Targeting tropical parasites

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Drugs used to treat HIV may form templates for lifesaving drugs targeted at malaria and other parasitic diseases, according to a new study from the University.

While scientists know that some anti-HIV drugs can kill pathogenic parasites, it was not understood how this works. Researchers have now identified a specific protein, Ddi 1 from Leishmania parasites that is sensitive to anti-HIV inhibitors. This identification has the potential to significantly change the treatment of parasitic diseases, which present a serious threat to global health.

Dr. Colin Berry, School of Biosciences, one of the researchers involved, said: "People in developing countries can be exposed to parasitic diseases such as malaria and leishmaniasis that can kill millions of people, so new and effective drugs are urgently needed to combat these

infections.

"The use of existing anti-HIV agents has indicated that there is a potential target in some parasites and by identifying the protein responsible, we hope to exploit this weakness in the parasite to develop new and effective therapeutics to combat these devastating diseases."

The study was carried out by Dr. Berry's team and collaborators from GlaxoSmithKline's Medicines Research Center, Stevenage. It was supported by a Biotechnology and Biological Sciences Research Council Collaborative Award in Science and Engineering.

The team studied yeast that lacked the Ddi protein and examined the effects of adding the protein and HIV inhibitors. When using human Ddi 1, they also identified drugs that could block the activity of the Leishmania protein, but which were much weaker against the human equivalent, suggesting that possible side effects in a future drug could be reduced.

'HIV proteinase inhibitors target the Ddi1-like protein of Leishmania parasites' is published in the May edition of the *FASEB Journal*. Published by the Federation of the American Societies for Experimental Biology, it is the most cited biology journal worldwide.

More information: www.fasebj.org/

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