
Signs of immunosenescence correlate with poor outcome of mRNA COVID-19 vaccination in older adults

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Extended Table 1: Demographic characteristics of the study subjects.

Parameter	Exposed (n = 49)			Vaccinated (n = 66)		
Female Male	34 (69.4%) 15 (30.6%)			40 (60.6%) 26 (39.4%)		
Age (years)	54 (22-99)			54 (22-95)		
Days since positive PCR	79.0 (21-218)			NA		
Days since 1 st vaccine shot	NA			44.0 (42-81)		
Age Group (years)	Number of subjects	Median age	Gender	Number of subjects	Median age	Gender
22 – 40	n = 15	32 (22 – 40)	M: 5 (33 %) F: 10 (67 %)	n = 23	27 (22 – 40)	M: 14 (61 %) F: 9 (39%)
41 – 65	n = 19	54 (41 – 61)	M: 6 (32 %) F: 13 (68 %)	n = 25	54 (42 – 65)	M: 9 (36 %) F: 16 (64 %)
≥ 66	n = 15	83 (75 – 99)	M: 4 (27 %) F: 11 (73 %)	n = 18	84 (67 – 95)	M: 4 (22 %) F: 14 (78 %)

Median (minimum-maximum); NA = not applicable

Extended Table 2: Full cohort description

	Vaccinated							Exposed					
Subject Nr.	Gender	Age (years)	CharlsonIdx	Days post first BNT162b2 dose	Vaccination outcome		Subject Nr.	Gender	Age (years)	CharlsonIdx	Days post PCR+		
1	Female	95	7	44	R	Older adults	1	Female	99	9	67	Older adults	
2	Male	93	8	44	NR		2	Female	91	8	110		
3	Female	93	8	44	R		3	Female	88	8	89		
4	Female	93	7	42	R		4	Female	87	7	74		
5	Female	88	6	44	R		5	Male	85	7	68		
6	Female	88	6	42	NR		6	Male	85	7	110		
7	Female	86	7	44	NR		7	Male	84	8	79		
8	Female	86	6	44	R		8	Female	83	7	64		
9	Female	84	8	44	NR		9	Male	82	8	110		
10	Female	84	6	44	R		10	Female	81	8	114		
11	Female	83	8	44	R		11	Female	81	7	110		
12	Female	81	7	42	R		12	Female	79	4	72		
13	Female	80	5	44	R		13	Female	79	6	110		
14	Male	74	7	44	R		14	Female	79	5	72		
15	Female	74	6	42	R		15	Female	75	5	87		
16	Male	71	6	42	NR		16	Female	61	2	102	Middle- aged	
17	Male	70	4	42	R		17	Male	61	2	119		
18	Female	67	4	42	R		18	Female	61	2	147		
19	Male	65	2	42	R	19	Female	59	1	72			
20	Female	61	2	42	R	20	Male	59	1	68			
21	Male	60	3	67	R	21	Female	58	2	79			
22	Female	59	2	42	NR	22	Female	58	1	79			
23	Female	58	4	44	NR	23	Female	55	1	58			
24	Female	58	1	60	R	24	Male	55	1	155			
25	Male	58	3	42	R	25	Female	54	2	79			
26	Female	56	1	55	R	26	Male	53	1	36			
27	Female	56	1	42	R	27	Male	52	1	140			
28	Female	56	1	55	R	28	Female	51	1	21			
29	Female	55	3	42	R	29	Female	49	0	58			
30	Female	55	1	47	R	30	Female	46	0	79			
31	Male	54	1	65	R	31	Male	45	1	79			
32	Female	54	1	81	R	32	Female	43	0	79			
33	Male	54	1	60	R	33	Female	42	0	49			
34	Male	54	1	44	R	34	Female	41	0	75			
35	Female	53	2	42	R	35	Female	40	0	21	Younger adults		
36	Female	51	1	62	R	36	Female	39	0	NA			
37	Male	47	0	60	R	37	Female	36	0	160			
38	Female	45	2	44	R	38	Male	36	1	251			
39	Male	45	0	42	R	39	Female	36	1	112			
40	Female	44	0	49	R	40	Male	34	0	88			
41	Female	44	0	42	R	41	Male	33	0	148			
42	Female	44	0	44	R	42	Male	32	1	218			
43	Male	42	0	42	R	43	Male	29	0	114			
44	Female	40	0	42	R	44	Female	28	0	22			
45	Male	35	0	42	R	45	Female	28	0	133			
46	Male	34	2	62	R	46	Female	27	0	15			
47	Male	33	0	62	R	47	Female	25	0	22			
48	Male	31	0	44	NR	48	Female	24	0	180			
49	Male	31	0	67	R	49	Female	22	0	71			
50	Female	29	0	60	R	Younger adults							
51	Male	29	0	60	R								
52	Female	29	0	63	R								
53	Male	28	0	51	R								
54	Male	28	0	67	R								
55	Female	27	1	64	R								
56	Male	26	0	60	R								
57	Male	26	0	60	R								
58	Female	26	0	60	R								
59	Male	26	0	47	R								
60	Female	26	0	63	R								
61	Male	25	0	58	R								
62	Female	25	0	60	R								
63	Female	25	0	56	R								
64	Male	23	0	62	R								
65	Female	22	0	74	R								
66	Male	22	0	58	R								

R: Responder (>15 S-specific IFN- γ SFCs/ 10^6)

NR: Non-Responder (≤ 15 S-specific IFN- γ SFCs/ 10^6)

Extended Table 3. Antibodies used for FACS analyses

Antibody	Fluorochrome	Clone	Staining	Dilution	Company	Cat. number
PD-1	BV605	EH12.2H7	Surface	1:15	Biolegend	329924
CCR7	BV510	2-L1-A	Surface	1:40	BD	566760
CD45RA	PE-Cy7	HI100	Surface	1:120	BD	560675
CXCR5	PE	J252D4	Surface	1:10	Biolegend	356904
CD57	BB515	NK-1	Surface	1:300	BD	565945
CD14	APC-H7	MoP9	Surface	1:320	BD	560270
CD19	APC-H7	SJ25C1	Surface	1:80	BD	560252
KLRG-1	AF647	13F12F2	Surface	1:70	ThermoFisher	51-9488-42
CD3	APC-R700	UCH31	Intracellular	1:320	BD	565120
CD4	PerCP-Cy5.5	RTA-T4	Intracellular	1:40	Biolegend	300530
CD8	BV711	RTA-T8	Intracellular	1:120	BD	563677
IL-2	PE-CF594	5344.111	Intracellular	1:30	BD	562384
IFN- γ	BV421	B27	Intracellular	1:20	BD	562988
TNF- α	BV786	Mab11	Intracellular	1:10	Biolegend	502948