

CURRICULUM VITAE FRANCESC POSAS

Name: **Francesc Posas Garriga**

Position title: Professor

Birth date: 24/10/1968

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Gender (M/F): M

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Education / Training

Ph.D. in Biochemistry and Molecular Biology, Universidad Autónoma de Barcelona (UAB), 1995

B.Sc. in Biology, Universidad Autónoma de Barcelona (UAB), 1991

Professional academic positions

Dates (from-until)	Position	Department & Institution
2012 -	Full Professor of Biochemistry and Molecular Biology Civil servant	Universitat Pompeu Fabra (UPF)
2006 - 2012	Full Professor of Biochemistry and Molecular Biology Permanent employment contract	UPF
2002 - 2006	Associate Professor	UPF
1999 - 2002	Assistant Professor	UPF
1999 - 1999	Research Associate	UPF
1998 - 1999	Research Associate	UAB
1998 - 1998	Research Associate	Harvard University
1996 - 1997	Postdoctoral Fellow F.P.U. (MEC)	Harvard University

Research Grants as Principal Investigator

Identification and characterization of proteins regulated by Hog1 yeast MAP kinase. **DGI, Ministerio de Ciencia y Tecnología** 2000-2003. Budget: 110.000 Eur

Identification and characterization of eukaryotic osmosensory mechanisms. **European Molecular Biology Organization (EMBO)** 2000-2003. Budget: 150.000 Eur

Signaling mechanisms in response to osmotic stress. **DURSI (Generalitat de Catalunya)** 2001-2005. Budget: 120.000 Eur

Regulation of the transcriptional machinery by the MAP kinase Hog1. **Ministerio de Asuntos Exteriores** (Acciones Integradas entre España y la República de Austria) 2002-2004. Budget: 12.000 Eur

Quantifying Signal Transduction (QUASI; LSHG-CT-2003-503230). **European Commission (6th FP)** 2003-2007. Coordinator: Dr. Stefan Hohmann. Budget: 296.000 Eur

Molecular basis of stress adaptive responses mediated by MAP kinases (BMC2003-00321). **Ministerio de Ciencia y Tecnología** 2003-2006. Budget: 260.000 Eur

Genetic analysis of the role of p38 MAPK in inflammation (277-031030/31/32). **Fundació La Marató de TV3**. 2004-2006. Budget: 150.000 Eur

Chromatin Dynamics of Transcriptional Stress Response in Yeast (03 - DYNA – F 32). **Eurodyna / ESF-MEC** 2004-2007. Coordinator: Dr. David Shore. Budget: 140.000 Eur

Function and Regulation of SAPK Signaling Pathways in Eukaryotic Cells. **EURYI (EU-ESF)** 2005-2010. Budget: 1.250.000 Eur

Characterization of the role of SAPKs in the control of the elongation process, export and translation of RNA (BFU2006-00984). **Ministerio de Educación y Ciencia**. 2006-2009. Budget: 304.000 Eur

Biological computation built on cell communication systems (CELLCOMPUT, GA 43310). **European Commission (6th FP)**. 2007-2011. Coordinator: Dr. Stefan Hohmann. Budget: 362.400 Eur

Genomic Instability (CSD2007-00015). **Ministerio de Ciencia y Tecnología (CONSOLIDER-INGENIO 2010)** 2008-2013. Coordinator: Dr. Andrés Aguilera. Budget: 612.000 Eur

Eukaryotic Unicellular Organism Biology – Systems Biology of the Control of Cell Growth and Proliferation (UNICELLSYS; F4-2008-201142). **European Commission (7th FP)**. Coordinator: Dr. Stefan Hohmann. 2008-2013. Budget: 637.000 Eur

Cell Signaling Research Group (SGR2009-1530). Agency for Management of University and Research Grants (**AGAUR**, Catalan Government) 2009-2013. Budget: 48.880 Eur

Control of gene expression and cell cycle by stress-activated protein kinases (BIO2009_07762). **MICINN**. 2010-2012. Budget: 561.000 Eur

