

## Supporting Information

### *An immunoinformatics approach to promiscuous peptides design for Plasmodium falciparum erythrocyte membrane protein-1*

Nazam Khan<sup>1†</sup>, Rajender Kumar<sup>2##</sup>, Shakti Chauhan<sup>1</sup>, Umar Farooq<sup>1</sup>

<sup>1</sup>Department of Applied Sciences and Biotechnology, Shoolini University of Biotechnology and Management Sciences, Solan, H.P., India

<sup>2</sup>Department of Pharmacoinformatics, National Institute of Pharmaceutical Education and Research (NIPER), Sector-67, S.A.S. Nagar-160062, Punjab, India

<sup>#2</sup>Present adresse : Architecture et Fonction des Macromolécules Biologiques, Aix-Marseille Université, Campus de Luminy, Case 932, Marseille, France

<sup>†</sup>These two authors contribute equally to the work

**Correspondence Author:**Dr. Umar Farooq

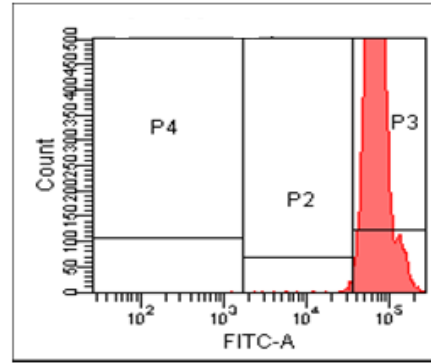
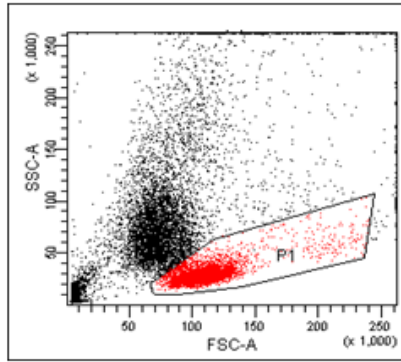
Professor,

Department of Applied Sciences and Biotechnology,

Shoolini University of Biotechnology and Management Sciences, Solan, H.P., India

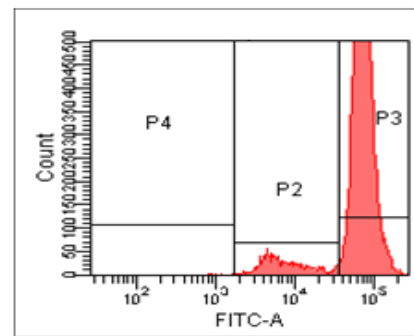
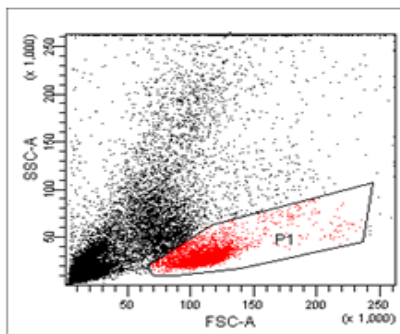
**Corresponding Author Email:**[ufarooq8@gmail.com](mailto:ufarooq8@gmail.com)

Present address: Department of Dentistry, Taif University, Kingdom of Saudi Arabia



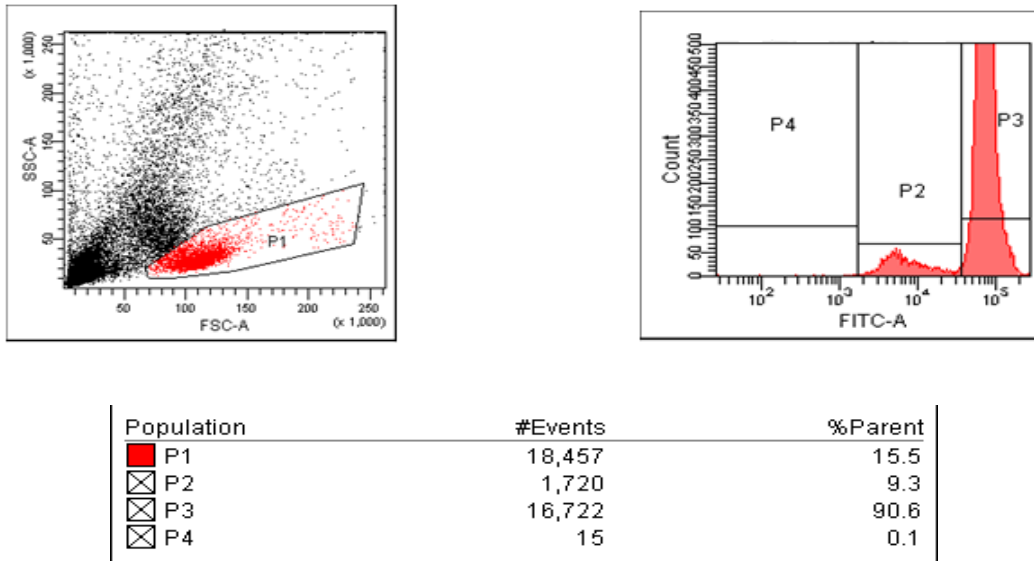
Population	#Events	%Parent
■ P1	20,736	34.8
☒ P2	82	0.4
☒ P3	20,653	99.6
☒ P4	1	0.0

