Synthesis and Evaluation of Compounds with Potential for Treating Malaria

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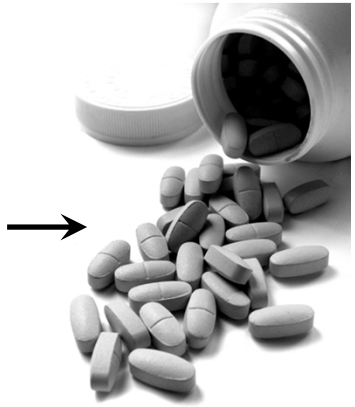
Abstract

This project led to production of several compounds with antimalarial activity, each possessing some resemblance to an initial starting compound.

Significantly one of the compounds had a somewhat simpler structure compared to the initial compound.

Using the resulting understanding of the relationship between compound structure and antimalarial activity, compounds with increased activity will be produced in the future.



Results/Conclusions

We identified an excellent compound to begin with which possesses considerable activity against the parasite in red blood cells.

Several structurally-related compounds have been synthesized and found to posses activity against the malaria parasite in both red blood cells and in liver cells. The latter is an especially significant finding. Moreover, one of the active compounds had a simpler structure to that of the starting compound.

The results will allow design of compounds with improved activity in the future.

Relevance

Malaria kills more than one million each year and occurs in tropical regions where U.S. Armed Forces may be deployed.

New drugs are needed since the parasite which causes the disease has built up resistance to many of the existing drugs.