Molecular mechanisms under the control of SAPKs that mediate stress adaptation in eukaryotic cells (BFU2012-33503). **MINECO**. 2013-2015. Budget: 526.500 Eur

Distributed computation applications in biological systems for the study and application in Diabetes Mellitus. **CIDI** (Centre d'Innovació per a la Diabetis Infantil). 2012-2016. Budget: 400.000 Eur

Distributed Computation in Synthetic Cellular Consortia (SYNCOM, GA 294294). **ERC (European Research Council, Advanced Grant)**. 2012-2017. Budget: 1.967.000 Eur

Cell Signaling Research Group (SGR2014-599). Agency for Management of University and Research Grants (**AGAUR**, Catalan Government) 2009-2013. Budget: 48.000 Eur

Global analysis of SAPK functions in eukaryotic cells (BFU2015-64437-P). **MINECO**. 2016-2018. Budget: 498.036 Eur

Participation in agreements with administrations or public or private bodies

Cooperation agreement on support technology transfer in the field of biotechnology. **Fundación Botín** 2008-2013/2014-2018.

Publications

Posas F, Ariño J. Nucleotide sequence of a rat heart cDNA encoding the isotype alpha of the catalytic subunit of protein phosphatase 2A. **Nucleic Acids Res.** 17(20):8369 (1989). **IF 4.188**

Posas F, Ariño J. Nucleotide sequence of a rat heart cDNA encoding the isotype beta of the catalytic subunit of protein phosphatase 2A. **Nucleic Acids Res.** 17(20):8370 (1989). **IF 4.188**

Posas F, Clotet J, Ariño J. *Saccharomyces cerevisiae* gene SIT4 is involved in the control of glycogen metabolism. **FEBS Lett.** 279(2):341-5 (1991). **IF 3.504**

Clotet J, Posas F, Casamayor A, Schaaff-Gerstenschläger I, Ariño J. The gene DIS2S1 is essential in *Saccharomyces cerevisiae* and is involved in glycogen phosphorylase activation. **Curr Genet.** 19(5):339-42 (1991). **IF 1.924**

Posas F, Casamayor A, Morral N, Ariño J. Molecular cloning and analysis of a yeast protein phosphatase with an unusual amino-terminal region. **J Biol Chem.** 267(17):11734-40 (1992). **IF 6.963**

Posas F, Clotet J, Muns MT, Corominas J, Casamayor A, Ariño J. The gene PPG encodes a novel yeast protein phosphatase involved in glycogen accumulation. **J Biol Chem.** 268(2):1349-54 (1993). **IF 6.963**

Ariño J, Pérez-Callejón E, Cunillera N, Camps M, Posas F, Ferrer A. Protein phosphatases in higher plants: multiplicity of type 2A phosphatases in *Arabidopsis thaliana*. **Plant Mol Biol.** 21(3):475-85 (1993). **IF 2.852**

Posas F, Casamayor A, Ariño J. The PPZ protein phosphatases are involved in the maintenance of osmotic stability of yeast cells. **FEBS Lett.** 318(3):282-6 (1993). **IF 3.504**

Clotet J, Posas F, Hu GZ, Ronne H, Ariño J. Role of protein phosphatase 2A in the control of glycogen metabolism in yeast. **Eur J Biochem.** 229(1):207-14 (1995). **IF 3.136**

Posas F, Camps M, Ariño J. The PPZ protein phosphatases are important determinants of salt tolerance in yeast cells. **J Biol Chem.** 270(22):13036-41 (1995). **IF 6.963**

Posas F, Bollen M, Stalmans W, Ariño J. Biochemical characterization of recombinant yeast PPZ1, a protein phosphatase involved in salt tolerance. **FEBS Lett.** 368(1):39-44 (1995). **IF 3.504**

Posas F, Wurgler-Murphy SM, Maeda T, Witten EA, Thai TC, Saito H. Yeast HOG1 MAP kinase cascade is regulated by a multistep phosphorelay mechanism in the SLN1-YPD1-SSK1 "two-component" osmosensor. *Cell* 86(6):865-75 (1996). **IF 37.297**

