

## Mónica Imbernón, PhD



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Development and Plasticity of the Neuroendocrine Brain

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### Education

Degree	Field of study	Institution	Supervisor	Years
PhD	Physiology	University of Santiago de Compostela, Spain	Rubén Nogueiras & Carlos Diéguez	2010-2016
M. S.	Molecular Medicine	University of Santiago de Compostela, Spain	Óscar Cordero	2007-2009
B. Sc.	Molecular biology and biotechnology. Five year program	University of Santiago de Compostela, Spain		2002-2007

### Position

Name and Type	Institution and location	Years
Research contract– PhD student	University of Santiago de Compostela, Department of Physiology	01/2014-06/2016
Research contract – PhD student	CIBERobn. University of Santiago de Compostela, Department of Physiology	08/2010-12/2013
Master Fellowship	Xunta de Galicia. University of Santiago de Compostela, Department of Biochemistry	10/2008-10/2009

### Publications

- **Imbernón M**, Sanchez-Rebordelo E, Romero-Picó A, Kalló I, Chee MJ, Porteiro B, Al-Massadi O, Contreras C, Fernø J, Senra A, Gallego R, Folgueira C, Seoane LM, van Gestel M, Adan RA, Liposits Z, Dieguez C, Lopez M, Ruben Nogueiras R. Hypothalamic kappa opioid receptor mediates both diet- and MCH-induced liver damage through inflammation and ER stress. *HEPATOLOGY*. 2016. doi: 10.1002/hep.28716. [Epub ahead of print] PMID: 27387967
- Varela-Calviño R, **Imbernón M**, Vázquez-Iglesias L, Páez de la Cadena M, Bande-Rodríguez M, Piñeiro A, Pardo M, Cordero O. Serun dipeptidyl peptidase IV activity and sCD26 concentration in patients with choroidal nevus or uveal melanoma. *Clinica Chimica Acta*. 2015 July; (448): 193-194.
- Beiroa D, **Imbernón M**, Gallego R, Senra A, Herranz D, Villarroya F, Serrano M, Fernø J, Salvador J, Escalada J, Dieguez C, Lopez M, Frühbeck G, Nogueiras R. GLP-1 agonism stimulates brown adipose tissue thermogenesis and browning through hypothalamic AMPK. *Diabetes*. 2014 Oct; 63 (10): 3346-3358.
- **Imbernón M**, Sanchez-Rebordelo E, Gallego R, Gandara M, Lear P, Lopez M, Dieguez C, Nogueiras R. Hypothalamic KLF4 mediates leptin's effects on food intake via AgRP. *Molecular metabolism*. 2014 April; 3 (4): 441-451.
- **Imbernón M**, Whyte L, Diaz-Arteaga A, Russell WR, Moreno NR, Vazquez MJ, Gonzalez CR, Díaz-Ruiz A, Lopez M, Malagón MM, Ross RA, Dieguez C, Nogueiras R.

## CURRICULUM VITAE – MÓNICA IMBERNÓN

Regulation of GPR55 in rat white adipose tissue and serum LPI by nutritional status, gestation, gender and pituitary factors.

Mol Cell Endocrinol. 2013 Dic; 383 (1-2): 159-169.

- Schneeberger M, Dietrich MO, Sebastián D, **Imbernon M**, Castaño C, Garcia D, Esteban Y, Gonzalez-Franquesa A, Castrillón-Rodríguez I, Bortolozzi A, Garcia-Roves PM, Gomis R, Nogueiras R, Horvath TL, Zorzano A, Claret M. Mitofusin 2 in POMC Neurons Connects ER Stress with Leptin Resistance and Energy Imbalance. Cell. 2013 Sep; 155(1):172-87.
- **Imbernon M**, Beiroa D, Vázquez MJ, Morgan DA, Veyrat-Durebex C, Porteiro B, Díaz-Arteaga A, Senra A, Busquets S, Velásquez DA, Al-Massadi O, Varela L, Gándara M, López-Soriano FJ, Gallego R, Seoane LM, Argiles JM, López M, Davis MJ, Sabio G, Rohner-Jeanrenaud F, Rahmouni K, Dieguez C, Nogueiras R. Central Melanin-Concentrating Hormone Influences Liver and Adipose Metabolism Via Specific Hypothalamic Nuclei and Efferent Autonomic/JNK1 Pathways Gastroenterology. 2012 Nov; 144(3):636-649.
- Moreno-Navarrete JM, Catalán V, Whyte L, Díaz-Arteaga A, Vázquez-Martínez R, Rotellar F, Guzmán R, Gómez-Ambrosi J, Pulido MR, Russell WR, **Imbernon M**, Ross MA, Malagón MM, Dieguez C, Fernández-Real JM, Frühbeck G, Nogueiras R The L-alpha-Lysophosphatidylinositol/GPR55 System and Its Potential Role in Human Obesity Diabetes. 2011 Dic; 61(2):281-291.
- Romero-Zerbo SY, Rafacho A, Díaz-Arteaga A, Suárez J, Quesada I, **Imbernon M**, Ross RA, Dieguez C, Rodríguez de Fonseca F, Nogueiras R, Nadal A, Bermúdez-Silva FJ. A role for the putative cannabinoid receptor GPR55 in the islets of Langerhans J Endocrinol. 2011 Sep; 211(2):177-185.
- Cordero OJ, **Imbernon M**, De Chiara L, Martínez-Zorzano VS, Ayude D, Paez de la Cadena M, Rodríguez-Berrocal FJ Potential of soluble CD26 as a serum marker for colorectal cancer detection. World journal of clinical oncology. 2011 June; 2(6):245-261.

