

Table S1. Clinical data of individuals with allogenic or autologous transplant who participated in this study.

Patients' code	Participants' clinical data					Transplant clinical data				COVID-19 vaccine				Post-transplant parameters at the time of second sample collection				
	Age (years)	Gender (M/F)	Underlying disease	Previous therapy	Ig deficiency	HSCT	According to the donor	Conditioning regimen	GvHD profilaxis	Patients vaccine type (n. doses)	Mean time from last vaccine dose to transplant (days)	Donors vaccine type (n. doses)	Donor vaccination - transplant, days	GvHD	Immunosuppression on at time of second sampling	CMV replication	Disease relapse	Admitted to ICU
TPC-10	51	F	MDS	Azacitidine	No	Allo.	RD; Haploidentical	MA	Cy-Csa-MMF	Spikevax (x2)	21	Comirnaty (x2)	10	No	Csa	No	No	No
TPC-12	57	M	MPS (MF)	Ruxolitinib	No	Allo.	RD; Haploidentical	RIC	Cy-Csa-MMF	Spikevax (x2)	88	Spikevax (x2)	12	No	Tacrolimus + MMF	No	No	No
TPC-16	58	F	AML	IC + midostaurin	No	Allo.	RD; identical	MA	Csa-Mtx	Spikevax (x2)	84	Comirnaty (x2)	62	No	Csa	No	No	No
TPC-20	63	M	MDS	IC	No	Allo.	RD; Haploidentical	RIC	Cy-Csa-MMF	Spikevax (x2)	91	Comirnaty (x2)	15	No	Csa + MMF + prednisone	Yes	No	No
TPC-21	65	M	AML	IC + midostaurin	IgM, IgA deficiency	Allo.	RD; Haploidentical	RIC	Cy-Csa-MMF	Vaxzevria (x2)	113	Vaxzevria (x1)	51	No	Csa	Yes	No	Yes
TPC-23	48	M	AML	IC + quizartinib	No	Allo.	RD; Haploidentical	MA	Cy-Csa-MMF	Spikevax (x2)	76	Comirnaty (x2)	22	No	Csa	No	No	No
TPC-31	63	F	APL	Alentuzumab	No	Allo.	RD; Haploidentical	RIC	Cy-Csa-MMF	Spikevax (x2)	126	Jcovden (x1)	69	No	Csa + metilprednisolona	Yes	No	Yes
TPC-37	60	M	MDS	Daunorubicin - cytarabine	No	Allo.	RD; identical	RIC	Cy-Csa-MMF	Spikevax (x3)	147	Comirnaty (x3)	101	Yes	Csa + MMF	No	Yes	No
TPC-42	68	M	AML	IC	No	Allo.	RD; Haploidentical	RIC	Cy-Csa-MMF	Spikevax (x2)	172	Comirnaty (x2)	129	No	Csa + MMF	No	No	No
TPC-47	63	F	ALL	IC	IgG deficiency	Allo.	RD; identical	RIC	Csa-MMF	Comirnaty (x2)	298	Comirnaty (x2)	216	Yes	Csa + prednisone	Yes	No	No
TPC-49	52	M	CLL	Venetoclax - Rituximab	IgM, IgA, IgG deficiency	Allo.	UR; mismatch	RIC	Cy-Csa-MMF	Comirnaty (x2)	53	Unk.	Unk.	No	Csa	Yes	No	No
TPC-14	46	M	MM	Cyclophosphamid e-Bortezomid-Dexametasone	IgM deficiency	Auto.	NA	Melphalan 140	NA	Spikevax (x2)	38	NA	NA	NA	No	NA	No	No
TPC-22	56	M	MM	Bortezomib-Talidomide-Dexametasone	IgM, IgA deficiency	Auto.	NA	Melphalan 200	NA	Spikevax (x2)	27	NA	NA	NA	No	NA	No	No
TPC-25	50	M	NHL	DHAP	No	Auto.	NA	BEAM	NA	Spikevax (x2)	76	NA	NA	NA	No	NA	No	No
TPC-26	34	M	MM	Bortezomib-Lenalidomide-Dexametasone	IgG deficiency	Auto.	NA	Melphalan 200	NA	Spikevax (x2)	75	NA	NA	NA	No	NA	No	No
TPC-29	70	F	NHL	Rituximab-CHOP	IgM, IgA deficiency	Auto.	NA	Adjusted BEAM	NA	Spikevax (x2)	94	NA	NA	NA	No	NA	No	No
TPC-30	43	M	NHL	Rituximab-ESHAP	IgM, IgA, IgG deficiency	Auto.	NA	BEAM	NA	Spikevax (x2)	106	NA	NA	NA	No	NA	No	No
TPC-32	52	M	MM	Daratumumab-Lenalidomide-Dexametasone	IgM, IgA, IgG deficiency	Auto.	NA	Melphalan 200	NA	Spikevax (x2)	125	NA	NA	NA	No	NA	No	No
TPC-33	60	F	MM	Bortezomib-Lenalidomide-Dexametasone	IgG deficiency	Auto.	NA	Melphalan 200	NA	Spikevax (x2)	119	NA	NA	NA	No	NA	No	No
TPC-35	65	M	MM	Bortezomib-Lenalidomide-Dexametasone	IgM, IgG deficiency	Auto.	NA	Melphalan 200	NA	Vaxzevria (x2)	100	NA	NA	NA	No	NA	No	No
TPC-36	63	M	NHL	Rituximab-ESHAP	IgM, IgA deficiency	Auto.	NA	Adjusted BEAM	NA	Spikevax (x2)	133	NA	NA	NA	No	NA	No	No
TPC-38	27	F	HL	Brentuximab-ESHAP	No	Auto.	NA	BEAM	NA	Vaxzevria (x2)	239	NA	NA	NA	No	NA	No	No
TPC-39	64	F	MM	Bortezomib-Lenalidomide-Dexametasone	IgM, IgA, IgG deficiency	Auto.	NA	Melphalan 140	NA	Vaxzevria (x2)	125	NA	NA	NA	No	NA	No	No
TPC-41	69	M	MM	Bortezomib-Lenalidomide-Dexametasone	IgM, IgA, IgG deficiency	Auto.	NA	Melphalan 140	NA	Vaxzevria (x2)	131	NA	NA	NA	No	NA	No	No
TPC-43	59	M	MM	Bortezomib-Talidomide-Dexametasone	IgM deficiency	Auto.	NA	Melphalan 200	NA	Comirnaty (x2)	152	NA	NA	NA	No	NA	No	No
TPC-45	45	M	NHL	Rituximab-CHOP/ Rituximab-DHAP	IgM, IgA deficiency	Auto.	NA	BEAM	NA	Spikevax (x2)	164	NA	NA	NA	No	NA	No	No

