



Robust and prototypical immune responses toward COVID-19 vaccine in First Nations peoples are impacted by comorbidities

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Supplementary Table 1. Demographic and clinical information of COVAC participants

	Study ID	Age	Gender	Ethnicity	COVID vaccine	Comorbidities
Australian First Nations	C013	48	female	Torres Strait Islander	BNT162b2	No
	C018	21	male	Aboriginal	BNT162b2	No
	C020	62	female	Aboriginal	BNT162b2	No
	C022	23	female	Aboriginal	BNT162b2	No
	C023	31	male	Aboriginal	BNT162b2	No
	C025	44	female	South Sea Islander	BNT162b2	No
	C026	50	male	Aboriginal	BNT162b2	Yes
	C028	50	female	Aboriginal	BNT162b2	No
	C033	44	female	Aboriginal	BNT162b2	No
	C035	58	female	Aboriginal	BNT162b2	Yes
	C036	71	female	Aboriginal	BNT162b2	Yes
	C037	50	male	Aboriginal	BNT162b2	Yes
	C038	79	female	Aboriginal	BNT162b2	Yes
	C042	63	female	Aboriginal	BNT162b2	Yes
	C044	51	female	Aboriginal	BNT162b2	Yes
	C046	47	male	Aboriginal & Torres Strait Islander	BNT162b2	No
	C049	56	female	Aboriginal	BNT162b2	Yes
	C050	50	female	Aboriginal	BNT162b2	Yes
	C063	46	male	Aboriginal	BNT162b2	Yes
	C064	47	male	Aboriginal	BNT162b2	Yes
	C065	52	female	Aboriginal	BNT162b2	Yes
	C071	58	male	Aboriginal	BNT162b2	Yes
	C072	57	male	Aboriginal	BNT162b2	Yes
	C073	22	male	Aboriginal	BNT162b2	No
	C074	54	female	Aboriginal	BNT162b2	Yes
	C075	24	male	Aboriginal	BNT162b2	No
	C076	31	male	Aboriginal & Torres Strait Islander	BNT162b2	No
	C077	62	male	Aboriginal	BNT162b2	No
	C078	60	male	Aboriginal	BNT162b2	No
	C079	34	male	Aboriginal	BNT162b2	No
	C080	21	female	Aboriginal	BNT162b2	No
	C081	55	male	Aboriginal	BNT162b2	Yes
	C082	67	male	Aboriginal	BNT162b2	Yes
	C084	48	female	Aboriginal	BNT162b2	No
	C087	21	male	Aboriginal	BNT162b2	No
	C088	19	female	Aboriginal	BNT162b2	No
	C089	58	male	Aboriginal	BNT162b2	No
	C090	37	female	Aboriginal	BNT162b2	No
	C091	36	male	Aboriginal	BNT162b2	No
	C092	34	male	Aboriginal	BNT162b2	No
	C093	31	male	Aboriginal	BNT162b2	No
C094	42	female	Aboriginal	BNT162b2	No	
C095	31	female	Aboriginal	BNT162b2	No	
C096	34	female	Aboriginal	BNT162b2	No	
C097	49	male	Aboriginal	BNT162b2	Yes	
C098	30	female	Aboriginal	BNT162b2	No	
C099	37	male	Aboriginal	BNT162b2	Yes	
C100	52	female	Aboriginal	BNT162b2	No	
C101	19	male	Aboriginal	BNT162b2	Yes	
C102	39	male	Aboriginal	BNT162b2	No	
C103	43	female	Aboriginal	BNT162b2	No	
C104	60	female	Aboriginal	BNT162b2	Yes	
C105	32	male	Aboriginal	BNT162b2	Unknown	
C106	28	female	Aboriginal	BNT162b2	No	
C107	20	male	Aboriginal	BNT162b2	No	
C108	24	male	Aboriginal	BNT162b2	No	
C109	25	male	Aboriginal	BNT162b2	No	
C110	21	male	Aboriginal	BNT162b2	No	
non-Indigenous	C001	45	female	Caucasian	BNT162b2	No
	C002	62	female	Caucasian	BNT162b2	No
	C003	43	female	Caucasian	BNT162b2	No
	C004	48	female	Caucasian	BNT162b2	No
	C005	42	female	Caucasian	BNT162b2	No
	C006	59	female	Caucasian	BNT162b2	No
	C007	43	female	Caucasian	BNT162b2	No
	C008	59	male	Caucasian	BNT162b2	No
	C009	44	female	Caucasian	BNT162b2	No
	C010	43	female	Caucasian	BNT162b2	No
	C011	59	female	Caucasian	BNT162b2	No
	C012	27	female	Caucasian	BNT162b2	No