### Manuscripts under review

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- Al-Massadi O, *et al.*  
MCH-induced hyperphagia, adiposity and glucose intolerance are regulated by the Sirt1/FoxO1 pathway within the hypothalamic arcuate nucleus
- Porteiro B, *et al.*  
Hepatic p53/p63 regulate steatosis via IKK $\beta$ /ER stress

### Selected conferences proceedings

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- **Imbernon M**, Beiroa D, Gallego R, Senra A, Herranz D, Villarroya F, Serrano M, Fernø J, Salvador J, Escalada J, Dieguez C, Lopez M, Frühbeck G, Nogueiras R.  
GLP-1 agonism stimulates brown adipose tissue thermogenesis and browning through hypothalamic AMPK  
Oral communication  
Energy homeostasis and metabolic disease; CNIC  
Madrid, Spain; 2014, Nov.
- **Imbernon M**, Sanchez-Reboredo E, Lopez M, Dieguez C, Nogueiras C.  
Hypothalamic KLF4 mediates leptin's effects on food intake via AGRP  
Poster  
Translating Diabetes; EMBO EMBL Symposium  
Heidelberg, Germany; 2014, April.
- **Imbernon M**, Beiroa D, Vázquez MJ, Morgan DA, Veyrat-Durebex C, Porteiro B, Díaz-Arteaga A, Al-Massadi O, Gallego R, Seoane LM, López M, Davis RJ, Sabio G, Rohner-Jeanrenaud F, Rahmouni K, Dieguez C, Nogueiras R.  
Hypothalamic Melanin-Concentrating Hormone Influences Liver and Adipose Lipid Metabolism  
Póster; **ESE poster prize 2013**  
European Congress of Endocrinology, ECE2013  
Copenhagen, Denmark; 2013, May.

## CURRICULUM VITAE – MÓNICA IMBERNÓN

- **Imbernon M**, Beiroa D, Vázquez MJ, Morgan DA, Veyrat-Durebex C, Porteiro B, Díaz-Arteaga A, Al-Massadi O, Gallego R, Seoane LM, López M, Davis RJ, Sabio G, Rohner-Jeanrenaud F, Rahmouni K, Dieguez C, Nogueiras R.  
Adipose and liver metabolism are influenced by MCH  
Poster  
Federation of European Physiological Societies Congress 2012  
Santiago de Compostela, Spain; 2012, Sep.
- **Imbernon M**, Moreno-Navarrete JM, Catalán V, Whyte L, Díaz-Arteaga A, Vázquez-Martínez R, Rotellar F, Guzmán R, Gómez-Ambrosi J, Pulido MR, Russell WR, Ross MA, Malagón MM, Dieguez C, Fernández-Real JM, Frühbeck G, Nogueiras R Ruben Nogueiras  
The alpha lysophosphatidil inositol/GPR55 system and its potential role in human obesity  
Poster  
19th European Congress on Obesity (ECO2012) European Association for the study of Obesity  
Lyon, France; 2012, May.
- Beiroa D, **Imbernon M**, Vázquez MJ, Morgan DA, Veyrat-Durebex C, Porteiro B, Díaz-Arteaga A, Al-Massadi O, Gallego R, Seoane LM, López M, Davis RJ, Sabio G, Rohner-Jeanrenaud F, Rahmouni K, Dieguez C, Nogueiras R.  
Central Melanin-concentrating hormone influences adipose and liver metabolism via specific hypothalamic nuclei and efferent autonomic pathways  
Poster  
19th European Congress on Obesity (ECO2012) European Association for the study of Obesity  
Lyon, France; 2012, May.

### Technical skills

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*In vitro* Fluorescence/optical microscopy, ELISA, colorimetric and enzymatic assays, cell culture and flow cytometry. Histology and immunohistochemistry analysis of central and peripheral tissues. RNA/DNA/protein extraction from tissues; PCR, RT-PCR, genotyping and western blot.

*In vivo* Stereotaxically and tail vein delivery of AAV-Lentiviral-Adeoviral vectors or compounds on both rats and mice. Subcutaneous and brain mini-osmotic pump implantation, peripheral and central (ICV) chronically compounds administration. Major surgeries such vagotomy, intra-jugular and intra-duodenal cannulation on rats. RMN and indirect calorimetric systems of fenotyping. Blood collection, blood glucose measurements, glucose/insulin tolerance test, transcardial perfusions, tissue harvest and management of mice colonies at all stages.

**Certificates.** Course of experimental animals: approval for conducting experimental procedures category B, RD 1201/2005 issued by the government of Galicia for the government of Spain.

Training in radiation protection research staff issued by University of Santiago de Compostela.