

**Supplemental Table 1: Donor cohort**

<b>Sample #</b>	<b>Study Site <sup>a</sup></b>	<b>sex</b>	<b>race</b>	<b>Vaccine</b>	<b>HLA A</b>		<b>HLA B</b>	
1	UVM	Female	White	DEN1Δ30	A*01:01	A*11:01	B*07:02	B*27:05
2	UVM	Male	White	DEN1Δ30	A*01:01	A*03:01	B*08:01	B*40:01
3	UVM	Male	White	DEN1Δ30	A*01:01	A*33:01	B*08:01	B*14:02
4	UVM	Male	White	DEN1Δ30	A*01:01	A*01:01	B*14:02	B*57:01
5	UVM	Female	White	DEN1Δ30	A*02:01	A*02:01	B*15:01	B*44:06
6	UVM	Female	White	DEN1Δ30	A*02:01	A*68:01	B*35:03	B*58:01
7	JHU	Male	Black	DEN1Δ30	A*03:01	A*30:01	B*42:01	B*44:03
8	JHU	Male	Black	DEN1Δ30	A*02:01	A*02:05	B*07:02	B*45:01
9	JHU	Male	Black	DEN1Δ30	A*26:01	A*68:01	B*13:02	B*53:01
10	JHU	Female	Black	DEN1Δ30	A*02:05	A*68:02	B*15:10	B*53:02
11	JHU	Female	Black	DEN1Δ30	A*02:02	A*23:01	B*08:01	B*40:02
12	JHU	Male	Black	DEN2/4Δ30	A*33:01	A*74:01	B*14:02	B*57:03
13	JHU	Male	Black	DEN2/4Δ30	A*02:01	A*66:02	B*37:01	B*44:03
14	JHU	Female	White	DEN2/4Δ30	A*01:04	A*03:01	B*07:02	B*08:01
15	JHU	Female	Black	DEN2/4Δ30	A*23:01	A*68:01	B*07:02	B*58:02
16	JHU	Female	White	DEN2/4Δ30	A*11:01	A*66:01	B*51:01	B*58:02
17	JHU	Male	Indian, Alaskan, Pacific Islander	DEN2/4Δ30	A*02:01	A*24:03	B*15:03	B*52:01
18	JHU	Female	White	DEN2/4Δ30	A*02:01	A*23:01	B*15:01	B*44:03
19	JHU	Male	Black	DEN2/4Δ30	A*30:02	A*30:02	B*57:05	B*57:02
20	JHU	Male	Black	DEN2/4Δ30	A*02:05	A*23:01	B*18:01	B*58:01
21	JHU	Male	Black	DEN2/4Δ30	A*03:01	A*68:02	B*57:03	B*35:03
22	JHU	Female	Black	DEN3Δ30,31	A*29:01	A*31:01	B*35:01	B*44:03
23	JHU	Female	Black	DEN3Δ30,31	A*66:01	A*68:01	B*58:01	B*58:02
24	JHU	Female	White	DEN3Δ30,31	A*01:01	A*24:03	B*51:01	B*39:01
25	JHU	Male	Black	DEN3Δ30,31	A*03:01	A*33:01	B*07:02	B*35:01
26	JHU	Female	Black	DEN3Δ30,31	A*23:01	A*29:01	B*15:03	B*81:01
27	UVM	Male	White	DEN3Δ30,31	A*01:01	A*01:01	B*08:01	B*53:02
28	UVM	Male	White	DEN3Δ30,31	A*02:01	A*03:01	B*35:01	B*47:01
29	UVM	Male	White	DEN3Δ30,31	A*01:01	A*24:02	B*35:08	B*08:01
30	UVM	Male	White	DEN3Δ30,31	A*30:03	A*30:06	B*39:01	B*39:24
31	UVM	Female	White	DEN3Δ30,31	A*11:02	A*11:01	B*07:02	B*51:01
32	UVM	Male	White	DEN3Δ30,31	A*01:01	A*25:01	B*35:01	B*35:01
33	UVM	Female	White	DEN4Δ30	A*02:01	A*02:01	B*15:01	B*35:01
34	UVM	Male	White	DEN4Δ30	A*01:01	A*24:02	B*56:01	B*57:01

