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Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares

Conferencia:

A Multi-Stage Preclinical Candidate for the Potential Treatment of Malaria

Beatriz Baragaña Ruibal

College of Life Sciences, University of Dundee – Escocia – Reino Unido

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Aula de Seminarios do CIQUS

12:15 h

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A Multi-Stage Preclinical Candidate for the Potential Treatment of Malaria

Beatriz Baragaña

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Malaria is a devastating parasitic disease and half of the world's population is currently at risk. In 2013, the WHO reported 198 million cases and 584 000 deaths, mostly among children under five (437 000). Malaria in humans is caused by five *Plasmodium* species: *P. falciparum*, *P. vivax*, *P. malariae*, *P. ovale* and *P. knowelsi*. The most pathogenic is *P. falciparum* which accounts for the majority of cases and deaths in Sub-Saharan Africa. *P. vivax* is the next most prevalent species, particularly in Southeast Asia and Central and South America. Current antimalarials are failing due the development of drug resistance and new medicines are urgently needed.

In my talk I will present the discovery and development of a potential new antimalarial agent. The starting point for this project was a phenotypic screen carried out against *Plasmodium falciparum* at the University of Dundee, UK. Several series were identified and one of these was optimized to a compound which fulfilled the Medicines for Malaria Venture criteria for a late lead compound. This compound was extensively profiled in a large number of assays. It shows promise as a possible single-dose treatment in combination with another antimalarial and demonstrates both transmission blocking and chemoprevention potential. This preclinical candidate is now in advanced non-clinical development with the aim of entering into human clinical trials next year.

For more information, see:

Drug Discovery Unit news: Potential new antimalarial drug

A novel multiple-stage antimalarial agent that inhibits protein synthesis
Beatriz Baragaña *et al*. *Nature 522*, 315–320 (18 June 2015).

University of Dundee Drug Discovery Unit (DDU)

Beatriz Baragaña Ruibal graduated in Organic Chemistry and then completed her studies with a PhD under the supervision of Professor José Barluenga and Professor José Manuel Concellón at Universidad de Oviedo in 1998. After her PhD, she worked first as Research Fellow at Trinity College Dublin in Prof. A. P. Davis' group for a year and then as postdoctoral medicinal chemist at the Medicinal Chemistry Department at Bayer AG in Wuppertal, Germany. After a brief period in Prof. Ricardo Riguera's group at the Department of Organic Chemistry of Universidad de Santiago de Compostela, she moved to Scotland in 2001. In Scotland she gained further industrial experience working for five years in Avecia as R&D Chemist and then as Team Leader. In 2007, she joined the University of Dundee where she leads the Malaria Project Team of the Drug Discovery Unit. Last June, she published in Nature the results of an international cooperative project which found a potential new antimalarial drug. This exciting antimalarial compound has been selected as a preclinical candidate by the non-for profit organisation, Medicines for Malaria Venture, and subsequently partnered with the pharmaceutical company Merck Serono.