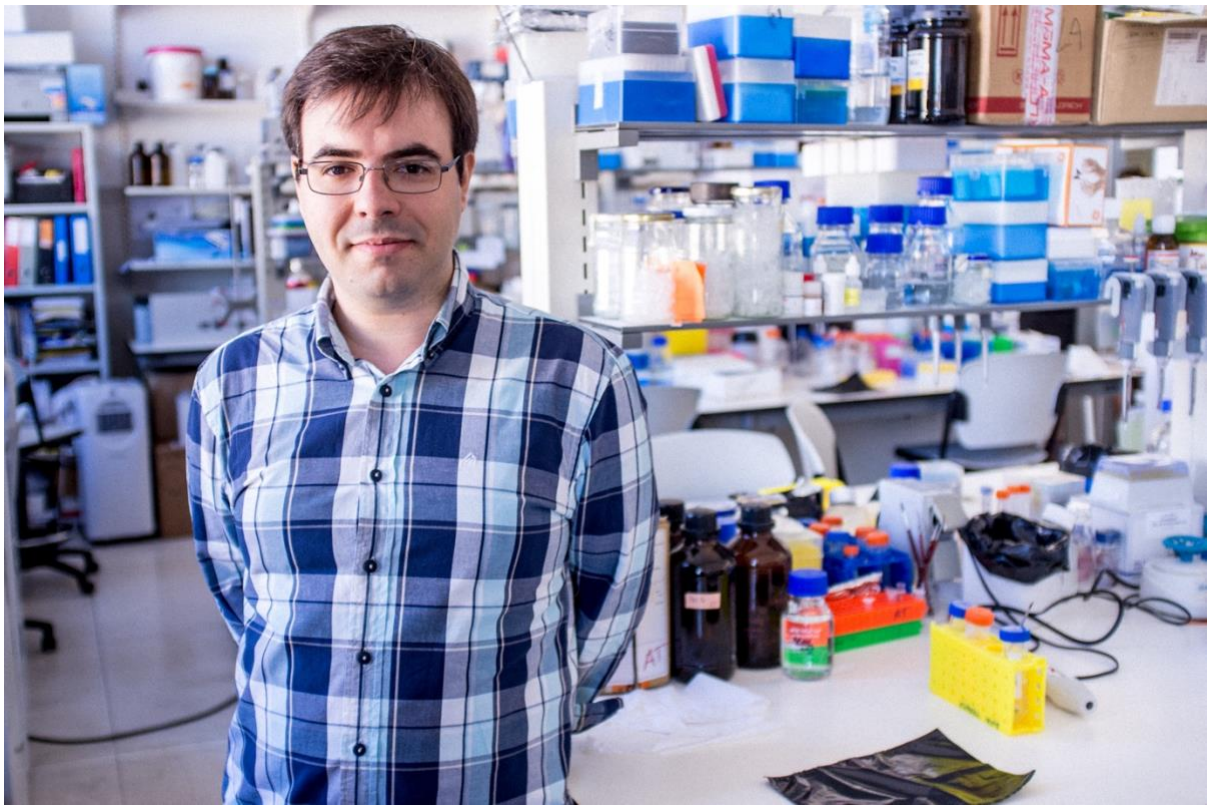
University of Coimbra wins 1.2 million euros to study autism



An international consortium led by scientists from the University of Coimbra (UC) has just won 1.2 million euros from ERA-Net NEURON to study autism.

The project, entitled “Astrocyte dysfunctions in Phelan-McDermid syndrome: from mechanisms towards new therapeutic strategies (SHANKAstro)”, is led by João Peça, professor at the Faculty of Science and Technology of the University of Coimbra (FCTUC) and researcher at the Center for Neuroscience and Cell Biology (CNC), with the participation of scientists from Germany, Belgium, Italy and Switzerland.

