



**LD Biopharma, Inc.**  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Malaria PMIF Protein  
**Catalog Number:** MRP\_2609  
**Manufacturer:** LD Biopharma, Inc.

### **Introduction:**

Malaria is the second leading cause of infectious disease worldwide and took close to a half-million lives in 2016. To develop an effective vaccine for blocking malaria infection, Yale university scientists recently described a unique protein produced by malaria parasites, *Plasmodium* macrophage migration inhibitory factor (PMIF), which suppresses memory T cells, the infection-fighting cells that respond to threats and protect the body against re-infection. In animal model, vaccinated using mRNA based intracellular delivery of PMIF demonstrate a good protective effects against malaria infection.

To develop a unique protein based intracellular delivery system for testing malaria vaccine, a full-length **Malaria PMIF** encoding gene was constructed with codon optimization and expressed with N terminal human Alpha Fetal Protein Tag (217aa) and C-terminal 11 arginine (11R tag) fusion as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** Malaria PMIF  
**Accession Number:** PF3D7\_1229400  
**Species:** Plasmodium Falciparum  
**Size:** 25 µg / Vial  
**Composition:** 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT, and others.  
**Storage:** In liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.



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## Key References

Alvaro Baeza Garcia, et al., *Neutralization of the plasmodium-encoded MIF ortholog confers protective immunity against malaria infection*. Nature communication. DOI: 10.1038/s41467-018-05041-7. (2018).

## Applications

- May be used for study PMIF mediated anti-malaria immune-response in vitro using recombinant PMIF-11R fusion protein through direct intracellular protein delivery pathway.
- High purified malaria PMIF protein, which may be used for specific antibody production.

## Quality Control:

1. Purity: > 92 % by SDS-PAGE.

## Recombinant Malaria **AFP<sub>n</sub>**-PMIF-**11R** Protein ( 39.6 kD )

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ  
SSGCLLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT  
SCEAYEEDRETFMNFYIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT  
KELRESSGGSHHHHHGSENLYFQGPCCEVITNVNLPDDNVQSTLSQIENAI SDVMGKPLGYIM  
SNYDYQKNLRFSGSNEAYCFVRITSIGGINRSNNSALADQITKLLVSNLNVKSRRIYVEFRDCS  
AQNFAFSGSLFGESGGGSPGRRRRRRRRRR