C014	45	female	Caucasian	BNT162b2	No
C015	30	female	Caucasian	BNT162b2	No
C016	56	female	Caucasian	BNT162b2	No
C017	57	female	Caucasian	BNT162b2	No
C019	36	female	Caucasian	BNT162b2	No
C021	43	male	Caucasian	BNT162b2	No
C024	41	female	Caucasian	BNT162b2	No
C027	40	female	Caucasian	BNT162b2	No
C029	48	female	Caucasian	BNT162b2	No
C030	48	male	Caucasian	BNT162b2	No
C031	39	female	Caucasian	BNT162b2	No
C032	30	male	Caucasian	BNT162b2	No
C034	64	male	Caucasian	BNT162b2	No
C041	41	female	Asian	BNT162b2	No
C043	46	female	Caucasian	BNT162b2	No
C045	48	male	Caucasian	BNT162b2	No
C048	23	male	Caucasian	BNT162b2	No
C051	60	female	Caucasian	BNT162b2	No
C052	28	female	Caucasian	BNT162b2	No
C053	45	male	Caucasian	BNT162b2	No
C054	39	male	Caucasian	BNT162b2	No
C055	49	male	Asian	BNT162b2	No
C056	59	female	Caucasian	BNT162b2	No
C057	30	female	Caucasian	BNT162b2	No
C060	29	female	Asian	BNT162b2	No
C067	49	female	Caucasian	BNT162b2	No
C068	29	female	Caucasian	BNT162b2	No

Supplementary Table 2. Demographic and clinical information of additional non-Indigenous cohorts with comorbidities

Study ID	Age	Gender	Ethnicity	Renal disease	Diabetes	Inflammatory Bowel Disease	COVID-19 vaccination
D01	44	male	Caucasian	No	Yes	NA	No
D02	38	female	Caucasian	No	Yes	NA	No
D03	43	male	Caucasian	Yes	No	NA	No
D04	44	female	Caucasian	Yes	Yes	NA	No
D05	55	male	Caucasian	Yes	Yes	NA	No
D06	46	female	Non-Indigenous	Yes	No	NA	No
D07	59	male	Caucasian	Yes	Yes	NA	No
D08	61	male	Caucasian	No	Yes	NA	No
D09	68	male	Caucasian	Yes	No	NA	No
D10	65	female	Caucasian	No	Yes	NA	No
D11	53	male	Caucasian	Yes	No	NA	No
D12	44	male	Caucasian	Yes	No	NA	No
D13	73	female	Caucasian	Yes	Yes	NA	No
D14	68	female	Caucasian	No	Yes	NA	No
D15	39	female	Non-Indigenous	Yes	No	NA	No
D16	72	female	Caucasian	No	Yes	NA	No
D17	63	male	Caucasian	Yes	No	NA	ChAdOx1-S
D18	47	female	Caucasian	Yes	No	NA	BNT162b2
D19	58	male	Caucasian	Yes	No	NA	BNT162b2
D20	45	male	Caucasian	Yes	No	NA	BNT162b2
D21	58	female	Caucasian	Yes	No	NA	BNT162b2
D22	53	male	Caucasian	Yes	Yes	NA	BNT162b2
D23	67	male	Caucasian	Yes	Yes	NA	BNT162b2
D24	65	male	Non-Indigenous	No	Yes	NA	ChAdOx1-S
D25	61	male	Indian	No	Yes	NA	ChAdOx1-S
D26	70	female	Non-Indigenous	No	Yes	NA	ChAdOx1-S
D27	76	female	Non-Indigenous	No	pre-Diabetes	NA	BNT162b2
D28	57	male	African	No	Yes	NA	BNT162b2
D29	73	male	Caucasian	No	Yes	NA	BNT162b2
D30	45	male	Caucasian	No	Yes	NA	BNT162b2
D31	69	female	South Asian	No	Yes	NA	ChAdOx1-S
D32	57	male	Caucasian	Yes	Yes	NA	ChAdOx1-S
D33	62	male	Caucasian	Yes	No	NA	ChAdOx1-S
D34	62	male	Caucasian	Yes	No	NA	ChAdOx1-S
D35	27	female	Caucasian	No	Yes	NA	BNT162b2
D36	57	male	Caucasian	No	Yes	NA	ChAdOx1-S
D37	58	female	Caucasian	No	Yes	NA	BNT162b2
D38	62	female	Caucasian	No	Yes	NA	BNT162b2

