

P024 NDR protein kinases in *Trypanosoma brucei*
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The protozoan parasite, *Trypanosoma brucei*, is transmitted by the tsetse fly and causes sleeping sickness in humans. The mechanism of trypanosome cytokinesis is distinct from mammalian cytokinesis and as such, may be regulated by different molecular pathways, which could be exploited to develop novel anti-parasitic drugs.

NDR protein kinases function in a variety of cellular processes including mitotic exit, cytokinesis and morphogenesis, and are regulated by the binding of a MOB protein partner and by phosphorylation. Previously, *T. brucei* MOB1 was shown to be essential for cytokinesis, but it is unclear if this role is exerted through the two trypanosome NDR protein kinases, PK4 and PK50. PK50 is expressed in dividing life cycle stages of *T. brucei*, can complement a fission yeast Orb6 mutant, and interacts with MOB1 in procyclic (insect) form trypanosomes, but little is known about PK4. Here we report the first detailed biochemical characterisation of these kinases, using recombinant GST-tagged PK4, PK50 and MOB1, and present data to show that PK4 and PK50, like MOB1, are essential for the viability of bloodstream (mammalian) form trypanosomes, validating them as novel drug targets.