULAIRE ET METASTASES: DISSECTION DE LA VOIE DE SIGNALISATION"*

FINANCIAL ENTITY: *ARC (Private foundation)*

LENGHT FROM: 2000 TO: 2002

PRINCIPAL INVESTIGATOR: *Dr. Thomas Préat*

- PROJECT TITLE: *"Development of cerebral structures and neurotransmitter mechanisms"*

FINANCIAL ENTITY: *ACI Développement (French Government)*

LENGHT FROM: 2001 TO: 2001

PRINCIPAL INVESTIGATOR: *Dr. Thomas Préat*

- PROJECT TITLE: *"Aislamiento y diferenciación de células madre humanas embrionarias y adultas para el tratamiento de enfermedades neurodegenerativas"*

FINANCIAL ENTITY: *Fundación Salud y Progreso (Andalusian Government)*

LENGHT FROM: 2005 TO: 2005

PRINCIPAL INVESTIGATOR: Dr. José López-Barneo

- PROJECT TITLE: "Estudio proteómico de los mecanismos operantes durante la isquemia"

FINANCIAL ENTITY: Consejería de Salud (Andalusian Government)

LENGHT FROM: 2006 TO 2006

PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual**

- PROJECT TITLE: "Sensibilidad al oxígeno y neurodegeneración"

FINANCIAL ENTITY: Spanish Government

LENGHT FROM: 2007 TO: 2009

PRINCIPAL INVESTIGATOR: Dr. José López-Barneo

- PROJECT TITLE: CIBER Enfermedades neurodegenerativas

FINANCIAL ENTITY: Spanish Government

LENGHT FROM: 2007 TO: 2009

PRINCIPAL INVESTIGATOR: Dr. José López-Barneo

- PROJECT TITLE: "MECANISMOS DE INICIACIÓN DE LA RESPUESTA A LA ISQUEMIA"

FINANCIAL ENTITY: Consejería de Salud (Andalusian Government)

LENGHT FROM: 2007 TO: 2007

PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual**

- PROJECT TITLE: "MECANISMOS DE INICIACIÓN DE LA RESPUESTA A LA ISQUEMIA"

FINANCIAL ENTITY: CSIC

LENGHT FROM: 2008 TO: 2009

PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual**

- PROJECT TITLE: "ESTUDIO DE LOS MECANISMOS DE PROTECCIÓN Y MANTENIMIENTO DE LAS NEURONAS CATECOLAMINÉRGICAS POSTNATALES POR EL FACTOR NEUROTROFICO DERIVADO DE LA GLÍA (GDNF)."

FINANCIAL ENTITY: CICE (Andalusian government)

LENGHT FROM: 2009 TO: 2011

PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual**

- PROJECT TITLE: "INDISPENSABLE GLIAL CELL LINE-DERIVED NEUROTROPHIC FACTOR (GDNF)-MEDIATED MECHANISMS OF THE MAINTENANCE OF ADULT CATECHOLAMINERGIC NEURONS"

FINANCIAL ENTITY: Spanish Ministry of Science.

LENGHT FROM: 2009 TO: 2012

PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual**

- PROJECT TITLE: "CHARACTERIZATION OF INTRINSIC MECHANISMS INVOLVED IN DOPAMINERGIC SNPC NEURON MAINTENANCE. ROLE OF GDNF AND AGING-MODULATED GENES."

FINANCIAL ENTITY: Spanish Ministry of Science.

LENGHT FROM: 2013

TO: 2015

*PRINCIPAL INVESTIGATOR: **Dr. Alberto Pascual***

PUBLICATIONS

Pascual, A. and Vioque, A. (1994) Sequence and structure of the RNA subunit of RNase P from the cyanobacterium *Pseudanabaena* sp. PCC6903. **Biochim. Biophys. Acta**, 1218: 463-465.

Pascual, A. and Vioque, A. (1996) Cloning, purification and characterization of the protein subunit of ribonuclease P from the cyanobacterium *Synechocystis* sp. PCC6803. **Eur. J. Biochem.**, 241: 17-24.

Peciña, A., **Pascual, A.** & Paneque, A. (1999) Cloning and expression of the *algL* gene, encoding the *Azotobacter chroococcum* alginate lyase: purification and characterization of the enzyme. **J. Bacteriol.**, 181: 1409-14.

Pascual A. and Vioque A (1999) Functional reconstitution of RNase P activity from a plastid RNA subunit and a cyanobacterial protein subunit. **FEBS Lett.**, 442: 7-10.

Pascual A., Vioque A. (1999) Substrate binding and catalysis by ribonuclease P from cyanobacteria and *Escherichia coli* are affected differently by the 3'-terminal CCA in tRNA precursors. **Proc. Natl. Acad. Sci. USA**, 96: 6672-6677.

Pascual, A., Pr at T. (2001) Localization of long-term memory within the *Drosophila* mushroom body. **Science**, 294: 1115-1117.

