

Product Specification Sheet

DRAA3, repeat-sequence peptide of the P. vivax circumsporozoite protein (CSP) peptide & antibodies

<input type="checkbox"/> Cat. # DRAA31-P	DRAA3, peptide of the P. vivax CSP	SIZE: 100 ug
<input type="checkbox"/> Cat. # DRAA31-BSA	DRAA3 peptide conjugated with BSA	SIZE: 0.5 mg
<input type="checkbox"/> Cat. # DRAA31-A	Rabbit Anti-DRAA3 peptide 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. *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. The development of a malaria vaccine is one of the highest priorities in infectious disease research.

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. The deduced sequence of the CSP of the human malaria parasite *Plasmodium vivax* consists of 373 amino acids with a central region of 19 tandem repeats of the nonapeptide Asp-Arg-Ala-Asp/Ala-Gly-Gln-Pro-Ala-Gly. (DRAD/AGQPAG). These tandem repetitions comprise the immunodominant epitope of the parasite. There are two variants of the nonapeptide: variant D, with Asp, and variant A, with Ala, in the fourth position.

Synthetic peptides reproducing a sequential array of DRADGQPAG and DRAAGQPAG repeats of the *P. vivax* CS protein were investigated for their potential use in the detection of *P. vivax* sporozoite antibodies in human sera. The *P. vivax* repeat peptide (DRAAGQPAG)₂ was employed for the stimulation of the CD4+ clones derived from a laboratory-born chimpanzee's T cell line secreted IFN-gamma and IL-2.

Source of Antigen and Antibodies

Antigen	(DRAAGQPAG) ₃ peptide; Designated (DRAA31-P or control peptide) conjugated to KLH;
Ab Host/type	Rabbit, polyclonal Aff pure IgG (cat # DRAA31-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.

Specificity

DRAA3 represents the central repeat region of P. vivax CSP. It shares 88% of identity with DRADGQPAG polypeptide of P. vivax CSP which it forms tandem repeats with.

Sources of Peptides

Cat. # DRAA31-P

Sequence: DRAAGQPAGDRAAGQPAGDRAAGQPAG

Mol. Wt: 2490

Formula: C₉₉H₁₆₁N₃₉O₃₇

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. # DRAA31-BSA

DRAA31-P 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

DRAA31-P (free peptide) can be used for ELISA or as an antigen to obtain antibodies.

DRAA31-BSA can be used for ELISA in the concentration 1-10 ug/ml per coating.

General References: Nardin E. et al (1991) J. Immunol., 146, 1674-1678; Nardin E. et al (1995) Adv. Immunol., 60, 105-149; Pessi A. et al (1990) Am. J. Trop. Med. Hyg., 42, 17-23.

Related items:

NANP51-P,	repeat-sequence peptide of P. falciparum
NANP51-BSA	CSP/ its BSA conjugate
NANP101-P	repeat-sequence peptide of P. falciparum CSP
NVDP41-P,	repeat-sequence peptide of P. falciparum
NVDP41-BSA	CSP/ its BSA conjugate
DRAD31-P	repeat-sequence peptide of P. vivax CSP
PAPP31-P	repeat-sequence peptide of P. berghei CSP
PPPP311-P	repeat-sequence peptide of P. berghei CSP
PPPP321-P,	repeat-sequence peptide of P. berghei CSP/
PPPP321-BSA	its BSA conjugate

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

DRAA31-A 150119A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A ;

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