Clotet J, Posas F, de Nadal E, Ariño J. The NH₂-terminal extension of protein phosphatase PPZ1 has an essential functional role. *J Biol Chem*. 271(42):26349-55 (1996). **IF 6.963**

Posas F, Saito H. Osmotic activation of the HOG MAPK pathway via Ste11pMAPKKK: scaffold role of Pbs2p MAPKK. *Science* 276(5319):1702-5 (1997). **IF 24.676**

Takekawa M, Posas F, Saito H. A human homolog of the yeast Ssk2/Ssk22 MAP kinase kinase kinases, MTK1, mediates stress-induced activation of the p38 and JNK pathways. *EMBO J*. 16(16):4973-82 (1997). **IF 23.643**

Posas F, Saito H. Activation of the yeast SSK2 MAP kinase kinase kinase by the SSK1 two-component response regulator. *EMBO J*. 17(5):1385-94 (1998). **IF 13.171**

de Nadal E, Clotet J, Posas F, Serrano R, Gomez N, Ariño J. The yeast halotolerance determinant Hal3p is an inhibitory subunit of the Ppz1p Ser/Thr protein phosphatase. *Proc Natl Acad Sci U S A*. 95(13):7357-62 (1998). **IF 9.821**

Ariño J, Posas F, Clotet J. The search for the biological function of novel yeast Ser/Thr phosphatases. *Methods Mol Biol*. 93:305-13 (1998).

Posas F, Witten EA, Saito H. Requirement of STE50 for osmostress-induced activation of the STE11 mitogen-activated protein kinase kinase kinase in the high-osmolarity glycerol response pathway. *Mol Cell Biol*. 18(10):5788-96 (1998). **IF 9.571**

Ferrigno P, Posas F, Koepp D, Saito H, Silver PA. Regulated nucleo/cytoplasmic exchange of HOG1 MAPK requires the importin beta homologs NMD5 and XPO1. *EMBO J*. 17(19):5606-14 (1998). **IF 13.171**

Posas F, Takekawa M, Saito H. Signal transduction by MAP kinase cascades in budding yeast. *Curr Opin Microbiol*. 1(2):175-82 (1998).

Posas F, Chambers JR, Heyman JA, Hoeffler JP, de Nadal E, Ariño J. The transcriptional response of yeast to saline stress. *J Biol Chem*. 275(23):17249-55 (2000). **IF 7.368**

Raitt DC, Posas F, Saito H. Yeast Cdc42 GTPase and Ste20 PAK-like kinase regulate Sho1-dependent activation of the Hog1 MAPK pathway. *EMBO J*. 19(17):4623-31 (2000). **IF 13.999**

Bilsland-Marchesan E, Ariño J, Saito H, Sunnerhagen P, Posas F. Rck2 kinase is a substrate for the osmotic stress-activated mitogen-activated protein kinase Hog1. *Mol Cell Biol*. 20(11):3887-95 (2000). **IF 9.666**

Proft M, Pascual-Ahuir A, de Nadal E, Ariño J, Serrano R, Posas F. Regulation of the Sko1 transcriptional repressor by the Hog1 MAP kinase in response to osmotic stress. *EMBO J*. 20(5):1123-33 (2001). **IF 12.459**

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Pascual-Ahuir, A., Posas, F., Serrano, R., Proft, M. Multiple Levels of Control Regulate the Yeast cAMP-response Element-binding Protein Repressor Sko1p in Response to Stress. *J Biol Chem* 276(40): 37373-37378 (2001) **IF 7.258**

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Alepuz PM, de Nadal E, Zapater M, Ammerer G, Posas F. Osmostress-induced transcription by Hot1 depends on a Hog1-mediated recruitment of the RNA Pol II. *EMBO J*.; 22(10):2433-42 (2003). **IF 10.456**

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Tomás-Cobos L, Casadomé L, Mas G, Sanz P, Posas F. Expression of the HXT1 low affinity glucose transporter requires the coordinated activities of the HOG and glucose signalling pathways. *J Biol Chem*.; 279(21):22010-9 (2004). **IF 6.355**

