

Table S2: Evaluation of different methods on identifying endogenous HLA-DR ligands from SYF-PEITHI database. Elements in the table are values of AUC and largest value of each row is highlighted in bold. Predictions of NetMHCIIpan-1.0 and 2.0 were obtained from their stand-alone packages. Predictions of MultiRTA were from its web server. Count gives the number of HLA-DR ligands retrieved from SYFPEITHI. Ave per ligand gives the average AUC over all 1164 ligands. Ave per allele gives the average of per-ligand-average AUCs of all alleles.

Allele	Count	NetMHCpan-2.0	NetMHCpan-1.0	MultiRTA	TEPITOPE	TEPITOPEpan
HLA-DRB1*01:01	53	0.835	0.827	0.834	0.846	0.846
HLA-DRB1*01:02	5	0.927	0.878	0.934	0.886	0.899
HLA-DRB1*03:01	88	0.789	0.710	0.651	0.692	0.688
HLA-DRB1*04:01	468	0.875	0.823	0.770	0.844	0.837
HLA-DRB1*04:02	36	0.666	0.723	0.768	0.889	0.884
HLA-DRB1*04:03	1	0.845	0.991	1.000		0.954
HLA-DRB1*04:04	42	0.764	0.793	0.722	0.790	0.810
HLA-DRB1*04:05	36	0.855	0.850	0.729	0.832	0.806
HLA-DRB1*07:01	47	0.744	0.707	0.720	0.708	0.707
HLA-DRB1*08:01	39	0.642	0.655	0.541	0.721	0.682
HLA-DRB1*08:02	1	0.978	0.982	0.532	0.916	0.926
HLA-DRB1*08:03	1	0.292	0.659	0.383		0.164
HLA-DRB1*09:01	6	0.957	0.875	0.842		0.673
HLA-DRB1*10:01	183	0.866	0.869	0.826		0.787
HLA-DRB1*11:01	35	0.896	0.847	0.838	0.847	0.843
HLA-DRB1*11:04	8	0.911	0.918	0.812	0.886	0.876
HLA-DRB1*12:01	11	0.863	0.818	0.847		0.834
HLA-DRB1*13:01	16	0.724	0.682	0.744	0.835	0.823
HLA-DRB1*13:02	19	0.559	0.550	0.721	0.750	0.744
HLA-DRB1*14:01	9	0.809	0.717	0.733		0.727
HLA-DRB1*15:01	22	0.671	0.698	0.663	0.728	0.726
HLA-DRB1*15:02	3	0.666	0.568	0.705	0.779	0.786
HLA-DRB1*16:01	2	0.846	0.941	0.915		0.641
HLA-DRB3*01:01	2	0.971	0.957	0.952		0.942
HLA-DRB3*03:01	5	0.948	0.827	0.939		0.782
HLA-DRB4*01:01	6	0.729	0.554	0.515		0.556
HLA-DRB4*01:03	2	0.827	0.793	0.744		0.762
HLA-DRB5*01:01	18	0.847	0.825	0.777	0.832	0.830
Ave per ligand	1164	0.829	0.799	0.760		0.800
Ave per allele	28	0.797	0.787	0.756		0.769
Tepitope	17	0.785	0.767	0.733	0.811	0.807
!Tepitope	11	0.814	0.818	0.791		0.711