TPC-46	66	M	MM	Bortezomib-Talidomide-Dexametasone. Lenalidomide – dexametasone.	IgM deficiency	Auto.	NA	Melphalan 200	NA	Comirnaty (x2)	248	NA	NA	NA	No	NA	No	No
TPC-50	65	F	NHL	Rituximab-ESHAP	IgM, IgA deficiency	Auto.	NA	Adjusted BEAM	NA	Spikevax (x3)	153	NA	NA	NA	No	NA	No	No
TPC-51	52	M	NHL	Rituximab-CHOP/ Rituximab-DHAP	No	Auto.	NA	BEAM	NA	Comirnaty (x2)	205	NA	NA	NA	No	NA	No	No

Allo., allogenic; AML, acute myeloid leukemia; ALL, acute lymphocytic leukemia; APL, acute promyelocytic leukemia; Auto., Autologous; BEAM, carmustine (BCNU), etoposide (ETP), cytarabine (Ara-C), and melphalan; CHOP, Cyclophosphamide-Doxorubicin-Vincristine-Prednisolone; CLL, chronic lymphocytic leukemia; CMV, cytomegalovirus; Csa, cyclosporine; Cy, cyclophosphamide; DHAP, Dexamethasone-High-dose Cytarabine (Ara-C)-Cisplatin; ESHAP, Etoposide-Methylprednisolone- High-dose Cytarabine (Ara-C)-Cisplatin; GvHD, graft-versus-host-disease; HL, Hodgkin's lymphoma; HSCT, haematopoietic stem cell transplantation; IC, intensive chemotherapy; ICU, intensive care unit; MA, myeloablative; MDS, myelodysplastic syndrome; MF, myelofibrosis; MM, multiple myeloma; MMF, mycophenolate mofetil; MPS, myeloproliferative syndrome; Mtx, methotrexate; NA, not applicable; NHL, Non-hodgkin's lymphoma; RIC, reduced-intensity conditioning; RD, related donor; UD, unrelated donor; Unk., Unknown.