

Supplementary tables:

S. Table 1:

Number	Epitopes	Overall score(nM)
1.	APVQVGEEA	1.3931
2.	MKKVLYGIF	1.2342
3.	KVLYGIFAI	1.1355
4.	SVSTVSSAV	1.1122
5.	YGIFAITAL	1.0506
6.	VSSAVGVAL	1.0295
7.	SSATSVSTV	1.0007

S. Table 2 (MHC-II allele for desired peptides)

Core peptide	Peptide	MHC-II binding allele with IC 50 value ≤1000 nM	Position
YGIFAITAL	KKVLYGIFAITALAA	HLA-DRB1*04:01(106)	2-16
	KKVLYGIFAITALAA	HLA-DRB1*04:04(188)	2-16
	KVLYGIFAITALAA	HLA-DRB1*09:01(270)	3-17
	KKVLYGIFAITALAA	HLA-DRB1*09:01(276)	2-16
	VLYGIFAITALAA	HLA-DRB1*09:01(280)	4-18
	KVLYGIFAITALAA	HLA-DRB1*07:01(323)	3-17
	MKKVLYGIFAITALA	HLA-DRB1*09:01(339)	1-15
	VLYGIFAITALAA	HLA-DRB1*07:01(341)	4-18
	KKVLYGIFAITALAA	HLA-DRB1*07:01(350)	2-16
	VLYGIFAITALAA	HLA-DRB1*04:05(369)	4-18
	KKVLYGIFAITALAA	HLA-DRB1*08:02(390)	2-16
	MKKVLYGIFAITALA	HLA-DRB1*07:01(412)	1-15
	KKVLYGIFAITALAA	HLA-DRB4*01:01(461)	2-16
	KVLYGIFAITALAA	HLA-DRB4*01:01(463)	3-17
	MKKVLYGIFAITALA	HLA-DRB4*01:01(645)	1-15
	KKVLYGIFAITALAA	HLA-DQA1*05:01/DQB1*02:01(812)	2-16
	MKKVLYGIFAITALA	HLA-DQA1*01:01/DQB1*05:01(984)	1-15
	KKVLYGIFAITALAA	HLA-DQA1*04:01/DQB1*04:02(989)	2-16
	KKVLYGIFAITALAA	HLA-DQA1*05:01/DQB1*02:01(812)	2-16
	MKKVLYGIFAITALA	HLA-DQA1*01:01/DQB1*05:01(984)	1-15
	KKVLYGIFAITALAA	HLA-DQA1*04:01/DQB1*04:02(989)	2-16

S Table 3 (Linear B cell epitope of yibE protein generated by BepiPred 2.0 server):

Epitope	Positi on	Lengt h	Antige nicity	Allerg enicity	Toxic ity	Conser vancy
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ATSVSAAPVQVGEAAGSAATSVSAGSSSATSVSTV	16-50	35	1.2562	Yes	No	100%
TGGGDGSNTGTTTTTT	61-76	16	3.1035	No	No	100%

S Table 4 (Linear B cell epitope of yjbE protein generated by BCPREDS)

Epitope	Length	Position	Score	Antigenicity	Allergenicity	Toxicity	Conservancy
AAPVQVGEAAGSAATS	16	21-36	0.998	1.1437	No	No	100%
SAGSSSATSVSTVSSA	16	38-53	0.985	1.5395	Yes	No	100%
AATGGGDGSNTGTTTT	16	59-74	1.0	2.9631	No	No	100%

S Table 5 (Linear B cell epitope of yjbE protein generated by ABCpred)

Epitope	Position	Score	Antigenicity	Allergenicity	Toxicity	Conservancy
AITALAATSVSAAPVQ	10-25	0.56	0.5478	No	No	100%
TSVSAAPVQVGEAAGS	17-32	0.73	1.0936	Yes	No	100%
EAAGSAATSVSAGSSS	28- 43	0.70	1.5816	Yes	No	100%
AGSSSATSVSTVSSAV	39-54	0.72	1.3898	Yes	No	100%
SVSTVSSAVGVALAAT	46-61	0.64	0.7634	No	No	100%
VGVALAATGGGDGSNT	54-69	0.84	2.0367	No	No	100%
TGGGDGSNTGTTTTTT	61-76	0.88	3.1035	No	No	100%