I01	40	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I02	49	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I03	21	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I04	21	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I05	43	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I06	30	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I07	27	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I08	30	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I09	32	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I10	24	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I11	28	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I12	26	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I13	29	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I14	53	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I15	32	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I16	50	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I17	25	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I18	54	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I19	25	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I20	30	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I21	54	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I22	16	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I23	34	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I24	33	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I25	47	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I26	22	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I27	27	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I28	36	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I29	28	male	Non-Indigenous	NA	NA	Yes	BNT162b2
I30	20	female	Non-Indigenous	NA	NA	Yes	BNT162b2
I31	64	female	Non-Indigenous	NA	NA	Yes	ChAdOx1-S

Supplementary Table 3. HLA profile of Australian First Nations participants in the COVAC cohort

Study ID	HLA-A	HLA-B	HLA-C	HLA-DRB1	HLA-DPB1	HLA-DQB1
C013	24:02:01, 32:01:01	44:02:01, 55:02:01	05:01:01, 08:01:01	04:04:01, 09:01:02	04:01:01, 05:01:01	03:02:01G, 03:03:02
C018	02:01:01, 24:02:01	07:02:01, 56:02:01	01:02:01, 07:02:01	04:05:01, 15:01:01	04:01:01, 05:01:01	04:02:01, 06:02:01
C020	01:01, 34:01	07:02, 15:21	04:03, 07:02	14:08, 15:01	04:01, 05:01	05:03, 06:02
C023	01:01:01, 68:02:01	14:02:01, 18:01:01	07:01:01, 08:02:01	11:04:01, 13:03:01	02:01:02, 04:01:01	03:01:01G
C025	03:01:01, 24:02:01	18:01:01, 57:01:01	06:02:01, 07:01:01	07:01:01, 15:02:01G	02:01:02, 13:01:01	03:03:02, 06:01:01G
C028	01:01:01, 02:01:01	08:01:01	07:01:01	03:01:01	01:01:01, 09:01:01	02:01:01G
C033	34:01:01	40:02:01, 56:01:01	01:02:01, 07:02:01	08:03:02	02:01:02, 04:01:01	06:01:01G
C037	34:01:01	13:01:01, 40:01:02	03:03:01, 04:01:01	08:03:02	02:01:02, 04:01:01	06:01:01G
C038	01:01:01, 34:01:01	08:01:01, 13:01:01	04:01:01, 07:01:01	03:01:01, 08:03:02	04:01:01, 09:01:01	02:01:01G, 06:01:01G
C042	03:01:01, 34:01:01	07:02:01, 40:02:01	12:03:01, 15:02:01	07:01:01, 12:01:01G	04:01:01, 05:01:01	03:01:01G, 03:03:02
C044	11:01:01, 24:02:01	13:01:01, 15:06	04:01:94, 04:03:01	04:05:01, 08:03:02	04:01:01	03:01:01G, 06:01:01G
C046	02:01, 11:01	07:02, 15:21	04:03, 07:02	04:05, 15:01	04:01	03:01, 06:02
C049	33:03:01, 34:01:01	15:21:01, 58:01:01	03:02:02, 04:03:01	14:04:01, 14:09	04:01:01, 22:01:01	04:02:01, 05:03:01
C050	02:01:01, 34:01:01	56:01:01, 56:02:01	01:02:01, 07:02:01	08:03:02	02:01:02, 05:01:01	06:01:01G
C063	34:01:01	15:25:01, 56:01:01	01:02:01	04:05:01, 08:03:02	04:01:01, 05:01:01	04:01:01, 06:01:01G
C065	11:01:01, 34:01:01	13:01:01	04:01:01	04:05:01, 08:03:02	02:01:02, 04:01:01	03:01:01G, 06:01:01G
C081	11:01:01, 34:01:01	40:01:02, 56:02:01	01:02:01, 03:03:01	08:03:02	02:01:02, 05:01:01	06:01:01G
C082	34:01:01	40:02:01	15:02:01	08:03:02, 12:01:01G	02:01:02	04:02:01, 06:01:01G
C084	34:01:01	40:02:01	01:02:01, 15:02:01	14:08, 14:10	02:01:02, 652:01	04:02:01
C085	11:01:01, 24:02:01	13:01:01, 44:02:01	04:01:94, 16:04:01	04:05:01, 11:04:01	04:01:01	03:01:01G
C087	11:01:01, 24:02:01	13:01:01, 56:01:01	04:01:01, 07:02:01	12:01:01G, 14:08	02:01:02, 04:01:01	04:02:01, 05:03:01
C088	02:01:01, 34:01:01	13:01:01, 56:01:01	04:01:01, 07:02:01	08:03:02	02:01:02, 04:01:01	06:01:01G
C089	11:01:01	13:01:01	04:01:01, 04:01:94	04:05:01, 14:10	02:01:02, 05:01:01	03:01:01G, 04:02:01
C090	11:01:01, 34:01:01	13:01:01	04:01:01	08:03:02, 14:54:01	02:01:02, 04:01:01	05:03:01, 06:01:NEW