Escoté X, Zapater M, Clotet J, Posas F. Hog1 mediates cell-cycle arrest in G1 phase by the dual targeting of Sic1. *Nat Cell Biol*.; 6(10):997-1002 (2004). **IF 20.649**

Zapater M, Clotet J, Escoté X, Posas F. Control of cell cycle progression by the stress-activated Hog1 MAPK. *Cell Cycle*; 4(1):6-7 (2005). **IF 5.359**

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- Proft M[&], Mas G[&], de Nadal E[&], Vendrell A, Noriega N, Struhl K^{*}, Posas F^{*}. The stress-activated Hog1 kinase is a selective transcriptional elongation factor for genes responding to osmotic stress. **Mol Cell.**; 23(2):241-50 (2006). **IF 14.033**
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- Zapater M, Sohrmann M, Peter M, Posas F^{*}, de Nadal E. Selective requirement for SAGA in Hog1-mediated gene expression depending on the severity of the external osmotic stress conditions. **Mol Cell Biol.**; 27(11):3900-10 (2007). **IF 6.420**
- de Nadal E, Real FX, Posas F^{*}. Mucins, osmosensors in eukaryotic cells? **Trends Cell Biol.**; 17(12):571-4 (2007) **IF 13.527**
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- Macia J[&], Regot S[&], Peeters T, Conde N, Solé R^{*}, Posas F^{*}. Dynamic signaling in the Hog1 MAPK pathway relies on high basal signal transduction. **Sci Signal.**; 2(63):ra13 (2009). **IF 7.5**
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- de Nadal E^{*}, Posas F^{*}. Multilayered control of gene expression by stress-activated protein kinases. **EMBO J.**; 29(1):4-13 (2010). **IF 10.124**
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- Vendrell A, Posas F^{*}. Sir2 plays a key role in cell fate determination upon SAPK activation. **Aging (Albany NY).**; 3(12):1163-8 (2011). **IF 5.127**
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& Authors contributed equally to the work * Corresponding Author

International Conferences (Invited speaker)

- Stress in Yeast Cell Biology... and Beyond. Madrid, Spain. 2002
- IMP Seminar Series. Viena (Austria). 2003
- Gordon Conference "Stress-Induced Gene Expression". Oxford (England). 2003
- XXI International Conference on Yeast Genetics and Molecular Biology. Göteborg (Sweden). 2003
- NORFA Meeting. Göteborg (Sweden). 2003
- Gene Transcription in Yeast. Euresco Euroconference. Sant Feliu De Guíxols (España). 2004
- Transcriptional Regulation and Beyond. Juan March Institute. Madrid (Spain). 2005.
- CSSI. 20nd International Congress on Stress Responses in Biology and Medicine. Tomar (Portugal). 2005.
- Gene Transcription in Yeast. ESF-EMBO Symposium. Sant Feliu De Guíxols (Spain). 2006
- FEMS Congress of European Microbiologists. Madrid (Spain). 2006.
- Frontiers of Molecular Biology. Barcelona (Spain). 2007
- UK Chromatin Meeting 2007. Nottingham (UK). 2007
- Molecular Machines. 32nd FEBS Congress. Vienna (Austria). 2007
- Gene Transcription in Yeast. EMBO Symposium. St. Feliu De Guíxols (Spain). 2008
- Stress Signalling and Cancer. CNIO Special Workshop. Madrid (Spain). 2008
- 25th International Conference on Yeast Genetics & Molecular Biology. Manchester (UK). 2009
- 35th FEBS Congress. Göteborg (Sweden.) 2010
- 25th International Conference on Yeast Genetics and Molecular Biology. Kortowo-Olsztyn (Poland). 2011

FINSysB Conference Candida Infection Biology – fungal armoury, battlefields and host defences. Aquafredda di Maratea (Italia). 2011

