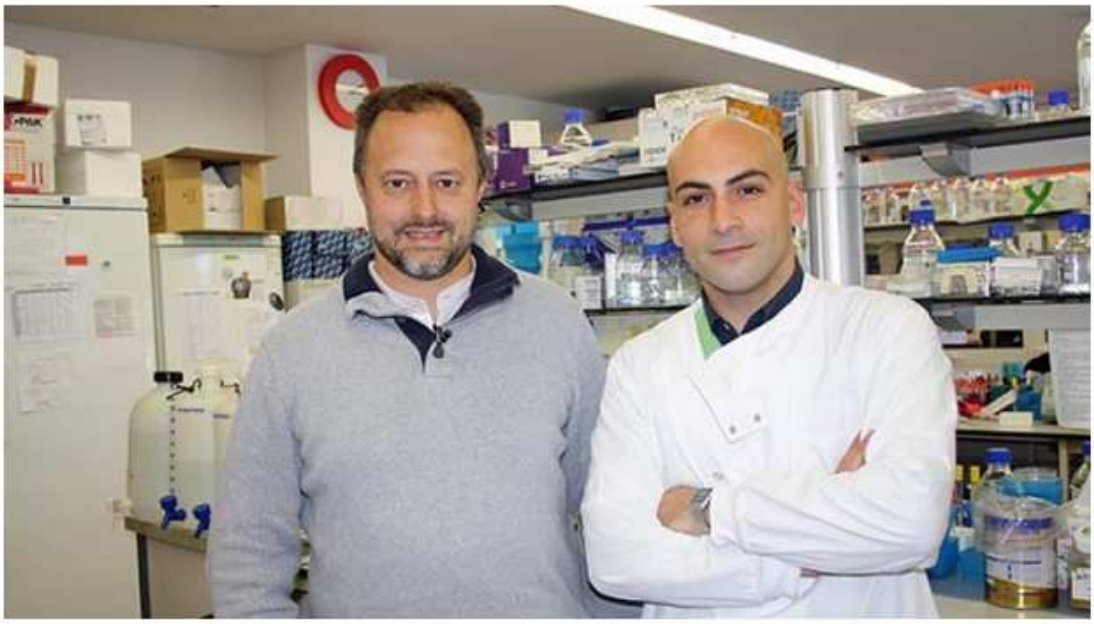
PORTUGAL resident

Posted by PORTUGALDAILYNEWS on November 22, 2013

Portuguese scientists receive million dollar grant from Bill Gates and wife



A woman and her child wait in the shade of a derelict building to see a doctor at a free medical clinic in the southern port city of Kismayo, Somalia. Open seven days a week and seeing an average of 80 patients a day, the clinic treats a variety of cases including malaria, respiratory tract infections, sexually transmitted infections and occasionally gunshot wounds. EPA/RAMADAAN MOHAMED HASSAN

The billion-dollar Bill and Melinda Gates Foundation - committed to enhancing healthcare and reducing extreme poverty - has awarded Portuguese scientists with $1.2 million worth of grants (€900,000). The Grand Challenges Exploration grants will go towards developing cutting edge research into a new vaccine against malaria - a disease that kills more than a million people every year.

"Receiving this finance means that the work we have been developing has been recognised by the Gates Foundation and that we can continue our research project with a view to establishing a new strategy of vaccination towards malaria," Miguel Prudêncio of the Institute for Molecular Medicine (IMM) told reporters.

This is the first time that national initiatives of this kind have been supported by the Gates Foundation.

The IMM project is the largest, but there is also another one receiving money, run by a research team at the Gulbenkian Science Institute (IGC).

IMM's project involves producing a vaccine based on a malaria parasite that only infects rodents. Their idea is to genetically modify the parasite so it will teach the human immune system to fight the human malaria parasite.

The innovative aspect of this project is the use of a malaria parasite that cannot induce disease in people.

For the next 18 months, IMM's research team will focus on demonstrating that the genetically-modified rodent parasite can safely induce an immune response in human cells. Once this stage is completed, the team proposes to test the vaccine in the field. It is this second phase, which will take place in clinical trials in regions where malaria is endemic, that will involve the bulk of the Gates Foundation cash injection.

Miguel Prudêncio said: "We are very optimistic that the premises on which this project is based will be proven valid during this first phase of funding by the Bill and Melinda Gates Foundation and this will pave the way to establishing a new type of vaccine that can contribute to the long-awaited eradication of malaria."

Elsewhere at the IGC, Miguel Soares proposes to tackle malaria in a different way – by taking advantage of certain antibodies against gut flora, that are naturally produced in the body.
Over time, humans make a large amount of antibodies, including some that are directed specifically against a sugar molecule produced in the gut flora. The same sugar molecule is also made by the parasite (Plasmodium berghei) that causes malaria - raising the possibility that those naturally-occurring antibodies may be able to neutralise the parasite as soon as it enters the bloodstream, thus blocking the infection immediately after the mosquito bite occurs.

Miguel Soares and Henrique Silveira, at Portugal's Instituto de Higiene e Medicina Tropical (IHMT), will expose mice, which have been genetically engineered to produce antibodies against gut flora just as humans do, to malaria-carrying mosquitoes.

The hope is that the mice will be protected from infection while those that cannot produce the antibodies will not.

If this proves to be the case, the new line of research may well pave the way to a new approach to reduce the ability of mosquitoes to infect children, simply by raising their levels of natural antibodies.
Miguel Soares said: "This initial funding provided by the Bill & Melinda Gates Foundation will allow us to put our hypothesis to the test.

"If proven correct, our findings should allow the development of affordable therapeutic approaches to prevent the often lethal outcomes of Plasmodium infection in young children, possibly during the second period of the Grant."

President of the Gates Foundation Global Health Programme, Dr Tachi Yamada, told reporters: "These are bold ideas from innovative thinkers, which is exactly what we need in global health research right now. I'm excited to see some of these daring projects develop into life-saving breakthroughs for those who need them the most."

Tags: *portugal* *science*