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PlasmodiumPy235 profiles

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The *Plasmodium yoelii yoelii* genome contains around 35 genes encoding 235 kD rhoptry proteins (Py235) that are involved in erythrocyte invasion and parasite virulence. In the January 11 issue of *Science*, Preiser *et al.* describe the transcription pattern of *py235* genes during the parasite's life cycle and their role in cell invasion (*Science* 2002, **295**:342-345). Immunofluorescence analysis using antibodies recognizing distinct Py235 proteins revealed differences between pre-erythrocytic and erythrocytic parasites. Antibodies to Py235 expressed in the sporozoite were found to inhibit invasion, whereas those to the blood stage proteins were not. They analyzed stage-specific expression of *py235* transcripts by RT-PCR, and found that genes transcribed in the sporozoite and hepatic forms differed from those in the erythrocytic parasite. Non-overlapping sets of *py235* genes are associated with the sporozoite, hepatic schizont and erythrocytic schizont developmental stages. The distinct rhoptry proteins in the sporozoites and liver stages, may offer specific targets for vaccination strategies aimed at pre-erythrocyte malaria parasites.

References

1. Identification of the gene for a *Plasmodium yoelii* rhoptry protein. Multiple copies in the parasite genome.
2. *Science*, [<http://www.sciencemag.org>]