ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

(PPPPNAND)3, repeat-sequence peptide of the P. berghei CSP Antibodies and controls

□ Cat. # PPPP321-P	(PPPPNAND)3 peptide (CSP, P. berghei) control/blocking peptide	SIZE: 100 ug
□ Cat. # PPPP321-BSA	(PPPPNAND)3 peptide (CSP, P. berghei)-BSA conjugate	SIZE: 0.5 mg
□ Cat. # PPPP321-A	Rabbit Anti-(PPPPNAND)3 peptide (CSP, P. berghei)- IgG, aff pure	SIZE: 100 ul

Malaria is a severe and debilitating disease caused by the parasitic protozoan *Plasmodium*, which is transmitted by many species of anopheline mosquitoes. Four *Plasmodium* species, namely, *Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale* and *Plasmodium malariae* infect humans. *Plasmodium berghei* infects rodents. *P. falciparum* is the most widespread and also the most serious and potentially fatal form of *Plasmodium* species. Recent estimates of the annual number of clinical malaria cases worldwide range from 214 to 397 million. Estimates of annual mortality (nearly all from *P. falciparum* malaria) are thought to be around 1.1 million. The life cycle of the malaria is complex, with phases both in human host and the insect vector, the female anopheline mosquito. There are several *Plasmodium* forms: sporozoites, merozoites, gametocytes, gamets, ookinets, oocysts. Parasite may encode in the order of 2000 proteins, several hundred of which are antigenic. The development of a malaria vaccine is one of the highest priorities in infectious disease research, as such a vaccine could be enormously helpful in reducing the 500 million new Plasmodium infections and over 1 million deaths due to malaria annually.

The circumsporozoite protein-1 (CSP-1), an approximate 60 kDa protein located on the surface of developing and mature sporozoites and present in developing exoerythrocytic forms is the best-characterized protein of sporozoites. It constitutes the major surface protein of the sporozoite and is a multifunctional molecule that plays a crucial role at various points of the malaria life cycle. The CSP-1 is synthesized as a precursor protein of 67 kDa, which is processed by removal of approximately 50-100 residues to generate the mature protein of 58 kDa. The central domain of CSP-1 is composed of an extensive array of tandemly repeated short sequences. CSP of *P. berghei* has a total of 13 copies of three octapeptides PPPPNPND, PPPPNAND and PAPPNAND.

The peptide immunogenic analogs containing at least two and up to 12 repeat sequences of PPPPNAND of the *P. berghei* CS protein were made by recombinant DNA techniques. Vaccines were prepared from these analogs, which have sporozoite neutralizing activity or ameliorate or prevent malaria by other mechanisms. Analogs were formulated into the vaccine as neutral or salt form.

Source of Antigen and Antibodies

Antigen	(PPPPNAND)3 peptide; **Designated (PPP321-P or control peptide) conjugated to KLH;**
Ab Host/type	Rabbit, polyclonal Aff pure IgG (**cat #PPPP321-A**)
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
□ 100 ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in 100 ul water

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in water at 1 mg/ml.

Sources of Peptides

Cat. # PPPP321-P
Sequence: PPPPNAND PPPPNAND PPPPNAND
Mol. Wt: 2426.70
Formula: $C_{114}H_{167}N_{33}O_{40}$
Form: Powder
Solubility: not tested
Storage: Store powder at -20°C for up to 6 months.
After reconstitution in water, store solution in small aliquots at -20°C for 3-6 months. Do not freeze and thaw or store diluted solutions.

Cat. # PPPP321-BSA
PPPP32 peptide was coupled to BSA using a proprietary technique. It is supplied in PBS, pH 7.4, 0.1% azide in liquid (1 mg/ml) or lyophilized in PBS. Reconstitute the peptide in PBS at 1 mg/ml. Store in suitable aliquots at -20°C.

Suggested Usage

PPPP321-P free peptide can be used for ELISA
PPPP321-BSA can be used for ELISA in the concentration 1-10 ug/ml per coating.

Recommended Usage of antibody

Western Blotting (1:200:1:1000) for affinity pure antibody using Chemiluminescence technique.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: not tested. we recommend the use of affinity purified antibody at 2-10 ug/ml in paraformaldehyde fixed sections of tissues.

General References: Barr P.J. et al (1990) Patent WO/11775.

**This product is for In vitro research use only.*

PPPP321-A 130514A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com