



Dr. Ioannis Charalampopoulos

P6: University of Crete, Greece
Medical School, Dept. of Pharmacology

Position

Assistant Professor of Pharmacology, Medical School, University of Crete; Researcher at Institute of Molecular Biology and Biotechnology (IMBB), FORTH.

E-mail address: charalamp@imbb.forth.gr

Phone: +30 2810394531

Fax: +30 2810394530

Webpage: <http://regenera-pharm.med.uoc.gr>

Background

Ioannis Charalampopoulos received his Bachelor's degree in Biology from the University of Patras (1996), his Master's (2000) and PhD degree (2005) from Medical School, University of Crete and served as a postdoctoral researcher at Karolinska Institutet, Stockholm, at Prof. Carlos Ibáñez lab of Molecular Neurobiology.

His research interest is focusing on the investigation of the molecular mechanisms that growth factors and their receptors are using to regulate the regenerative capacity of adult nervous system. Such molecules, as Neurotrophins, control brain development and maintenance during adulthood and in aging, while they importantly participate in neuronal survival, differentiation and repair. His studies are ranging from neurotrophin receptors structure-function experiments to pharmacological development of novel ligands for these receptors with neuroprotective, neurogenic and regenerative properties. The aim of his work is to determine and decipher the multiple signaling pathways of the neurotrophin receptors on neuroprotection and adult neurogenesis (using *in vivo* animal models and *in vitro* 3D neural stem cell cultures), and thus to enhance their ability to promote regeneration of nervous tissue, targeting the optimization of their therapeutic potential on animal models of neurodegenerative diseases (Alzheimer's Disease and Spinal Cord Injury).

Role in EuroNeurotrophin

Partner P6; Team member B8, co-supervisor ESR11 and ESR12

Key Publications

1. Pediaditakis I, Kourgiantaki A, Prousis KC, Potamitis C, Xanthopoulos KP, Zervou M, Calogeropoulou T, **Charalampopoulos I**, Gravanis A. BNN27, a 17-Spiroepoxy Steroid Derivative, Interacts With and Activates p75 Neurotrophin Receptor, Rescuing Cerebellar Granule Neurons from Apoptosis. **Front Pharmacol.** 2016 Dec 26;7:512.
2. Pediaditakis I, Efsthopoulos P, Prousis KC, Zervou M, Arévalo JC, Alexaki VI, Nikoletopoulou V, Karagianni E, Potamitis C, Tavernarakis N, Chavakis T, Margioris AN, Venihaki M, Calogeropoulou T, **Charalampopoulos I**, Gravanis A. Selective and differential interactions of BNN27, a novel C17-spiroepoxy steroid derivative, with TrkA receptors, regulating neuronal survival and differentiation. **Neuropharmacology**, 2016 Dec;111:266-282
3. Efsthopoulos P, Kourgiantaki A, Karali K, Sidiropoulou K, Margioris AN, Gravanis A, **Charalampopoulos I**. Fingolimod induces neurogenesis in adult mouse hippocampus and improves contextual fear memory. **Transl Psychiatry**, 2015 Nov 24;5:e685

4. **Charalampopoulos I**, Vicario A, Pediaditakis I, Gravanis A, Simi A, Ibáñez CF. Genetic Dissection of Neurotrophin Signaling through the p75 Neurotrophin Receptor. **Cell Rep.**, 2012 Dec 27;2(6):1563-70
5. Lazaridis I*, **Charalampopoulos I***, Alexaki VI, Avlonitis N, Pediaditakis I, Efsthopoulos P, Calogeropoulou T, Castanas E, Gravanis A. Neurosteroids bind with high affinity and activate Nerve Growth Factor (NGF) receptors, preventing neuronal apoptosis. **PloS Biol.**, Vol 9(4), April 2011, (*equal contributors)
6. Vilar M*, **Charalampopoulos I***, Kenchappa RS*, Simi A*, Karaca E, Reversi A, Choi S, Bothwell M, Mingarro I, Friedman W, Schiavo G, Bastiaens P, Verveer P, Carter BD, Ibáñez CF. Activation of the p75 neurotrophin receptor through conformational rearrangement of disulphide-linked receptor dimmers. **Neuron**, 2009, 62(1): 72-83 (* equal contributors)
7. **Charalampopoulos I**, Remboutsika E, Margioris AN, Gravanis A. Neurosteroids as endogenous modulators of neurogenesis and neuronal survival. **Trends Endocrinol Metab.** 2008, 19(8):300-7.
8. **Charalampopoulos I***, Alexaki VI*, Lazaridis I, Dermitzaki E, Avlonitis N, Tsatsanis C, Calogeropoulou T, Margioris AN, Castanas E, Gravanis A. G protein-associated, specific membrane binding sites mediate the neuroprotective effect of dehydroepiandrosterone. **FASEB J.** 2006, 20:577-9. (* equal contributors)
9. **Charalampopoulos I**, Tsatsanis C, Dermitzaki E, Alexaki VI, Castanas E, Margioris AN, Gravanis A. Dehydroepiandrosterone and allopregnanolone protect sympathoadrenal medulla cells against apoptosis via antiapoptotic Bcl-2 proteins. **Proc Natl Acad Sci U S A.** 2004, 101:8209-14.

Full list of publications available here (<http://regenera-pharm.med.uoc.gr> , [ORCID or https://www.ncbi.nlm.nih.gov/pubmed/?term=Charalampopoulos+I](https://www.ncbi.nlm.nih.gov/pubmed/?term=Charalampopoulos+I))