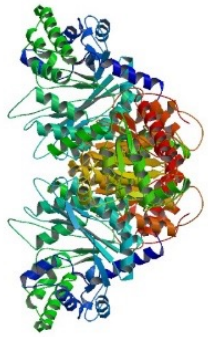
#A130112-01

# rHRP-2 (*Plasmodium falciparum*)

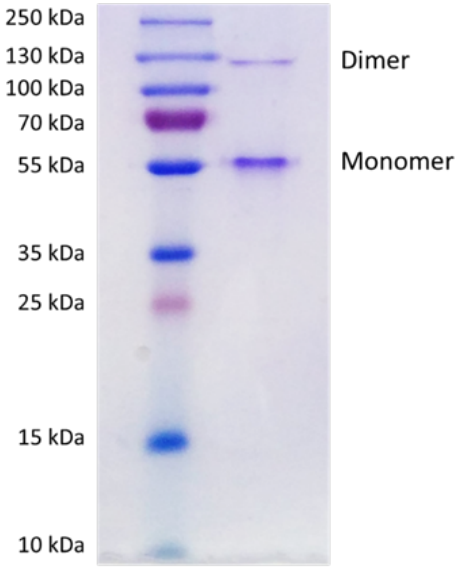


***High concentration***

***High purity***

***His-Tagged***

***Formulation on request***




## *Analytical :*

***1*** *Western Blot/Dot Blot*

***2*** *ELISA*

***3*** *Lateral flow assay control*

## rHRP-2 in solution

✶ A130112-01 : 1mg/ml

## rHRP-2 Lyophilised

✶ A130112-01– L : 0,1mg/vial

***Other quantities and buffer available on request***

## 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 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

## 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

## Technical data

This protein is recombinant ***Plasmodium falciparum*** histidine rich protein-2 expressed in *Escherichia coli*. It is purified by Immobilized metal ion affinity chromatography.

The protein theoretical l size is 31Kda (sequence). A shift at 55kDa is visible in SDS - PAGE.

This protein is untagged.

## 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.*
*4Bzik DJ, Fox BA, Gonyer K (1993). "Expression of Plasmodium falciparum lactate dehydrogenase in Escherichia coli". Mol Biochem Parasitol* ***59*** *(1): 155-166*
*5 Panton LJ, McPhie P, Maloy WL, Wellems TE, Taylor DW, Howard RJ Purification and partial characterization of an unusual protein of Plasmodium falciparum: histidine-rich protein II.Mol Biochem Parasitol. 1989 Jun 15;35(2):149-60.*
*6 Lynn A1, Chandra S, Malhotra P, Chauhan VS.* ***Heme binding and polymerization by Plasmodium falciparum histidine rich protein II: influence of pH on activity and***