Universidade de Coimbra
Rua Larga, Faculdade de Medicina,
Pólo I, 1º andar
3004-504 Coimbra, Portugal
T+351 239 820 190
F+351 239 822 776

Pólo III – Pólo das Ciências da Saúde
Universidade de Coimbra
Azinhaga de Santa Comba, Celas,
3004-504 Coimbra, Portugal
T+351 239 480 200

UC – Biotech,
Parque Tecnológico de Cantanhede
Núcleo 04, Lote 8
3060-197 Cantanhede, Portugal
T+351 231 249 170

info@cnc.uc.pt
www.cnc.uc.pt

The major goal of the three-year research is to understand which brain cells play a major role in autism, and in particular how mutations in the SHANK3 gene impact normal function during the pathophysiology of the disease.

João Peça explains that mutations in the SHANK3 gene **"are one of the most common causes diagnosed for autism. However, surprisingly, little is known about the consequences of mutations in this gene. Since its original discovery, mutations in SHANK3 have been most commonly studied in neurons."**

However, he stresses, **"Recent evidence suggests that astrocytes, somewhat neglected brain cells, may also play a key role in the development of autism. Astrocytes provide critical metabolic and trophic support for neurons and have recently been identified as "key actors" in the formation and maturation of neuronal circuits. Therefore, the dysfunction of astrocytes, resulting from the mutation in the SHANK3 gene, can lead to problems in the formation and maturation of the neuronal circuit, which will eventually lead to behavioral and cognitive abnormalities".**

In this study, which brings together several experts in the field of the SHANK3 gene and the astrocytes-biology, innovative models will be used, including genetically modified mouse models, as well as human brain organoids capable of closely mimicking human cell physiology.

If scientists manage to decipher the impact that the mutations in the SHANK3 gene have on autism, it will be possible to **"discover and design successful therapies for neurodevelopmental diseases",** concludes João Peça.

ERA-NET NEURON is a European funding network for research in Neuroscience, focused on brain diseases and nervous system disorders.

Cristina pinto

News:

Portugal News (The)	(in press)
Portugal News Online (The)	(see here)
Etc e Tal Jornal Online	(see here)
e-Global - Notícias em Português Online	(see here)
Jornal da Beira	(in press)
Jornal da Beira Online	(see here)
Atlântico Expresso	(in press)
Campeão das Províncias	(in press)
Douro Hoje	(in press)
Link To Leaders Online	(see here)
Comunidades Lusófonas Online	(see here)
Impala Online	(see here)
Jornal de Notícias	(in press)
Antena 1 - Dias do Futuro (Os)	(in press)
Bairrada Informação Online	(see here)
PT Jornal Online	(see here)
Açoriano Oriental Online	(see here)
Correio da Manhã	(in press)
Delas Online	(see here)
Diário As Beiras	(in press)
Diário de Coimbra	(in press)
Diário de Coimbra Online	(see here)
Diário de Viseu - Saúde	(in press)
Exame Informática Online	(see here)
Medjournal Online	(see here)
Mirante Online (O)	(see here)
NO Revista Online	(see here)
Observador Online	(see here)
Público Online	(see here)
Rua Direita Online	(see here)
BeiraNews Online	(see here)
Campeão das Províncias Online	(see here)
Comunidade Cultura e Arte Online	(see here)
Diário As Beiras Online	(see here)
Expresso Online	(see here)

HealthNews Online	(see here)
Nação Online (A)	(see here)
Notícias ao Minuto Online	(see here)
Notícias de Coimbra Online	(see here)
Notícias de Coimbra Online	(see here)
Tv Online Centro TV	(see here)

Universidade de Coimbra
Rua Larga, Faculdade de Medicina,
Pólo I, 1º andar
3004-504 Coimbra, Portugal

T+351 239 820 190
F+351 239 822 776

Pólo III – Pólo das Ciências da Saúde
Universidade de Coimbra
Azinhaga de Santa Comba, Celas,
3004-504 Coimbra, Portugal

T+351 239 480 200

UC – Biotech,
Parque Tecnológico de Cantanhede
Núcleo 04, Lote 8
3060-197 Cantanhede, Portugal

T+351 231 249 170

info@cnc.uc.pt
www.cnc.uc.pt