

Plasmodium falciparum* Pfg27 Protein with C-Terminal Histidine Tag, Recombinant from *Escherichia coli

Catalog No. MRA-1274

For research use only. Not for human use.

Contributor

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Manufacturer:

BEI Resources

Product Description:

Plasmodium falciparum (*P. falciparum*) gametocyte-specific (Pfg27) protein is expressed early in gametocytes during sexual differentiation.^{1,2} Mouse polyclonal antibodies against Pfg27 are specific for stage I to V gametocytes of *P. falciparum*.¹

A recombinant form of the Pfg27 protein containing an N-terminal maltose binding protein (MBP) and a C-terminal histidine tag was expressed in *Escherichia coli*. After initial purification with Dextrin Sepharose and Sephacryl 200, the MBP fragment was removed with Factor Xa and the resulting His₆-tagged protein was purified by nickel affinity chromatography. MRA-1274 has a theoretical molecular weight of approximately 27 kilodaltons. The predicted protein sequence of MRA-1274 is shown below in Table 1.

Material Provided:

Each vial contains approximately 250 µg of purified recombinant Pfg27 protein in 20 mM Tris-HCl (pH 8) with 500 mM NaCl. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

MRA-1274 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -80°C or colder immediately upon arrival.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Plasmodium falciparum* Pfg27 Protein with C-Terminal Histidine Tag, Recombinant from *Escherichia coli*, MRA-1274, contributed by Kim C. Williamson."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in

Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

1. Williamson, K. C., Personal Communication.
2. Kumar Singh, S., et al. "Expression, Purification, Crystallization and Preliminary X-Ray Analysis of the Sexual Stage-Specific Protein Pfg27 from *Plasmodium falciparum*." *Acta Crystallogr. D. Biol. Crystallogr.* 58 (2002): 1868-1870. PubMed: 12351841.
3. Williamson, K. C., et al. "Recombinant Pfs230, a *Plasmodium falciparum* Gametocyte Protein, Induces Antisera that Reduce the Infectivity of *Plasmodium falciparum* to Mosquitoes." *Mol. Biochem. Parasitol.* 75 (1995): 33-42. PubMed: 8720173.

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Table 1 – Predicted Protein Sequence

1	<u>G</u> MSKVQKDSA KPLDKFGNIY DYHYEHETHA PLSPRIRKVG DIEFHACSDY
51	IYLLMTLSKD PEKFNYALKD RVSIRRYVRK NQNRNYFLI EERVQDNIVN
101	RISDRLISYC TDKEVTEDI KKIDDYLWVE QRVIEEVSIN VDHAREVKEK
151	KRIMNDKKLI RMLFDTYEYV KDVKFTDDQY KDAARISQF LIDVVDSYII
201	KPIPALPOTP DEPHHNNI <u>VD</u> HHHHHH

Plasmid-derived amino acids – Residues 1, 219, 220

Pfg27 Protein – **Residues 2 to 218***

Histidine Tag – Residues 221 to 226

*This represents all 217 amino acid residues of the Pfg27 protein from *P. falciparum* 3D7 (GenPept: CAD52156).