

## **Polyene resistance in Leishmania probed with metabolomics and genomic approaches**

### **Authors**

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### **Abstract**

Drugs targeting ergosterol have been used for decades to treat Leishmaniasis. Nonetheless, their mechanism of action is not fully understood. An Omics approach was taken to probe the development of resistance to several polyene compounds in *Leishmania* spp.. Drug resistant clones of *L. mexicana*, *L. infantum* and *L. tarentolae* were selected in increasing concentrations of drug, then analysed using genomic (NGS), transcriptomic (RNA-seq, qPCR) and metabolomics approaches (LC-MS and GC-MS). Key changes were observed in metabolites related to energy metabolism and the synthesis of sterols. CRISPR Cas9 is now being used to probe further some of the mutations identified as contributing to their role in drug resistance.