Cell Signaling Networks 2011. Mérida (México.) 2011

Simposio Internacional “La Levadura: un organismo modelo para la investigación biomédica” Oviedo (España). 2012

Gene Transcription in Yeast. EMBO Symposium. St. Feliu De Guíxols (Spain). 2012

22nd IUBMB & 37th FEBS Congress. Sevilla (España). 2012

Israel Science Foundation Conference "The Biochemistry, Biology and Pathology of MAP Kinases". Jerusalén (Israel). 2012

26th International Conference on Yeast Genetics and Molecular Biology. Frankfurt (Germany). 2013

International Symposium on Yeasts Bioeconomy. Fundación Ramón Areces. Madrid (Spain). 2013

XII PABMB Congress 2013. Puerto Varas (Chile). 2013

CRG-CIFAR: Genetic Networks Mini-Symposium. Barcelona (Spain). 2013

EMBO Conference “Gene transcription in yeast: From regulatory networks to mechanisms” Sant Feliu (Spain). 2014

GABBA Annual Symposium 2014: Communicating Life. Porto (Portugal). 2014

International Symposium on Fungal Stress (ISFUS). Brasil. 2014

40th Congress of the Federation of European Biochemical Societies (FEBS). Berlín (Alemania). 2015

Cell Biology of Yeasts. Cold Spring Harbor Laboratory, New York (USA). 2015

EMBO Conference "Gene transcription in yeast: From chromatin to RNA and back". Sant Feliu de Guixols (Spain). 2016

Stays in Foreign Universities

Institut Für Mikrobiologie, Technische Hochschule Darmstadt. Darmstadt, Germany. 1991, 1 month.

Dpt. Humane Biologie, Afdeling Biochemie, Campus Gasthuisberg. Leuven, Belgium. 1992, 3 months.

Dpt. of Biological Chemistry and Molecular Pharmacology. Harvard Medical School. Division of Tumor Immunology, Dana-Farber Cancer Institute. Boston, USA. 1996-98, 31 months.

Ph.D Thesis Director

Number of thesis defended: 13 (Universitat Pompeu Fabra)

Laura Casadomé “Transcription factors under the control of the yeast Hog1 MAPK.” 1/03/2005.

Xavier Escoté “Control of Cell Cycle Progression by the Yeast MAPK Hog1.” 6/10/2005.

Meritxell Zapater “Control of transcription initiation by the stress-activated Hog1 kinase.” 1/12/2006.

Gloria Mas “Novel Mechanisms of Transcriptional Regulation by The Yeast Hog 1 MAPK”. 20/07/2007.

Alexandre Vendrell, “SCF^{cdc4} Regulates Msn2 And Msn4 Dependent Gene Expression to Counteract Hog1 Induced Lethality”. 16/01/2009.

Nuria Noriega “Estudio del factor de transcripción Rtg1 en respuesta a estrés celular.” 27/03/2009.

Miquel Angel Adrover Nadal “Qualitative and Quantitative Study of the Effect of Osmostress on the Cell Cycle of *Saccharomyces cerevisiae*”. 18/09/2009.

Sergi Regot “From systems to synthetic studies in *Saccharomyces cerevisiae*”. 15/07/2011.

Isabel Ferreiro “Transcriptional regulation by the mammalian stress-activated protein kinase p38”. 07/10/2011.

Claudia Ruiz “Estudio de los mecanismos necesarios para la modificación de la cromatina en los genes de respuesta a un choque térmico”. 02/12/2011.

Mariona Nadal “Control of transcription by the Stress Activated Hog1 kinase”. 25/11/2013.

Nuria Conde “Biological computation in yeas” 18/09/2014

Cristina Viéitez “Study of the role of chromatin in transcription regulation in response to heat stress” 18/12/2014

Honours and other professional activities

Awards

- Award to the best Ph.D Thesis. Dept. of Biochemistry and Molecular Biology. UAB (1995).
- EMBO Young Investigator (2000).
- Award to Young Investigators from the Catalan Government (DURSI) for the Promotion of University Research (2001).
- Beckman Coulter Award to Young Investigators (2004)
- Recipient of the EURI to Young Investigators from the European Union (ESF) (2004).
- Recipient of the Award from the Catalan Government "Icrea Acadèmia" (2009-2013 and 2014-2018).
- Recipient of the Award "Carmen y Severo Ochoa de investigación en biología molecular" (2011).

