

# Angel Luis Barco Guerrero

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## **Current Position:**

CSIC Research Professor at Instituto de Neurociencias (UMH-CSIC).

## **Previous positions as Principal Investigator:**

- Oct 03 – Aug 04: Associate Research Scientist at the Center for Neurobiology and Behavior in Columbia University (Dr. Eric Kandel's lab).
- Sep 04 - Oct 04: *Ramón y Cajal* Investigator at Instituto de Neurociencias (UMH-CSIC).
- Nov 04 - Oct 08: *Team Leader Marie Curie Excellence Programme* at Instituto de Neurociencias (UMH-CSIC).
- Nov 08 – Apr 10: CSIC Research Scientist at Instituto de Neurociencias (UMH-CSIC).
- May 10 – Mar 18: CSIC Research Investigator at Instituto de Neurociencias (UMH-CSIC).

## **Postdoctoral Positions:**

Center for Molecular Biology Severo Ochoa, CSIC-UAM. Laboratory of Prof. Luis Carrasco (Jan 97 - Sep 98)

Center for Neurobiology and Behavior, Columbia University y Howard Hughes Medical Institute. Laboratory of Prof. Eric R. Kandel (Oct 98 - Sep 03)

**Ph.D thesis:** Lab. Prof. Luis Carrasco at Centro de Biología Molecular “Severo Ochoa” CSIC-UAM between January 1993 and September 1996.

## **Academic information:**

Degree in Biological Sciences, Biochemistry and Molecular Biology by Universidad Autónoma de Madrid, July 1992.

Doctorate in Biological Sciences by Universidad Autónoma de Madrid in December 1996.

## **Research Fields:**

My long-term goal is to understand the relationship between the activation of specific gene programs triggered by neuronal activity and brain plasticity changes related to memory and other behaviors. This knowledge may reveal how the dysfunction of these molecular processes leads to neurological disorders and may open new therapeutics avenues for restoring normal brain function

## **Representative Publications**

Scandaglia M, Medrano-Fernandez A, Lopez-Atalaya JP, Lopez-Cascales MT, del Blanco B, Lipinski M, Benito E, Olivares R, Iwase S, Shi Y, Barco A. “*Loss of Kdm5c causes spurious transcription and prevents the fine-tuning of activity-regulated enhancers in neurons.*” **Cell Reports**, in press (2017).

Fiorenza A, Lopez-Atalaya JP, Rovira V, Scandaglia M, Geijo-Barrientos E, Barco A. “*Blocking miRNA biogenesis in adult forebrain neurons enhances seizure*

*susceptibility, fear memory and food intake by increasing neuronal responsiveness. "*  
**Cereb Cortex** 26(4): 1619-33 (2016).

Lopez-Atalaya JP and Barco A. " *Can changes in histone acetylation contribute to memory formation?* " **Trends Genet.** Dec; 30(12): 529-39. (2014)

Ito S, Magalska A, Alcaraz-Iborra M, Lopez-Atalaya JP, Rovira V, Contreras-Moreira B, Lipinski M, Olivares R, Martinez-Hernandez J, Ruszczycki B, Lujan R, Geijo-Barrientos E, Wilczynski GM and Barco A. " *Loss of neuronal 3D chromatin organization causes transcriptional and behavioural deficits related to serotonergic dysfunction.* " **Nat Commun.** 5:4450 (2014)

Lopez-Atalaya JP, Ito S, Valor LM, Benito E and Barco A. " *Genomic targets, and histone acetylation and gene expression profiling of neural HDAC inhibition.* " **Nucleic Acids Res** 41(17):8072-84 (2013)

Lopez-Atalaya JP, Ciccarelli A, Viosca J, Valor LM, Jimenez-Minchan M, Canals S, Giustteto M and Barco A. " *CBP is required for environmental enrichment-induced neurogenesis and cognitive enhancement.*" **EMBO J** 30(20): 4287-98 (2011)

Benito E and Barco A. " *CREB's control of intrinsic and synaptic plasticity: Implications for CREB-dependent memory models.* " **Trends Neurosci** 33(5):230-40 (2010)

Barco A, Patterson SL, Alarcón JM, Gromova P, Mata-Roig M, Morozov A and Kandel ER " *Gene expression profiling of facilitated L-LTP in VP16-CREB mice reveals that BDNF is critical for both the maintenance of LTP and for its synaptic capture.* " **Neuron** 48(1): 123-37 (2005)

Alarcon JM, Malleret G, Touzani T, Vronskaya S, Ishii S, Kandel ER and Barco A. " *Chromatin acetylation, memory, and LTD are impaired in CBP+/- mice: a model for the cognitive deficit in Rubinstein-Taybi syndrome and its amelioration.* " **Neuron** 42(6): 947-59 (2004)

Barco A, Alarcon JM and Kandel ER " *Expression of constitutively active CREB protein facilitates the late phase of long-term potentiation by enhancing synaptic capture.* " **Cell** 108(5): 689-703 (2002)

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