

# H3D makes second malaria drug breakthrough

By [Kim Cloete](#)

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A new potent antimalarial development candidate with the potential to both treat and prevent of malaria has been identified by the University of Cape Town's (UCT) Drug Discovery and Development Centre, H3D.

The compound, referred to as UCT943, is the second preclinical candidate to come out of the collaboration led by H3D involving the Switzerland-based Medicines for Malaria Venture (MMV) and an international network of partners.

## Promises to block person-to-person transmission

Developed to strengthen the parasite enzyme phosphoinositide 4-kinase inhibitor programme, UCT943 has the same molecular target as MMV048, a promising new compound researched by an international team led by H3D and selected for development in 2012.

The data so far shows that UCT943 has promise to be more potent against the parasite, and to be easier to formulate, although these aspects will be the subject of the next studies, and ultimately will need to be validated in humans.



Photo: [Medicines against Malaria Venture](#)

“Like MMV048, UCT943 acts against all stages of the malaria parasite life cycle and has the promise to block transmission of the parasite from person to person and, as such, could contribute to the eradication of malaria, a disease that claims the lives of around half-a-million people every year,” says Professor Kelly Chibale, founder and director of H3D.

“The preclinical assessment of UCT943 is expected to take around 18 months, after which the hope is that it will progress into safety studies in human volunteers,” he says.

“Given the threat of drug-resistant strains of malaria it’s important to have a strong pipeline of new types of molecules,” says Dr Timothy Wells, MMV’s chief scientific officer. “Kelly Chibale and his team have made huge progress over the last four years. We look forward with great enthusiasm to following the development of UCT943.”

The minister of science and technology, Naledi Pandor, says: “This research is proving to be a valuable resource for the country and a vital asset in the training of the African scientists who will lead our continent’s research and development in years to come.”

## **Creating a sustainable industry**

H3D is Africa’s first integrated drug discovery and development centre. When it was first launched in 2010, it comprised a team of five academic postdoctoral research scientists, which has now grown to more than 50, attracting industry-experienced drug discoverers from pharmaceutical companies based in India, the USA and Europe.

It is also helping to train a new generation of African scientists, creating strong foundations for the future. This transformation has also allowed the transfer of key skills and technology to South Africa: from medicinal chemistry to biology and pharmacokinetics. The H3D portfolio also includes projects targeting tuberculosis drug discovery and is now expanding to address the serious threat of antimicrobial resistance, specifically resistant Gram negative bacteria.

“We are creating an industry that wasn’t in South Africa before, discovering exciting new molecules that are being developed into medicines. This industry we are creating is contributing to the DST’s bio-economic strategy. It will also increase our ability to create science jobs and use science for the development and benefit of our people. We’ve managed to attract millions of dollars of foreign direct investment and create career opportunities for graduates,” says Chibale.

UCT vice-chancellor, Dr Max Price, says: “Delivering two preclinical candidates within five years is an outstanding record by international standards especially for a drug discovery centre based at an academic institution. The value of a second candidate signals that the first compound was not a once-off, but part of a sustained and systematic programme.”

## **ABOUT THE AUTHOR**

Kim Cloete is an award-winning journalist and broadcaster with extensive experience in news and current affairs. She has produced television programmes for the UN as well as South African and international media outlets, including the SABC and M-Net.

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