Pascual, A., Huang, K.-L., Neveau, J., Pr at T. (2004) Neuroanatomy: brain asymmetry and long-term memory. **Nature**, 427: 605-606.

Isabel, G.*, **Pascual, A.***, Pr at T. (2004) Exclusive consolidated memory phases in *Drosophila*. **Science**, 304: 1024-1027. (*) These authors contributed equally to this work.

Pascual, A.*, Chaminade, M.* and Pr at, T.. (2005) Ethanolamine kinase controls neuroblast division in *Drosophila* mushroom bodies. **Dev. Biol.**, 280: 177-186. (*) These authors contributed equally to this work.

Pascual, A., Huang, K.-L., and Pr at, T. (2005) Conditional UAS-targeted repression in *Drosophila*. **Nucleic Acids Res.**, 33: e7.

Ortega-Saenz, P.*, **Pascual, A.***, Gomez-Diaz, R. and Lopez-Barneo, J. (2006) Acute Oxygen Sensing in Heme Oxygenase-2 Null Mice. **J. Gen. Physiol.**, 128: 405-411. (*) These authors contributed equally to this work. Cover article.

Ortega-S enz, P., **Pascual, A.**, Piruat, J.I. and L pez-Barneo, J. (2007) Mechanisms of acute oxygen sensing: lessons from genetically modified animals. **Respir. Physiol. Neurobiol.** 157: 140-147.

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. (2008) Dysfunctional hyperplasia of sympatho-adrenal tissues and systemic hypotension in *PHD3*^{-/-} mice. **Mol. Cell. Biol.** 28: 3386-400.

L pez-Barneo, J., Ortega-S enz, P., Pardal, R., **Pascual, A.**, and Piruat, J. I. (2008) Carotid Body Oxygen Sensing. **Eur. Res. Physiol.** 32: 1386-98.

Pascual, A.*, Hidalgo-Figueroa, M.*, Piruat, J.I., Pintado, C. O., Gomez-Diaz R., and López-Barneo, J. (2008) Absolute Requirement of GDNF for Adult Catecholaminergic Neuron Survival. **Nature Neuroscience**. 11: 755-761. (*) These authors contributed equally to this work.

Pascual, A.*, Romero-Ruiz, A. and López-Barneo, J. (2009) Differential proteomic analysis of adrenal gland during postnatal development. **Proteomics**. 9: 2946-2954. (*) Corresponding author.

López-Barneo, J., Ortega-Sáenz, P., Pardal, R., **Pascual, A.**, Piruat, J.I., Durán, R., y Gómez-Díaz, R. (2009) Oxygen sensing in the carotid body. **Annals of the New York Academy of Sciences**. 1177:119-131.

Ortega-Sáenz, P.; Levitsky, K.L.; Marcos-Almaraz, M.T.; Bonilla-Henao, V.; **Pascual, A.**; López-Barneo, J. (2010) Carotid body chemosensory responses in mice deficient of TASK channels. **J. Gen. Physiol.** 135: 379-392.

Yuan C., Rao R.P., Jesmin N., Bamba T., Nagashima K., **Pascual A.**, Preat T., Fukusaki E., Acharya U., Acharya J.K. (2011) CDase is a pan-ceramidase in Drosophila. **Mol. Biol. Cell**. 22:33-43.

Pascual, A.*, Hidalgo-Figueroa M., Gómez-Díaz R., López-Barneo J.* (2011) GDNF and protection of adult central catecholaminergic neurons. **J. Mol. Endocrinol.** 46:R83-92. (*) Corresponding authors.

Marcos-Almaraz, M.T., Rodriguez-Gomez, J.A., Lopez-Barneo, J., **Pascual, A.** (2012) Alpha-hemoglobin regulates sympathoadrenal cell metabolism to maintain catecholaminergic phenotype. **Biochem J.** 441:843-850.

Hidalgo-Figueroa, M., Bonilla, S., Gutiérrez, F., **Pascual, A.***, López-Barneo, J.* (2012) GDNF is predominantly expressed in the PV+ neostriatal interneuronal ensemble in normal mouse and after injury of the nigrostriatal pathway. **The Journal of Neuroscience**. 32:864-72. (*) Corresponding authors.

Romero-Ruiz A, Bautista L, Navarro V, Heras-Garvin A, March-Diaz R, Castellano A, Gomez-Diaz R, Castro MJ, Berra E, Lopez-Barneo J*, **Pascual A.*** (2012) Prolyl hydroxylase-dependent modulation of eukaryotic elongation factor 2 activity and protein translation in acute hypoxia. **J Biol Chem**. 2012 287: 9651-9658. (*) Corresponding authors.

Sáez, A., Rivas, E., Montero-Sánchez, A., Paradas, C., Acha, B., **Pascual, A.**, Serrano, C., Escudero, L.M. Quantifiable diagnosis of muscular dystrophies and neurogenic atrophies through network analysis (2013). **BMC Medicine**. *in press*.