S1(a): Negative control without peptide

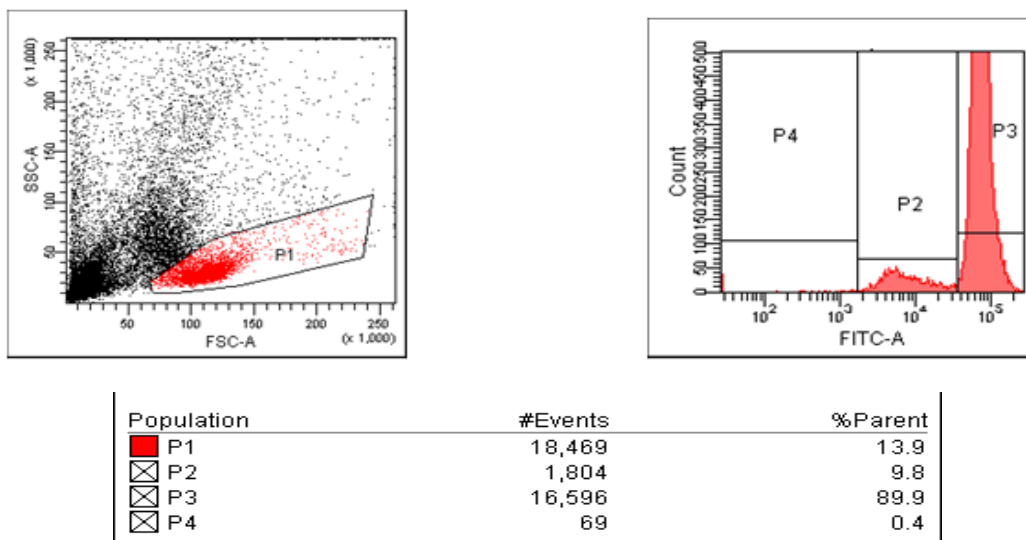


Population	#Events	%Parent
■ P1	17,902	14.5
☒ P2	1,546	8.6
☒ P3	16,349	91.3
☒ P4	7	0.0

S1(b): 25 µg/ml Peptide Concentration

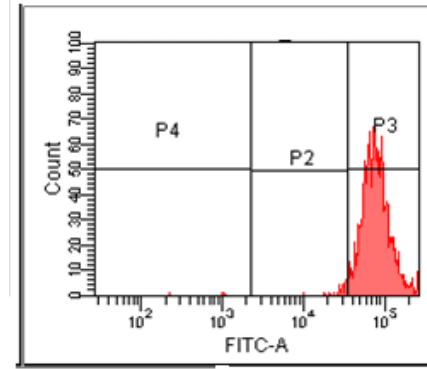
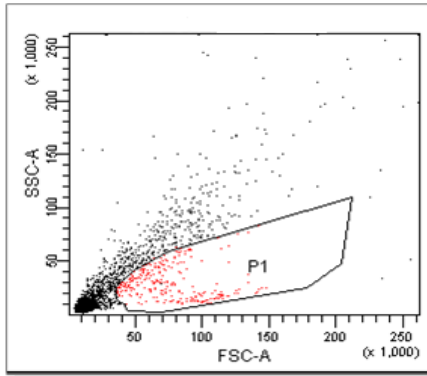


S1 (c): 50 µg/ml Peptide Concentration



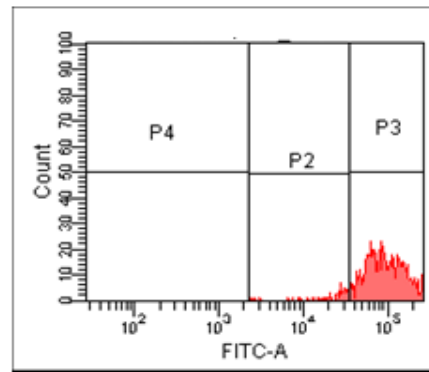
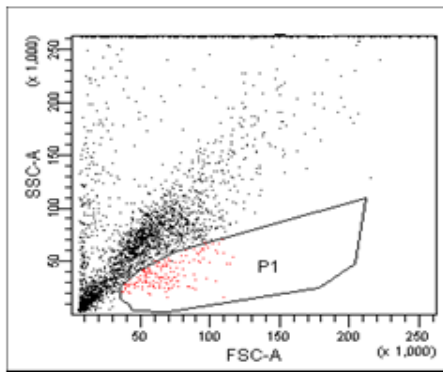
S1 (d): 100 µg/ml Peptide Concentration

**Fig. S1.** Flow cytometric results of proliferation assay carried out in one of *P. falciparum* exposed individuals. (a) Negative control without peptide (b) 25 µg/ml (Peptide Conc.) (c) 50 µg/ml (Peptide Conc.) (d) 100 µg/ml (Peptide Conc.). P3- Unstimulated cells. P2, P4- Stimulated cells.



