

'Test tube' hope for hep C drug

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US scientists have been able to create infectious hepatitis C in the lab for the first time, offering renewed hope of drugs to beat the virus.

Hepatitis C is a major cause of chronic and sometimes fatal liver disease, affecting 170 million people worldwide.

The virus, HCV, is carried in and can be passed on via the blood.

Currently, it is treated with a combination of two drugs, but about 40% of patients do not respond to this therapy.

Like all viruses, hepatitis C cannot replicate by itself. It takes over the machinery of the host cell.

However, much about the life cycle of the virus remains poorly understood because, until now, scientists have been unable to reproduce an infectious form of HCV that they can observe and experiment on in the lab.

"This system lays the foundation for future test tube studies of the virus life cycle and may help in the development of new drugs for combating HCV," said researcher Dr Charles Rice from the Infectious Diseases Unit at Rockefeller University.

Achilles' heel

He told the journal *Science* how in a separate set of experiments they were able to use the lab-grown virus to confirm that a molecule called CD81, which sits on the surface of human cells, plays a crucial role in the entry of HCV.

They found that CD81 molecules which were not attached to the surface of host cells competed with cell-bound CD81 and blocked the entry of HCV into the cell. Furthermore, cells that did not express CD81 were immune to infection.

Scientists already know that a protein produced by HCV, called E2, binds to CD81. It is believed this interaction is necessary for the virus to bind to host cells.

Chief executive of the Hepatitis C Trust and president of the European Liver Patients Association, Charles Gore, said: "Treatment for hepatitis C has

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improved dramatically in recent years but there is still considerable room for improvement.

"This is one of the reasons why so few – just one–half to one percent – of those with this unacknowledged virus are getting treated each year.

"Any advances that can contribute to improved therapy, and especially the development of a vaccine, are good news for patients."

Dr Teo, consultant virologist at the Centre for Infections, the Health Protection Agency, said: "The ability to culture HCV is the holy grail of HCV research because this will help with improving testing techniques, allow better understanding about how the virus causes illness and help us to explore better treatments for the disease."

The original story is at:

<http://news.bbc.co.uk/1/hi/health/4073908.stm>

Alan

<http://www.stpatricksfour.org/>

<http://velocerautor.blogspot.com/>

<http://theoriginalfirebird.blogspot.com/>

<http://lordcerneabbas.blogspot.com/>

<http://www.stopwar.org.uk/>

<http://www.700women.org/>

<http://www.planetarybillofrights.org/>

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