C091	34:01:01	13:01:01	04:01:01	08:03:02	04:01:01	06:01:01G
C092	11:01:01, 34:01:01	13:01:01, 56:01:01	04:01:01, 07:02:01	08:03:02, 12:01:01G	02:01:02, 04:01:01	04:02:01, 06:01:01G
C093	02:01:01, 34:01:01	40:01:02, 56:01:01	03:03:01, 07:02:01	08:03:02	02:01:02	05:03:01, 06:01:01G
C094	11:01:01, 34:01:01	13:01:01	04:01:01	08:03:02, 14:08	04:01:01, 22:01:01	05:03:01, 06:01:01G
C096	11:01:01, 34:01:01	13:01:01, 56:60	04:01:01	15:02:01G	04:01:01	06:01:01G
C097	02:01:01, 24:02:01	13:01:01, 56:01:01	04:01:01, 07:02:01	04:05:01, 08:03:02	02:01:02	03:01:01G, 06:01:01G
C098	11:01:01	13:01:01	04:01:01, 04:01:94	04:05:01, 14:54:01	04:01:01	03:01:01G, 05:03:01
C099	11:01:01, 34:01:01	13:01:01, 56:60	04:01:01	08:03:02, 15:02:01G	02:01:02, 04:01:01	06:01:01G
C100	11:01:01	13:01:01, 56:01:01	04:01:01	04:12, 08:03:02	02:01:02, 05:01:01	04:02:01, 06:01:01G

Supplementary Table 4. Demographic, clinical and sampling information of Australian First Nations COVID-19 patients

Study ID	Age	Gender	Days post disease onset		Hospital admission	Hospital discharge	Comorbidities	COVID Vaccine brand	COVID Vaccine status	Treatments	Days in hospital	ICU requirement	Oxygen supply
			V1	V2									
L02	33	M	2		0	33	No	BNT162b2	2 doses	Budesonide Inhaler	33	Ward	None
L06	48	M	3	12	0	16	Yes	BNT162b2	2 doses	Azithromycin, Baricitinib, Dexamethasone, Meropenum, Remdesivir, Vancomycin	16	ICU	Non-invasive
L09	68	M	1	8	1	13	Yes	BNT162b2	3 doses	Dexamethasone, Remdesivir	12	Ward	Non-invasive
L10	55	M	6	11	4	11	Yes	BNT162b2	2 doses	Budesonide Inhaler, Dexamethasone, Salbutamol	7	Ward	Non-invasive
L11	69	F	8	11	0	17	Yes	BNT162b2	2 doses	Augmentin, Ceftriaxone, Doxycycline, Prednisolone	17	Ward	None
L12	66	F	4	9	0	11	Yes	BNT162b2	3 doses	Dexamethasone, Remdesivir	11	Ward	Non-invasive

