ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Life Technologies™ Your Molecular & Cell Technology Partner

Merozoite surface protein-1 (MSP-1; 108-aa; P. vivax)

Cat. MSPV16-R Recombinant (E. coli) merozoite surface protein-1 (MSP-1; 108-aa; P. vivax) **SIZE**: 100 ug

Malaria is a mosquito-borne infectious disease caused by a eukaryotic protist of the genus Plasmodium. It is widespread in tropical and subtropical regions, including parts of the Americas, Asia, and Africa. Each year, there are approximately 350–500 million cases of malaria,[1] killing between one and three million people, the majority of whom are young children in sub-Saharan Africa. Malaria parasites are members of the genus Plasmodium (phylum Apicomplexa). In humans malaria is caused by P. falciparum, P. malariae, P. ovale, P. vivax and P. knowlesi. P. falciparum is the most common cause of infection and is responsible for about 80% of all malaria cases, and is also responsible for about 90% of the deaths from malaria. Parasitic Plasmodium species also infect birds, reptiles, monkeys, chimpanzees and rodents. There have been documented human infections with several simian species of malaria, namely P. knowlesi, P. inui, P. cynomolgi,[26] P. simiovale, P. brazilianum, P. schwetzi and P. simium; however, with the exception of P. knowlesi, these are mostly of limited public health importance.

Merozoite surface protein 1 (MSP-1) of the malaria parasite is an important molecule involved in invasion of erythrocytes. In Plasmodium falciparum, MSP-1 is synthesized as a large precursor on the surfaces of merozoites. Proteolytic cleavage of MSP-1 leaves a C-terminal 19-kDa fragment (MSP-119) on the surface of the parasite, which is necessary for invasion of the erythrocyte. The remaining fragments are shed as a soluble complex. The C-terminal MSP-119 region is functionally conserved across species of the genus Plasmodium, and its tertiary structure is maintained by disulfide bridges. Immunization with MSP-119 of P. falciparum MSP-1, or its equivalent in rodent parasites, is able to generate protective immunity, and development of MSP-1 as a potential vaccine has, therefore, concentrated on this region of the molecule.

Source of Antigen and Antibodies

MSPV16-R is a recombinant protein expressed in E. coli and purified (108 aa MSP1, >95%). It is supplied in PBS, pH 7.2, 0.05% azide in liquid at 1-5 mg/ml (see lot sp concn on the vial) or in powder form. **Reconstitute** powder in PBS at 1 mg/ml**.** Store at -20oC for ~1 year.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

100 ug/100ul solution	lyophilized powder

Buffer: PBS pH 7.5 0.05% azide

Reconstitute powder PBS at 1 mg/ml

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1-3 ug/ml using ECL.

ELISA (0.1-1 ug/ml indirect ELISA or to at 1-10 ug/ml in ELISA.

Histochemistry & Immunofluorescence: not tested.

Specificity & Cross-reactivity

The PLDH09-M (pan) reacts with pLDH from P. Falciparum, P. Vivax, and other species. No significant reactivity is observed with other plasmodium proteins.

General References: Ahlborg N (200) 68, 2102-2109; Blackman M (1990) J. Exp. Med. 172, 379-382; Blackman M (1991) Mol. Biochem. Parastiol. 49, 29-34; Bzik DJ (1993) Mol Biochem. Parastiol. 59, 155-156; Vander DL (1981) Mol Bioche.. Parastiol. 4, 255-264; Iqbal J (2004) J. Clin. Microbiol. 42, 4237-4241;

*This product is for in vitro research use only.

Related material available from ADI

Catalog#	ProdDescription
MFV11- M	Mouse Anti-Malaria (clone 1); reacts to P.vivax/falciparum
MFV12-M	Mouse Anti-Malaria (clone 3); reacts to P.vivax/falciparum specific
MPF13-M	Mouse Anti-Malaria (clone 2); P.falciparum
RP-649	Recombinant Malaria Protein HSP
RP-650	Recombinant Malaria Cs Mosaic
SP-88358-1	MSP-1 P2, Malaria Merozoite Surface Peptide – 1 (AA: Gly-Tyr-Arg-Lys-Pro-Leu-Asp-Asn-Ile-Lys-Asp-Asn-Val-Gly-Lys-Met-Glu-Asp-Tyr-Ile-Lys-Lys) (MW: 2625.07)
CSPF16-R	Recombinant (E. coli) Circumsporozoite (CSP) mosaic protein (107-129, 334-351 aa) (P.falciparum)
HRPF21-M	Mouse Anti-Histidine rich glycoprotein II (HRP II, P. falciparum) IgG, aff pure #1
MSPF15-R	Recombinant (E. coli) merozoite surface protein-1 (MSP-1; P. falciparum)
MSPF25-R	Recombinant (E. coli) merozoite surface protein-2 (MSP-2; P. falciparum)
MSPV14-M	Mouse Anti-Merozoite surface protein-1 (MSP-1; P. vivax) IgG, aff pure #1
MSPV16-R	Recombinant (E. coli) merozoite surface protein-1 (MSP-1; 108-aa; P. vivax)
MSPV26-R	Recombinant (E. coli) merozoite surface protein-2 (MSP-2; 460-aa; P. vivax)

MSPV16-R 100216A

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