Academic positions

- Head of the Department of Experimental Sciences and Health, UPF (2007-2013)
- Vicerector for Science Policy, UPF (2013-2015)
- Vicerector for Science Policy and Faculty Affairs, UPF (2015-to date)

Participation in Scientific Societies

- EMBO Member (Elected in 2006) after being EMBO Young Investigator (2000).
- Member of the board of the SEBBM (Spanish Society of Biochemistry and Molecular Biology) (2008-2012).
- Member of the "Faculty 1000" (BiomedNet).

Collaboration in Journals / Books

- Editor of *FEBS Letters* (2004-)
- Editor of the book Stress-activated protein kinases. Current Topics in Genetics. Springer 2008.
- Reviewer of the following scientific journals: *Cell*, *Science*, *Nature*, *Nat. Cell Biol.*, *Mol. Cell*, *EMBO J.*, *PNAS*, *Mol. Cell Biol.*, *Mol. Biol. Cell*, *J. Biol. Chem.*, *NRG*, *NAR*, *Intl. J. Cancer* and others.
- Member of the Editorial Board Journal of Biological Chemistry (JBC) (2009-)

Project Reviewer

- Project Reviewer for different national agencies; Evaluation and Foresight National Agency (ANEP) and Ministry of Science and Innovation (Spanish Government), as well as international agencies as National Science Foundation (NSF), European Science Foundation (ESF), European Research Council (ERC), Fund for Scientific Research (FNRS, Belgium), Agence Nationale de la Recherche (ANR, France), Biotechnology and Biological Sciences Research Council (BBSRC, UK), Engineering and Physical Sciences Research Council (EPSRC, UK), Swiss National Science Foundation (SNF, Switzerland), Czech Science Foundation, Natural Sciences and Engineering Research Council of Canada (NSERC), National Aeronautics and Space Administration (NASA, USA) and US-Israel Binational Science Foundation (BSF)..
- Collaborator (2009) and Manager (2010-) of the BMC program (Molecular and Cellular Biology), MINECO.

Congresses Organization

- Workshop organizer at the XXI International Conference on Yeast Genetics and Molecular Biology, Sweden (2003)
- Workshop organizer at the FEMS Congress of European Microbiologists, Spain (2006)
- Workshop organizer at the "Kinases Signaling to Chromatin" CRG Symposium, Spain (2007)
- Workshop organizer of the "Frontiers of Molecular Biology" EMBO Members Workshop, Spain (EMBO, 2007)
- Main organizer of the EMBO Conference "Gene Transcription in Yeast", Spain (2010, 2012)
- Scientific Committee Member at the 22nd IUBMB & 37th FEBS Congress, Spain (2012)
- International Scientific Committee Member at the 26th International Conference on Yeast Genetics and Molecular Biology, Germany (2013)
- EMBO Conference "Gene Transcription in Yeast" (2014).
- International Scientific Committee Member at the B-Debate "Synthetic biology: from standard biological parts to artificial life", Spain (2015)

- Scientific Program Committee Member at the 17th International Conference on Systems Biology (ICSB), Spain (2016)

Committees

- Member of the Commission Health sciences and Medicine of the FECYT (2005-2006)
 - EURYI National Assessment Panel Expert (2006)
 - Member of the Engineering and Physical Sciences Research Council (EPSRC) peer review college, UK (2006-2009)
 - Member of the Steering Committee of the European project Unicellsys (FP7) (2008-2009)
 - European Research Council (ERC) referee (2009-)
 - Member of the Selection Committee of EMBO Members, Research Area "Genes, Genomes, Gene Expression" (2011)
 - Member of the Scientific Committee of the PRBB (Parc de Recerca Biomèdica de Barcelona) (2012-)
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