TRAV9-2	TRAJ17	CALSVFQIKAAGNKLTF	TRBV20-1	TRBJ2-2	NA	CSARDLFSQNTGELFF	1		
TRAV12-3	TRAJ24	CAMSCDSWGKLQF	TRBV13	TRBJ2-5	TRBD1	CASSHGTTGQETQYF		1	
TRAV35	TRAJ30	CAGVRDDKIIF	TRBV27	TRBJ2-7	TRBD2	GSSYEQYF		1	
ND	ND	ND	TRBV30	TRBJ2-2	TRBD1	CAWSPPALGNTGELFF		1	
TRAV9-2	TRAJ58	CALSIWGETSGSRLTF	TRBV12-3/TRBV12-4	TRBJ2-2	TRBD1	CATQSENTGELFF			3
ND	ND	ND	TRBV7-8	TRBJ2-2	TRBD2	CATGELDTGELFF			1
ND	ND	ND	TRBV12-3/TRBV12-4	TRBJ2-2	TRBD1	CAGQTANTGELFF			1
ND	ND	ND	TRBV15	TRBJ2-2	TRBD1	CAVQILNTGELFF			1
ND	ND	ND	TRBV19	TRBJ2-2	TRBD1	CATQDLNTGELFF			1
TRAV17	TRAJ36	CATDPGTGANNLFF	TRBV7-9	TRBJ2-7	TRBD1	CASSPDIEQYF			1
TRAV20	TRAJ32	CAVDYGGATNKLIF	TRBV13	TRBJ1-4	TRBD1	CASSLQTEKLFF			1
TRAV38-1	TRAJ24	CAQHKTDSWGKLQF	TRBV5-1	TRBJ2-2	TRBD2	CASGDSNTGELFF			1
TRAV5	TRAJ26	CAEDHGQNFVF	ND	ND	ND	ND			1
TRAV27	TRAJ42	CAGASHMNYGGSQGNLIF	TRBV2	TRBJ2-2	NA	CASMVSLNTGELFF			3
ND	ND	ND	TRBV20-1	TRBJ2-2	TRBD1	CSARPPDAMNTGELFF			2
ND	ND	ND	TRBV7-9	TRBJ1-1	TRBD2	CASSPEIEAFF			2
ND	ND	ND	TRBV7-9	TRBJ2-2	TRBD1	CARSDPNTGELFF			2
TRAV13-1	TRAJ43	CAAKEYNNNDMRF	ND	ND	ND	ND			2
TRAV19	TRAJ36	CALSYTGANNLFF	TRBV20-1	TRBJ2-2	TRBD1	CSARDDRATNTGELFF			2
TRAV23/DV6	TRAJ48	ANFGNEKLTF	TRBV7-8	TRBJ2-7	TRBD1	CASSSGNEQYF			2
TRAV8-3	TRAJ33	CAVIMDSNYQLIW	TRBV11-1	TRBJ2-2	TRBD1	CAILFDRNTGELFF			2
ND	ND	ND	TRBV12-3/TRBV12-4	TRBJ2-2	TRBD2	CAAGSLNTGELFF			1
ND	ND	ND	TRBV2	TRBJ2-2	TRBD1	CAGNDQNTGELFF			1
ND	ND	ND	TRBV20-1	TRBJ2-2	TRBD1	CSARDDRATNTGELFF			1
ND	ND	ND	TRBV3-1/TRBV3-2	TRBJ2-2	TRBD1	CASQYANTGELFF			1
ND	ND	ND	TRBV7-8	TRBJ2-2	NA	CARENQNTGELFF			1
ND	ND	ND	TRBV7-9	TRBJ2-1	TRBD1	CASSPDIEQFF			1
ND	ND	ND	TRBV7-9	TRBJ2-7	TRBD1	CASSPDIEQYF			1
ND	ND	ND	TRBV7-9	TRBJ2-7	TRBD1	CASSPDISGYF			1
TRAV20	TRAJ15	CASGNQAGTALIF	TRBV28	TRBJ2-1	TRBD2	CATGLLSNEQFF			1
TRAV27	TRAJ13	CADPNAGNNHIQNP	TRBV5-6	TRBJ2-2	TRBD1	CAVGLDNTGELFF			1
TRAV27	TRAJ38	CADPNAGNNRKLIV	TRBV5-6	TRBJ2-2	TRBD1	CAVGLDNTGELFF			1

