

Table 1. Immunoinformatic screening and HLA-binding profile of the selected CTL, HTL and B-cell epitopes included in the multiepitope vaccine construct and complete vaccine docking against TLR4/MD2.

Antigen	Epitope	Epitope type	Representative HLA allele	HLA percentile rank	Antigenicity	Allergenicity	Toxicity (SVM score)	Conservancy (%)	Docking score
FnBPA	SQDNSGDQ	B-cell	NA	NA	Immunogen with 100% prob.	Probable Non-allergen	-0.92	90.00%	NA
	YYYDRGYTL	CTL	HLA-A*24:02	0.01	Immunogen with 100% prob.	Probable Non-allergen	-0.65	30.00%	-167.897
	KPQSKKSEL	CTL	HLA-B*07:02	0.01	Immunogen with 66% prob.	Probable Non-allergen	-0.89	20.00%	-270.684
	RIFEYLGNN EDIAKS	HTL	HLA-DRB1*04:01	0.02	Immunogen with 66% prob.	Probable Non-allergen	-1.19	20.00%	-246.242
Hla	NVTGDDTG KIGGLIGAN VSIG	B-cell	NA	NA	Immunogen with 66% prob.	Probable Non-allergen	-0.73	60.00%	NA
	GANKSGLAW	CTL	HLA-B*58:01	0.06	Immunogen with 66% prob.	Probable Non-allergen	-0.65	100.00%	-210.064
	SSGFSPDFAT VITMD	HTL	HLA-DRB3*01:01	0.11	Immunogen with 66% prob.	Probable Non-allergen	-0.79	100.00%	-251.744
	LDPNKASSL LSSGFS	HTL	HLA-DQA	0.08	Immunogen	Probable	-0.70	100.00%	-203.897

			1*01		with 66% prob.	Non-allergen			
SpA _{KKE}	QKLNSQ	B-cell	NA	NA	Immunogen with 100% prob.	Probable Non-allergen	-0.64	100.00%	NA
	DEAKKNFY	CTL	HLA-B*44:03	0.07	Immunogen with 66% prob.	Probable Non-allergen	-0.73	0.00%	-187.943
	DPSQSANVL	CTL	HLA-B*35:01	0.22	Immunogen with 100% prob.	Probable Non-allergen	-0.89	100.00%	-150.843
	FYQVLNMPNLNADQR	HTL	HLA-DRB1*04:01	0.56	Immunogen with 100% prob.	Probable Non-allergen	-1.04	100.00%	-342.257
Complete vaccine construct		NA	TLR4/MD-2	NA	Immunogen with 100% prob.	Probable Non-allergen	NA	NA	-919.5