Researchers at the University of South Florida have developed a novel synthetic vaccine based on the ligand domain of the Plasmodium vivax Duffy binding protein.

Plasmodium vivax (P. vivax) is the most common cause of malaria outside of Africa and it is a serious economic and health burden in many developing countries. Over 40% of the world's population is at risk of P. vivax malaria infection with about 75-90 million reported cases of clinical disease each year. Widespread drug resistance and emerging virulent forms of the parasite emphasize an urgent need for developing a vaccine.

The biology and mechanism of transmission gives this parasite great resilience while increasing the need for new approaches for control and management of P. vivax infections. There is significant evidence suggesting a blood-stage vaccine should be part of the overall strategy for malaria control.

USF researchers have produced a vaccine that elicits strain-transcending immune responses directed against the blood-stage of P. vivax. The vaccine is based on the ligand domain of Plasmodium vivax Duffy binding protein (PvDBPII). PvDBP is an essential ligand for malarial parasite invasion of erythrocytes, making the molecule an attractive vaccine candidate against vivax malaria. This invention is important for the development of an effective vivax malaria vaccine that targets diverse P. vivax strains.

**ADVANTAGES:**
- Blood-stage vaccine for malaria
- Applicable to multiple strains

**A Novel Multi-Strain Malaria Vaccine**

**Inhibition of Erythrocyte Binding to DBPII-Sal1 Expressed on Surface of COS7 Cells by Rat Anti-DBPII-Sal1 and Anti-DEKnull**

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