

Product Specification Sheet

Anti-parasite specific lactate dehydrogenase (pLDH)

Cat. PLDH31-M

Mouse Anti-parasite specific lactate dehydrogenase (pLDH), (*P. vivax* specific), clone 3 **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.

Malaria diagnosis is done using only a drop of blood and Immunochromatographic tests (also called: Malaria Rapid Diagnostic Tests, Antigen-Capture Assay or "Dipsticks") that detects *P. falciparum* lactate dehydrogenase or pLDH, *P. falciparum* lactate dehydrogenase (pLDH) is a 33 kDa oxidoreductase [EC 1.1.1.27]. [14]. It is the last enzyme of the glycolytic pathway, essential for ATP generation and one of the most abundant enzymes expressed by *P. falciparum*. pLDH does not persist in the blood but clears about the same time as the parasites following successful treatment. The lack of antigen persistence after treatment makes the pLDH test useful in predicting treatment failure. In this respect, pLDH is similar to pGluDH. LDH from *P. vivax*, *P. malariae*, and *P. ovale* exhibit 90-92% identity to pLDH from *P. falciparum*.

Source of Antigen and Antibodies

| | |
|-----------------------------|--|
| Antigen | Recombinant pLDH protein |
| Ab Host/type | Mouse, monoclonal, IgG1 |
| Ab Format | Purified IgG (cat #PLDH31-M) supplied in PBS, pH 7.4, 0.05% azide |
| -ve control | Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control |
| Secondary antibodies | Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available) |

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: 6-12 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 PLDH31-M reacts with pLDH from *P. vivax*. No significant reactivity is observed with other plasmodium proteins.

General References:

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 <i>P. vivax/falciparum</i> |
| MFV12-M | Mouse Anti-Malaria (clone 3); reacts to <i>P. vivax/falciparum</i> specific |
| MPF13-M | Mouse Anti-Malaria (clone 2); <i>P. falciparum</i> specific |
| 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 (<i>E. coli</i>) Circumsporozoite (CSP) mosaic protein (107-129, 334-351 aa) (<i>P. falciparum</i>) purified |
| HRPF21-M | Mouse Anti-Histidine rich glycoprotein II (HRP II, <i>P. falciparum</i>) IgG, aff pure #1 |
| MSPF15-R | Recombinant (<i>E. coli</i>) merozoite surface protein-1 (MSP-1; <i>P. falciparum</i>) |
| MSPF25-R | Recombinant (<i>E. coli</i>) merozoite surface protein-2 (MSP-2; <i>P. falciparum</i>) |

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