

Insights: Publications

Plasmodium vivax liver stage development and hypnozoite persistence in human liver-chimeric mice

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Plasmodium vivax malaria is characterized by periodic relapses of symptomatic blood stage parasite infections likely initiated by activation of dormant liver stage parasites-hypnozoites. The lack of tractable *P. vivax* animal models constitutes an obstacle in examining *P. vivax* liver stage infection and drug efficacy. To overcome this obstacle, we have used human liver-chimeric (huHep) FRG KO mice as a model for *P. vivax* infection. FRG KO huHep mice support *P. vivax* sporozoite infection, liver stage development, and hypnozoite formation. We show complete *P. vivax* liver stage development, including maturation into infectious exo-erythrocytic merozoites as well as the formation and persistence of hypnozoites. Prophylaxis or treatment with the antimalarial primaquine can prevent and eliminate liver stage infection, respectively. Thus, *P. vivax*-infected FRG KO huHep mice are a model to investigate liver stage development and dormancy and may facilitate the discovery of drugs targeting relapsing malaria.

Related People



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