

# Potential cure for hepatitis B enters phase 1/2a clinical trial

December 15 2014

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Dr Marc Pellegrini (L), Dr Greg Ebert and colleagues have developed a new treatment for chronic hepatitis B infections that is entering clinical trials. Credit: Walter and Eliza Hall Institute

A new treatment developed by Walter and Eliza Hall Institute researchers to promote the cure of chronic hepatitis B virus (HBV) infection is now recruiting patients for a phase I/2a clinical trial.

Dr Marc Pellegrini, Dr Greg Ebert and colleagues developed the new treatment in collaboration with TetraLogic Pharmaceuticals, a biotech company based in Malvern, Pennsylvania, US. The clinical trial will be held at sites across Australia and New Zealand, including Melbourne, Adelaide, Perth and Auckland.

Hepatitis B is a viral disease that infects [liver cells](#). Although a vaccine has been available since 1982, more than two billion people worldwide are infected with the virus. Most patients will recover from the disease, but 5-10 per cent of patients will develop a chronic infection, with children most at risk. More than 780,000 people die every year from complications associated with [chronic hepatitis B](#) infection, including cirrhosis and liver cancer.

The new treatment uses TetraLogic Pharmaceutical's drug birinapant, which triggers the breakdown of proteins that prevent infected cells from self-destructing. Dr Pellegrini said these proteins, known as 'inhibitors of apoptosis proteins' (IAPs), can be targeted to allow infected cells to die.

"Our preclinical models have shown that birinapant kills infected liver cells, while not harming uninfected cells," he said. "Used in conjunction with an existing treatment for hepatitis B, this drug has the potential, for the first time, to functionally cure chronic hepatitis B infections."

Dr Pellegrini said the new treatment had the potential to revolutionise the way chronic HBV infections were treated. "Patients who develop chronic infections can be treated with drugs that prevent the virus from replicating, reducing the amount of virus in the liver, but do not completely eliminate the virus," he said. "These patients are dependent on anti-viral drugs that need to be taken for a very long period of time to reduce the risk of virus-induced liver damage and the complications that come with it.

"Our new therapy combines an existing anti-viral drug, which reduces the viral load, with birinapant that promotes efficient killing of hepatitis B [infected cells](#) and clearance of the virus from the system."

"We are really excited that this [treatment](#) has entered phase 1/2a [clinical](#)

[trials](#) as it is a culmination of many years work in developing new strategies to tackle [chronic infections](#)."

Based on his crucial research, Dr Pellegrini is the key scientific and clinical advisor for the clinical study that is now underway. The study is sponsored by TetraLogic Pharmaceuticals Corporation in collaboration with Nucleus Network in Melbourne and hospitals across Australia and New Zealand.

Provided by Walter and Eliza Hall Institute

Citation: Potential cure for hepatitis B enters phase 1/2a clinical trial (2014, December 15) retrieved 23 April 2024 from

<https://medicalxpress.com/news/2014-12-potential-hepatitis-phase-12a-clinical.html>

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