TRAV9-2	TRAJ42	CALARGGSQGNLIF	TRBV20-1	TRBJ2-7	TRBD1	CSARDLRTGGHYEQYF	1													
ND	ND	ND	TRBV11-2	TRBJ2-7	TRBD2	CASSFFTNEQYF		1												
ND	ND	ND	TRBV20-1	TRBJ1-1	TRBD1	CSARDLGNTAEFF		1												
TRAV16	TRAJ28	CALSVPGAGSYQLTF	TRBV28	TRBJ1-1	TRBD1	CASSLNVGYKAFF		1												
TRAV40	TRAJ53	CLLLTRGSGGSNYKLTF	TRBV12-5	TRBJ2-7	TRBD1	CASGLSASLGFPYEQYF		1												
ND	ND	ND	TRBV20-1	TRBJ2-7	TRBD2	CSARGLGAYEQYF			1											
ND	ND	ND	TRBV7-9	TRBJ2-1	TRBD1	CASSALGQQTSYNEQFF			1											
TRAV17	TRAJ32	CATDRRGGATNKLIF	TRBV24-1	TRBJ2-1	TRBD1	CATSVGGGATYEQFF			1											
TRAV38-1	TRAJ7	CACLIYGNRLAF	TRBV7-2	TRBJ1-5	TRBD1	CASSLDRSNQPQHF			1											
TRAV4	TRAJ26	CLVGPFPRDNYQNFVF	TRBV13	TRBJ2-5	TRBD1	CASSPPDRGEQETQYF			1											
ND	ND	ND	TRBV15	TRBJ2-1	TRBD1	CATSRDQGNQFF				1										
ND	ND	ND	TRBV20-1	TRBJ2-3	TRBD2	CSARDSNTDTQYF					1									
ND	ND	ND	TRBV20-1	TRBJ2-7	TRBD1	CSARVGGGGHYEQYF					1									
TRAV13-2	TRAJ58	EETSGSRLTF	TRBV20-1	TRBJ2-7	TRBD1	CSARVGGGGHYEQYF					1									
TRAV21	TRAJ22	CAVFSSGSARQLTF	TRBV20-1	TRBJ2-4	TRBD1	CSATKDRWDIQYF					1									
TRAV29/DV5	TRAJ28	CAASPYSGAGSYQLTF	TRBV5-6	TRBJ1-2	TRBD1	CASSLGRGQRYTF					1									
TRAV4	TRAJ37	CLVGDPHGSSTGKLIF	TRBV27	TRBJ2-1	TRBD2	CASSSRLAGQSYNEQFF					1									
ND	ND	ND	TRBV20-1	TRBJ2-7	TRBD1	CSARLNSAASVEQYF						1								
ND	ND	ND	TRBV4-1	TRBJ2-7	TRBD2	CASSQDSGGYYEQYF						1								
ND	ND	ND	TRBV7-8	TRBJ2-3	TRBD1	CASSLVQGVTDQYF						1								
ND	ND	ND	TRBV10-1	TRBJ2-1	TRBD1	CASSEEGGSDEQFF							1							
ND	ND	ND	TRBV20-1	TRBJ2-1	TRBD2	CSARDRGLAGVEQFF							1							
TRAV16	TRAJ26	CALDNYGQNFVF	TRBV5-6	TRBJ2-7	TRBD1	CASRPQGLYEQYF								1						
ND	ND	ND	TRBV20-1	TRBJ1-4	TRBD1	CSAVTIEGQRNEKLFF														1
ND	ND	ND	TRBV27	TRBJ2-3	TRBD2	CASSLVAGGTDQYF														1
TRAV29/DV5	TRAJ26	CAARRDNYGQNFVF	ND	ND	ND	ND														3
TRAV16	TRAJ33	CALSGIGDSNYQLIW	TRBV5-6	TRBJ2-7	TRBD1	CASSLAGSFYEQYF														1
TRAV4	TRAJ42	CLAVDGGSQGNLIF	TRBV20-1	TRBJ2-7	TRBD2	CSARVLLTSGRLGINEQYF														1
TRAV41	TRAJ34	CAVRKYNTDKLIF	TRBV6-1	TRBJ2-7	TRBD1	CASSERGRGVLYEQYF														1
ND	ND	ND	TRBV6-2/TRBV6-3	TRBJ2-4	TRBD1	CASSYSQREWGNIQYF														1
TRAV24	TRAJ53	CAPRSGGSNYKLTF	ND	ND	ND	ND														1
Total							1	1	4	5	1	6	3	3	2	6	3			

