IBMC - Instituto de Biologia Molecular e Celular

Research fellowship (f/m)

Internal Code: Norte2020NEURO76

Project: NORTE-01-0145-FEDER-000008 – Porto Neurosciences and Neurologic Disease Research Initiative at i3S.

Title: Molecular evolution of the genes of the ascorbic acid biosynthetic pathway.

IBMC/i3S is opening 1 (one) Fellowship (Licenciatura) to join its Research Program in to join the Phenotypic Evolution group a at I3, a team working in molecular evolution aiming to understand the molecular basis of phenotypic variation, under the supervision of JorgeVieira (Molecular Evolution group at IBMC).

We are looking for a Fellow holding a degree in Biology, Genetics, or related fields, used to perform bio-informatics and evolutionary analyses. Preference will be given to candidates with experience in Drosophila and HPLC. English language, both spoken and written, and good inter-personal relationships in the context of a multidisciplinary research team are essential attributes.

Work Plan:

Ascorbic acid (vitamin C) is a six-carbon lactone that in most animals is synthesized from glucose in the liver in most mammals and in the kidney in birds and reptiles. Several species, including humans, non-human primates, guinea pigs, and Indian fruit bats are unable to synthesize vitamin C. Humans and primates lack the L-gulonolactone oxidase, that is the terminal enzyme in the biosynthetic pathway of ascorbic acid. Ascorbic acid is an antioxidant vitamin needed for the formation of collagen, for healthy teeth, gums and blood vessels. Moreover, it improves iron absorption and resistance to infection, and is essential for brain development. In adults, insufficient vitamin C in the diet leads to the lethal deficiency disease scurvy.

Despite the known whole genome duplications that occurred in several animal lineages, L-gulonolactone oxidase is usually a single-copy gene, as well as the previous gene in the pathway, a Gluconolactonase. Therefore, using the available genome information for a large number of animals, we will look for evidence of gene duplications, as well as positive selection and recent pseudogenization of the enzymes involved in the last two steps of the synthesis of vitamin C.

The work will be developed at Instituto de Investigação e Inovação em Saúde - i3S, Porto, Portugal, at the Phenotypic Evolution group, under the supervision of Jorge Vieira.

Selection of candidates:

Candidates will be selected according to their CVs (70%) and, for the best candidates, through an interview (30%).

The Fellowship will be for 8 months, eventually renewable, and it is expected to start in September 1st 2018.

The fellowship amount is 745 euros, paid by bank transfer, preferentially.
(http://alfa.fct.mctes.pt/apoios/bolsas/valores)

Fellowships are regulated by current laws relating to the Statute of Science Research Fellows, namely Law 40/2004 of August 18, amended and republished by Decree-Law No. 202/2012 of 27 August and the Regulation of Scientific Research Studentships of IBMC approved by Fundação para a Ciência e Tecnologia
(http://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf)

Selection Committee:
Jorge Vieira, PhD
Cristina Vieira, PhD
Sara Rocha, PhD

Applications are open from July 20th to 27th, 2018.

To apply for the Fellowship candidates must present CV, Letter of Motivation. and Name and contact of a potential referee, *via* the online application system:

http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=Norte2020NEURO76

The ranking list of candidates will be published at IBMC website, and the selected candidate will be notified by email.