PATENT APPLICATION

INVENTORS Nicolas, A., Peciña, A. **Pascual, A.**, Smith, K., Mezard, C. Rassoulzadegn, M.

TITLE: *Methods for inducing targeted stimulation of meiotic recombination and kit for performing said methods*

NUMBER: 10/199,762 PET/PRO3/08834

COUNTRY: *Francia y Estados Unidos*

DATE OF PRIORITY: 19/07/2002

INSTITUTION: *Institute Curie and Centre National Recherche Scientifique (CNRS)*

INVENTORS: **Pascual, A.**, Hidalgo-Figueroa, M., Piruat, J.I., Pintado, C. O., Gomez-Diaz R., and López-Barneo, J.

TITLE: *Animal model for neurodegenerative diseases*

NUMBER: EP07380344.7

COUNTRY: *Comunidad Europea*

DATE OF PRIORITY: 7/12/2007

INSTITUTION: *Universidad de Sevilla/Hospital Virgen del Rocío*

INVENTORS: Escudero, LM, Montero, A, Paradas, C, Rivas, E, **Pascual, A**, Saez, A, Serrano, C, Acha, B.

TITLE: *Método para obtener información útil para el diagnóstico de enfermedades neuromusculares.*

NUMBER: P201131840

COUNTRY: *SPAIN*

DATE OF PRIORITY: 15/12/2011

INSTITUTION: *SERVICIO ANDALUZ DE SALUD*

STAYS IN INTERNATIONALLY RECOGNIZED CENTRES

“Biochemical characterization of the RNase P from cyanobacterium”. Directed by Prof. Sidney Altman (1989 Nobel Prize in Chemistry), Yale University, New Haven, Connecticut, USA. September 16th to November 18th. Supported by a MEC grant.

“Molecular and Systems Analysis of a Multimodal Memory Center”. Directed by Dr. Thomas Prémat, Institut de Neurobiologie Alfred Fessard, Gif-sur-Yvette, France. From January 1999 to December 2002.

“Long-term memory versus anesthesia-resistant memory, a proteomic study”. In the Dr. Thomas Prémat laboratory, ESPCI, Paris, France. March, 2011.

OTHER ACHIEVEMENTS

AWARDS AND FELLOWSHIPS

Chaire Joliot, Paris Sciences 2011.

European Neuroscience Institute-NET Young investigator 2008.

Contract "**Ramon y Cajal**" at Hospital Virgen del Rocío, Sevilla, Spain. 2003-2007

Fellowship from "**Foundation pour la Recherche Medicale**". May 2002-October 2002.

Fellowship from the **European Molecular Biology Organization** (EMBO). April 2000-May 2002.

Fellowship from "**Foundation pour la Recherche Medicale**". March 1999-April 2000.

Pre-doctoral fellowship, "**Plan de Formación de Personal Investigador (FPI), MEC**", to carry out Ph.D. studies at the Instituto de Bioquímica Vegetal y Fotosíntesis. University of Seville-C.S.I.C., Spain. 1995-1998.

Fellowships from "**MEC**" (Spain education and science ministry) as undergraduate student for starting investigators. 1994.

INVITED LECTURES

- **Consolidated memory phases in Drosophila**. Workshop Cantoblanco: Memory and related diseases. Madrid, 2005.
- **Absolute Requirement of GDNF for Adult Catecholaminergic Neuron Survival**. ENI-NET annual meeting, Warsaw, 2008.
- **The role of GDNF in adult catecholaminergic neuron survival**. Sociedad Española de Biología del Desarrollo/British Developmental Society joint annual meeting, Seville 2008.
- **Role of GDNF during cerebral postnatal development and adulthood: Facts and hypotheses**. ENI-NET final meeting, Fodele, Greece, 2009.
- **PHD2-dependent modulation of eEF2; a novel mechanism for hypoxic inhibition of protein synthesis**. Oxygen 2011, Davos, Switzerland, 2011.
- **Acute regulation of the proteome by hipoxia**. Nuffield Department of Clinical Medicine, Oxford, UK, 2011.
- **GDNF is required for adult central catecholaminergic neurons maintenance**. Instituto de Neurociencia. Alicante, 2012.
- **Microglia and Hypoxia: Implications for Alzheimer's disease**. CIC bioGUNE, Derio, Bilbao. 2013.

GRANT EVALUATION

- **ANEP** 2006, 2008-2012
- **EMBO LTF** 2008
- **ANR** (France) 2012
- **Junta de Andalucía** 2010-2011
- **Parkinson's disease society** 2010-2011

THESIS

- María Teresa Marcos Almaraz, "Participación de hemoproteínas en la función quimiosensora de células neurosecretoras". 2011, Cum Laude.
- María Hidalgo Figueroa, "Función trófica de GDNF sobre neuronas catecolaminérgicas y descripción de su expresión en el cerebro de ratón". 2012, Cum Laude.