Supplementary Table 6. Primers of Multiplex-nested RT-PCR

TRAV External	TRAV External Sequence	TRBV External	TRBV External Sequence	TRAV Internal	TRAV Internal Sequence	TRBV Internal	TRBV Internal Sequence
huTRAV1ext t	AACTGCACGTACCAGACAT C	huTRBV2ext	TCGATGATCAATTCTCAGT TG	huTRAV1in t	GCACCCACATTTCTKTCTTA C	huTRBV2int	TTCACCTGAAGATCCGG TC
huTRAV2ext t	GATGTGCACCAAGACTCC	huTRBV3ext	CAAAATACCTGGTCACACA G	huTRAV2in t	CACTCTGTGTCCAATGCTTA C	huTRBV3int	AATCTTCACATCAATTCCC TG
huTRAV3ext t	AAGATCAGGTCAACGTTG C	huTRBV4ext	TCGCTTCTCACCTGAATG	huTRAV3in t	ATGCACCTATTCAGTCTCTG G	huTRBV4int	CCTGCAGCCAGAAGACTC
huTRAV4ext t	CTCCATGGACTCATATGAA GG	huTRBV5- 1_4ext	GATTCTCAGGKCKCCAGTT C	huTRAV4in t	ATTATATCACGTGGTACCAA CAG	huTRBV5- 1_4int	CTTGAGCTGGRSACTC
huTRAV5ext t	CTTTTCTGAGTGTCCGAG	huTRBV5- 5_8ext	GTACCAACAGGYCCTGGG T	huTRAV5in t	TACACAGACAGCTCCTCCA C	huTRBV5- 5_8int	TCTGAGCTGAATGTGAAC G
huTRAV6ext t	CACCTGACCTGCAACTAT AC	huTRBV6- 1_3,5_9ext	ACTCAGACCCCAAAATTCC ACTGGCAAAGGAGAAGTC C	huTRAV6in t	TGGTACCGACAAGATCCAG TATGAGAAGCAGAAAGGAA GAC	huTRBV6- 1_3,5_9int	GTGTRCCCAGGATATGAA CC TGTTTATAGTGTCTCCAG AGC
huTRAV7ext t	GCAAAATACAGGGATGGG	huTRBV6-4ext	TRTGATCCAATTCAGGTC	huTRAV7in t	GTCAACACCTTCAGCTTCTC	huTRBV6-4int	TCYACTCTGAMGWTTCCA GCG
huTRAV8- 1ext	CTCACTGGAGTTGGGATG	huTRBV7- 1_3ext	CGSWTCTYTGAGARAGG	huTRAV8- 1int	TTTGAGGCTGAATTTAAGAG G	huTRBV7- 1_3int	TGRMGATYCAGCGCACA GTACCAACAGAGCCTGGA C
huTRAV8- 3ext	CACTGTCTCTGAAGGAGC C	huTRBV7- 4_9ext	GATCACAGCAACTGGACA G	huTRAV8- 3int	AGAGTGAAACCTCCTTCCA C	huTRBV7- 4_9int	TGGTATCGACAAGACCTG G
huTRAV8- 2,4ext	GCCACCCTGGTTAAAGG	huTRBV9ext	CAGAGCCCAAGACACAAG	huTRAV8- 2,4int	AACCAAGGACTCCAGCTTC	huTRBV9int	GGAACACCAGTGAAGTCTG AG
huTRAV8- 6ext	GAGCTGAGGTGCAACTAC TC	huTRBV10- 1ext	ACCTTGATGTGTCACCAGA C	huTRAV8- 6int	ATCAGAGGTTTTGAGGCTG GAAACCACTTCTTTCCACTT G	huTRBV10- 1int	GACTCCACTCTCAAGATC CA
huTRAV8- 7ext	CTAACAGAGGCCACCCAG	huTRBV10- 2ext	CGATTTTCTGCAGAGACG C	huTRAV8- 7int	GAAAGAACTGCACTCTTCA ATG	huTRBV10- 3int	CYACTCTGARGATCCAGC C
huTRAV9- 1_2ext	TGGTATGTCCAATATCCTG G	huTRBV11ext	ARGTGACAGARATGGGAC AA	huTRAV9- 1_2int	AAGATGGAAGGTTTACAGC AC	huTRBV11int	CATTCTGAACTGAACATG AGC
huTRAV10 ext	CAAGTGGAGCAGAGTCCT C	huTRBV12ext	AGCGATAAAGGAAGCATC C	huTRAV10i nt	TCAGACAGTGCCTCAAAC AC	huTRBV12int	ATTCTACTCTGAAGGTGC AGC
huTRAV12- 1_3ext	CARTGTTCCAGAGGGAGC	huTRBV13ext	CCAACAATCGATTCTTAGC TG	huTRAV10i -1_3int	AC	huTRBV13int	ATAACTCCAATCCAGGA GG
huTRAV13- 1ext	CATCCTTCAACCCTGAGTG CAGCGCCTCAGACTACTT C	huTRBV14ext	AGTGACCCTGAGTTGTTCT C	huTRAV13 -1int	AC	huTRBV14int	CTGTAGCCTTGAGATCCA GG
huTRAV13- 2ext	AAGATAACTCAAACCCAAC CAG	huTRBV15ext	GTCTTTGATGAAACAGGTA TGC	huTRAV13 -2int	CAGTGAACATCTCTCTCTG C	huTRBV15int	TGTTCACTGGTACCGACA G
huTRAV14 ext	AGTGGAGCTGAAGTGCAA C	huTRBV16ext	CAGACCCCCAGACACAAG CATAGATGAGTCAGGAAT GCC	huTRAV14i nt	CCACCATGAACTGCAGTTA C	huTRBV16int	CGATTTTCTGCTGAATTT C
huTRAV16 ext	GGAGAAGAGGATCCTCAG G	huTRBV17ext	AGTTGTGAACAGAATTTGA ACC	huTRAV16i nt	TGACAGTTCCTTCCACCTG	huTRBV17int	TTCCTCTCACTGTGACAT CG
huTRAV17 ext	TCCAGTATCTAAACAAAGA GCC	huTRBV18ext	AAGTTTCTCATCAACCATG C	huTRAV17i nt	TGTGACCTTGGACTGTGTG	huTRBV18int	ACTCTGACAGTGACCAGT GC
huTRAV18 ext	AGGTAACCTCAAGCGCAGA C	huTRBV19ext		huTRAV18i nt		huTRBV19int	
huTRAV19 ext		huTRBV20ext		huTRAV19i nt		huTRBV20int	

