

Product Specification Sheet

**P. yoelii circumsporozoite protein (CSP) Peptide**

□ Cat. # CSPY11-P      KIYNRNIVNRLG D, P. yoelii circumsporozoite protein PyCSP (57–70) peptide      **SIZE:** 100 µg

Malaria is a severe and debilitating disease caused by the parasitic protozoan *Plasmodium*, which is transmitted by many species of anopheline mosquitoes. *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, gametes, ookinets, oocysts. Parasite may encode in the order of 2000 proteins, several hundred of which are antigenic.

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. For the CSP-1 of the 7G8 cloned line of *P. falciparum*, this region is composed of 37 copies of NANP, interspersed with 4 copies of NVDP. There are the major repeat region and the minor repeat region in the *P. falciparum* CS protein. *P. falciparum* CSP C-Terminus fragment (aa 207-397) contains 16 copies of NANP. CSP-protein as a vaccine candidate is in clinical trials.

# CSPY11-P peptide causes CD4+ T cell proliferation and cytokine responses. *P. yoelii* (Py) infects laboratory mice and has provided a useful model for studying antimalarial immunity. This peptide was used in the malaria vaccine development studies.

**Source of Antigen and Antibodies**

Peptide sequence: KIYNRNIVNRLG D (H - Lys - Ile - Tyr - Asn - Arg - Asn - Ile - Val - Asn - Arg - Leu - Leu - Gly - Asp - OH)

Purity: >95%  
Mol wt: 1688

Form: Powder

**Storage**

**Short-term:** unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20°C or below.

**Suggested Use:**

ELISA at 1-10 µg/ml coating  
Western: use 100-200 ng/protein/well

**Shipping:** 4°C for solutions and room temp for powder.

**General References:** Weiss, W. et al. J. Immunol. 161, 2325 (1998); Haddad, D. et al. J. Immunol. 165, 3772 (2000). Coppel R.L. et al (1994), in Immunochimistry, edited by Van Oss C.J., Van Regenmortel M.H.V., published by CRC Press, 475-532; Lal A.A. et al (2002), in Malaria Immunology, edited by Perlmann P., Troye-Blomberg M., published by Karger Publishers, 27-49; Aley S.B. et al (1987) J. Parasit. 73, 1241-1245; Frevert U. et al (1998) The EMBO Journal, 17, 3816-3826.

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

**Related Items**

**ELISA Kits to detect antibodies to various malaria proteins (vaccines)**

Catalog#	ProdDescription
970-200-CSR	Rabbit Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgG ELISA kit, 2x96 tests
970-210-CSM	Rabbit Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgM ELISA kit, 2x96 tests
970-300-MMG	Mouse Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgG ELISA kit, 2x96 tests
970-300-SMG	Monkey (simian) Anti-Malaria IgG ELISA kit, 2x96 tests
970-310-MMM	Mouse Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgM ELISA kit
970-320-MSG	Mouse Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgG ELISA kit, 2x96 tests
970-330-MSM	Mouse Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgM ELISA kit, 2x96 tests
970-340-RMG	Rabbit Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgG ELISA kit, 2x96 tests
970-350-RMM	Rabbit Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgM ELISA kit, 2x96 tests
970-360-HMG	Human Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgG ELISA kit, 2x96 tests
970-370-HMM	Human Anti-Merozoite surface protein-1 (MSP-1; P. falciparum/malaria vaccine) IgM ELISA kit, 2x96 tests
970-400-CHG	Human Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgG ELISA kit, 2x96 tests
970-410-CHM	Human Anti-Circumsporozoite protein (CSP, P falciparum/RTS,S vaccine) IgM ELISA kit, 2x96 tests

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