

# Anti-HRP-2 Mab

## Background

Malaria is the most lethal parasitic disease in the world, annually affecting approximately 500 million people and resulting in 800,000 deaths, mostly in African sub-Saharan countries [1]. The disease is transmitted most commonly by an infected female *Anopheles* mosquito. Five species of *Plasmodium* can infect and be spread by humans. [2] Most deaths are caused by *P.falciparum* because *P. vivax*, *P. ovale*, and *P. malariae* generally cause a milder form of malaria [2][3]. Malaria is typically diagnosed by the microscopic examination of blood using blood films, or with antigen-based rapid diagnostic tests [2]. There are currently over 20 such tests commercially available (WHO product testing 2008). Antigens suitable as target for Rapid Diagnostic Tests (RDTs) are Glutamate dehydrogenase (pGluDH), Histidine Rich Protein II (HRPII), lactate dehydrogenase (pLDH) and Fructose-bisphosphate aldolase (pAldolase).

## Product

HRP2 is a surface malaria protein. The antigen is expressed only by *P. falciparum* trophozoites.[4] It is an histidine- and alanine-rich protein, which is localized in several cell compartments including the parasite cytoplasm. It is characterised by many contiguous repeats of the sequences AHH and AHHAAD [5]. The histidine-rich protein 2 from *P. falciparum* has been implicated as a haeme polymerase which detoxifies free haeme by its polymerization to inactive haemozoin (Lynn et al., 1999) [6].

## Technical Data

This antibody was raised against recombinant HRPII. It is purified from in vitro produced supernatant, by Protein G Antibody affinity chromatography.

Isotype: IgG1

## Analytical:

- 1) Western Blot/Dot Blot
- 2) ELISA
- 3) Lateral flow assay

Clone	Order (Quantities on request)
5H5G12-10D4	M130112-01
1C1B3-1D9	M130112-02

## Application

This product can be used by RDT manufacturers

## Literature

- 1) W.H.O. (2010) World Malaria Report 2010.
- 2) Caraballo H (2014). "Emergency department management of mosquito-borne illness: Malaria, dengue, and west nile virus". *Emergency Medicine Practice* **16**
- 3) "Malaria Fact sheet N°94". WHO. March 2014. Retrieved 28 August 2014.
- 4) Bzik DJ, Fox BA, Gonyer K (1993). "Expression of *Plasmodium falciparum* lactate dehydrogenase in *Escherichia coli*". *Mol Biochem Parasitol* **59** (1): 155-166