huTRAV20	CACAGTCAGCGGTTTAAAG	huTRBV23ext	GCGATTCTCATCTCAATGC	huTRAV20i	TCTGGTATAGGCAAGATCC	huTRBV23int	GCAATCCTGTCTCAGAA
ext	AG		CCTACGGTTGATCTATTAC	nt	TG		C
huTRAV21		huTRBV24ext	TCC	huTRAV21i	AAC TTGGTTCTCAACTGCA	huTRBV24int	GATGGATACAGTGCTCT
ext	TTCCTGCAGCTCTGAGTG		ACTACACCTCATCCACTAT	nt	G		CGA
huTRAV22	GTCCTCCAGACCTGATTCT	huTRBV25ext	TCC	huTRAV22i	CTGACTCTGTGAACAATTTG	huTRBV25int	CAGAGAAGGGAGATCTTT
ext	C	huTRBV27,28	TGGTATCGACAAGACCCA	nt	C	huTRBV27,28	CC
huTRAV23		ext	G	huTRAV23i	TGCATTATTGATAGCCATAC	int	TTCYCCCTGATYCTGGAG
ext	TGCTTATGAGAACACTGCG		TTCTGGTACCGTCAGCAA	nt	G		TC
huTRAV24	CTCAGTCACTGCATGTTCA	huTRBV29ext	C	huTRAV24i	TGCCTTACACTGGTACAGA	huTRBV29int	TCTGACTGTGAGCAACAT
ext	G		TCCAGCTGCTCTTCTACTC	nt	TG		GAG
huTRAV25	GGACTTCACCACGTA CTG	huTRBV30ext	C	huTRAV25i	TATAAGCAAAGGCCTGGTG	huTRBV30int	AGAATCTCTCAGCCTCCA
ext	C		TAGAACTGGACTTGACAG	nt			GAC
huTRAV26-1ext	GCAAACCTGCCTTGTAA TC	huTRBCext	CG	huTRAV26-1int	CGACAGATTCCTCCAG	huTRBCint	TTCTGATGGCTCAAACAC
huTRAV26-2ext	AGCCAAATTC AATGGAGA			huTRAV26-2int			AG
huTRAV27				nt	TTCACTTGCCTTGTAAACCAC		
ext	TCAGTTTCTAAGCATCCAA			huTRAV27i	CTCACTGTGTACTGCAACT		
huTRAV29	GCAAGTTAAGCAA AATTC A			nt	CC		
ext	CC			huTRAV29i	CTGCTGAAGGTCTACATT		
huTRAV30	CAACAACCAGTGCAGAGT			nt	C		
ext	C			huTRAV30i			
huTRAV34	AGAACTGGAGCAGAGTCC			nt	AGAAGCATGGTGAAGCAC		
ext	TC			huTRAV34i	ATCTCACCATAAACTGCAC		
huTRAV35	GGTCAACAGCTGAATCAG			nt	G		
ext	AG			huTRAV35i			
huTRAV36	GAAGACAAGGTGGTACAA			nt	ACCTGGCTATGGTACAAGC		
ext	AGC			huTRAV36i			
huTRAV38	GCACATATGACACCAGTG			nt	ATCTCTGGTTGTCCACGAG		
ext	AG			huTRAV38i			
huTRAV39				nt	CAGCAGGCAGATGATTCTC		
ext	CTGTTCCCTGAGCATGCAG			huTRAV39i	TCAACCACTTCAGACAGAC		
huTRAV40	GCATCTGTGACTATGAACT			nt	TG		
ext	GC			huTRAV40i	GGAGGCGGAAATATTAAG		
huTRAV41	AATGAAGTGGAGCAGAGT			nt	AC		
ext	CC			huTRAV41i	TTGTTTATGCTGAGCTCAG		
	GACCAGCTTGACATCACA			nt	G		
huTRACext	G			huTRACint	TGTTGCTCTTGAAGTCCATA		
					G		