35	UVM	Female	White	DEN4Δ30	A*01:01	A*01:01	B*08:01	B*14:02
36	UVM	Female	White	DEN4Δ30	A*11:01	A*24:02	B*07:02	B*40:01
37	UVM	Male	White	DEN4Δ30	A*02:01	A*33:03	B*08:01	B*40:01
38	UVM	Female	White	DEN4Δ30	A*01:01	A*24:02	B*08:01	B*55:01
39	UVM	Male	White	DEN4Δ30	A*03:01	A*03:01	B*07:06	B*51:01
40	UVM	Female	White	DEN4Δ30	A*23:09	A*29:02	B*15:10	B*53:01
41	JHU	Female	Black	DEN4Δ30	A*02:01	A*31:01	B*53:01	B*40:02
42	JHU	Male	Black	DEN4Δ30	A*66:01	A*68:02	B*53:01	B*81:01
43	JHU	Male	Black	TV003	A*03:01	A*33:01	B*45:01	B*52:01
44	JHU	Male	Black	TV003	A*23:01	A*23:01	B*07:02	B*53:01
45	JHU	Male	Black	TV003	A*29:01	A*33:01	B*15:03	B*42:02
46	JHU	Male	Black	TV003	A*29:01	A*33:01	B*07:02	B*35:01
47	JHU	Male	Black	TV003	A*01:01	A*33:01	B*07:02	B*58:02
48	UVM	Female	White	TV003	A*02:01	A*03:01	B*07:02	B*14:02
49	UVM	Female	White	TV003	A*11:01	A*26:01	B*14:02	B*35:05
50	UVM	Female	White	TV003	A*03:01	A*03:01	B*07:02	B*57:01
51	UVM	Male	White	TV003	A*02:01	A*03:01	B*07:02	B*38:01
52	UVM	Female	White	TV003	A*02:01	A*68:02	B*14:02	B*44:02

<sup>a</sup> University of Vermont (UVM), Burlington, VT, Johns Hopkins University (JHU), Bethesda, MD

**Supplemental Table 2: Number of peptides tested per HLA <sup>a</sup>**

<b>HLA</b>	<b>DEN1Δ30</b>	<b>DEN2/4Δ30</b>	<b>DEN3Δ30,31</b>	<b>DEN4Δ30</b>	<b>conserved</b>	<b>sum</b>
<b>A*0101</b>	55	12	51	16	80	214
<b>A*0201</b>	59	18	67	11	77	232
<b>A*0203</b>	58	13	62	13	72	218
<b>A*0206</b>	58	15	58	8	80	219
<b>A*0301</b>	54	15	53	10	78	210
<b>A*1101</b>	54	16	54	7	77	208
<b>A*2301</b>	49	17	55	13	77	211
<b>A*2402</b>	50	16	60	11	74	211
<b>A*2601</b>	61	17	59	15	69	221
<b>A*3001</b>	57	12	58	12	79	218
<b>A*3002</b>	47	14	48	15	74	198
<b>A*3101</b>	57	9	56	7	76	205
<b>A*3201</b>	55	13	61	14	72	215
<b>A*3301</b>	56	15	51	11	76	209
<b>A*6801</b>	52	19	44	17	73	205
<b>A*6802</b>	54	15	55	15	77	216
<b>B*0702</b>	53	14	50	9	86	212
<b>B*0802</b>	63	16	68	13	71	231
<b>B*1501</b>	69	24	72	20	101	286
<b>B*3501</b>	54	15	55	8	85	217
<b>B*4001</b>	56	12	57	13	71	209
<b>B*4402</b>	61	12	57	13	74	217
<b>B*4403</b>	55	12	62	12	70	211
<b>B*5101</b>	50	12	62	12	70	206
<b>B*5301</b>	59	16	64	10	78	227
<b>B*5701</b>	61	8	59	9	119	256
<b>B*5801</b>	91	24	107	22	157	401
<b>sum</b>	1548	401	1605	336	2193	<b>6083</b>

<sup>a</sup> Peptides were subdivided into pools of 10 individual peptides according to their HLA restriction and the vaccine serotype they are derived