

Supplementary Table 1: Patient characteristics

Donor ID	Sex	Age	HLA Type	Cohort	T cell assay	Tested Epitopes	Serum S-IgG1 assay	Neutralizing Antibodies (Plaque reduction assay)
V1	f	46	A*02:01, A*33:03, B*44:03, B*58:01	vaccinated	yes	A*02/S269-277	no	no
V2	f	32	A*01:01, A*02:01, B*07:02, B*37:01	vaccinated	yes	A*01/S865-873 A*02/S269-277	yes	yes
V3	f	45	A*01:01, A*11:01, B*15:17, B*35:01	vaccinated	yes	A*01/S865-873	yes	yes
V4	f	27	A*01:01, A*32:01, B*44:02, B*52:01	vaccinated	yes	A*01/S865-873	no	no
V5	f	61	A*02:01, B*07:02, B*44:02	vaccinated	yes	A*02/S269-277	yes	yes
V6	m	32	A*02:01, B*15:01, B*51:01	vaccinated	yes	A*02/S269-277	yes	yes
V7	f	52	A*02:01, A*68:01, B*15:01, B*44:02	vaccinated	yes	A*02/S269-277	yes	yes
V8	m	36	A*02:01, A*68:01, B*15:01, B*51:01	vaccinated	yes	A*02/S269-277	yes	yes
V9	m	61	A*02:01, B*08:01, B*15:01	vaccinated	yes	A*02/S269-277	yes	yes
V10	m	32	A*03:01, A*30:01, B*13:02, B*35:01	vaccinated	no	-	yes	yes
V11	f	53	A*01:01, A*24:02, B*08:01, B*27:05	vaccinated	yes	A*01/S865-873	yes	yes
V12	f	38	A*02:01, A*68:01, B*15:01, B*40:01	vaccinated	no	-	yes	yes
V13	m	36	A*01:01, A*26:01, B*07:02, B*27:05	vaccinated	no	-	yes	yes
V14	m	34	A*02:01, A*03:01, B*07:02	vaccinated	no	-	yes	yes
V15	m	30	A*23:01, A*26:01, B*44:03, B*45:01	vaccinated	no	-	no	yes
V16	m	48	A*02:01, A*24:02, B*27:05, B*51:01	vaccinated	no	-	no	yes
V17	m	31	A*01:01, A*02:01, B*13:02, B*35:02	vaccinated	no	-	yes	yes
V18	f	30	A*01:01, A*33:01, B*14:02, B*57:01	vaccinated	no	-	yes	yes
V19	m	43	A*03:01, A*32:01, B*07:02, B*40:02	vaccinated	no	-	yes	yes
V20	f	36	A*02:01, A*68:01, B*15:01, B*55:01	vaccinated	no	-	yes	yes
V21	m	27	A*02:01, A*29:02, B*45:01, B*51:01	vaccinated	no	-	yes	yes
V22	f	28	A*02:01, A*31:01, B*07:02, B*45:01	vaccinated	no	-	yes	yes
V23	m	32	A*01:01, A*03:01, B*08:01, B*18:01	vaccinated	no	-	yes	yes
V24	f	28	A*02:01, B*07:02, B*08:01	vaccinated	no	-	yes	yes
V25	f	27	A*02:01	vaccinated	yes	A*02/S269-277	no	no
V26/BT11	m	42	A*01:01, A*03:01, B*08:01, B*35:01	vaccinated / breakthrough infection	yes	A*01/S865-873	yes	yes
V27/BT12	m	49	A*01:01, A*11:01, B*08:01, B*15:01	vaccinated / breakthrough infection	yes	A*01/S865-873	yes	yes
V28/BT13	m	63	A*01:01, A*02:01, B*08:01, B*15:01	vaccinated / breakthrough infection	yes	A*01/S865-873 A*02/S269-277	yes	yes
V29/BT14	m	36	A*01:01, A*24:02, B*07:02, B*27:05	vaccinated / breakthrough infection	yes	A*01/S865-873	yes	yes
V30/BT15	m	33	A*02:01, A*24:02, B*27:05, B*27:07	vaccinated / breakthrough infection	yes	A*02/S269-277	yes	yes
V31/BT16	m	42	A*01:01, A*02:01, B*08:01, B*40:01	vaccinated / breakthrough infection	no	-	yes	yes
BT17	f	23	A*01:01, A*02:01, B*15:01, B*44:03	breakthrough infection	yes	A*01/S865-873 A*02/S269-277	yes	yes
BT18	f	25	A*01:01, A*68:02, B*53:01, B*57:01	breakthrough infection	yes	A*02/S269-277	yes	yes
BT19	m	23	A*02:01, B*27:05, B*35:01	breakthrough infection	yes	A*02/S269-277	yes	yes
BT110	f	23	A*02:01, B*07:02, B*40:01	breakthrough infection	yes	A*02/S269-277	yes	yes
BT111	m	26	A*02:01, A*23:01, B*40:01, B*44:03	breakthrough infection	yes	A*02/S269-277	yes	yes
BT112	m	24	A*02:01, A*24:02, B*35:03	breakthrough infection	yes	A*02/S269-277	yes	yes
BT113	f	43	A*02:01, B*27:05, B*44:02	breakthrough infection	yes	A*02/S269-277	no	no