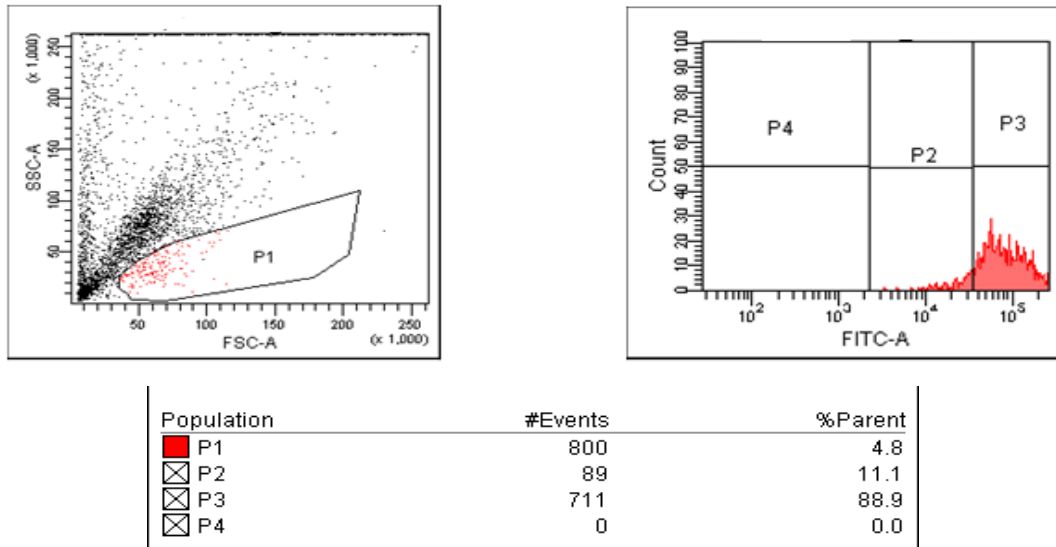
Population	#Events	%Parent
■ P1	1,488	10.7
☒ P2	26	1.7
☒ P3	1,459	98.1
☒ P4	3	0.2

S2 (a): Negative control without peptide

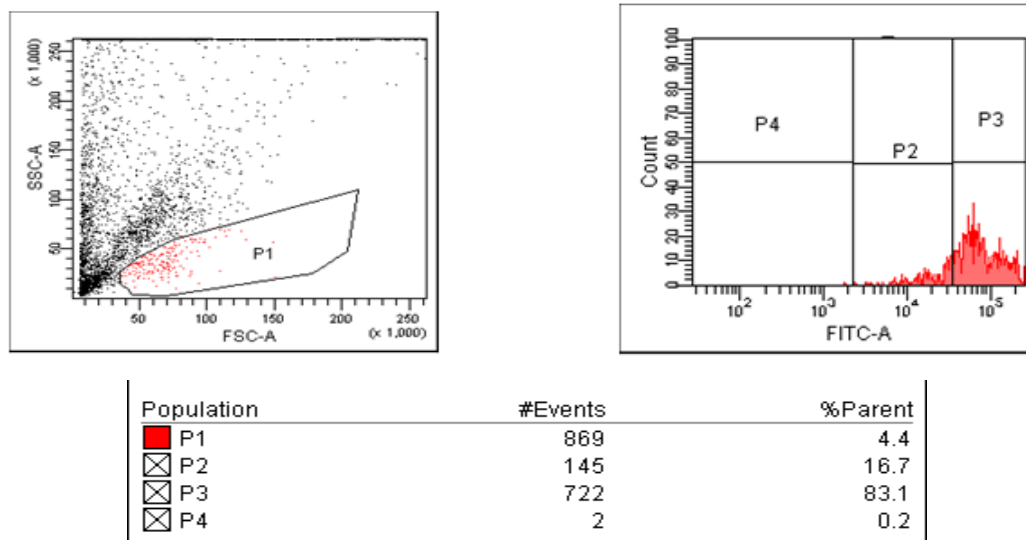


Population	#Events	%Parent
■ P1	738	4.9
☒ P2	53	7.2
☒ P3	685	92.8
☒ P4	0	0.0

S2(b): 25µg/ml Peptide Concentration



S2(c): 50µg/ml Peptide Concentration



S2(d): 100µg/ml Peptide Concentration

Fig. S2. Flow cytometric results of proliferation assay carried out in one of *P. falciparum* exposed individuals. (a) Negative control without peptide (b) 25 µg/ml (Peptide Conc.) (c) 50 µg/ml (Peptide Conc.) (d) 100 µg/ml (Peptide Conc.) P3- Unstimulated cells. P2, P4- Stimulated cells.