Table S1. Established canonical marker genes for the identification of B cell subpopulations. Related to Figures 1, 3 and 4.

B cell subsets	Positive marker genes	Negative marker genes
Naive B cells	*MS4A1, IGHD*	
Memory B cells	*MS4A1*	*IGHD*
Plasma cells	*CD79A, IGHG1, IGKC, JCHAIN*	*MKI67*
Plasmablasts	*CD79A, IGHG1, IGKC, JCHAIN, MKI67*	

Table S2. Characteristics of DENV-infected patients used in the flow cytometry experiments.

Sample	Clinical diagnosis	Types of infection	Serotypes	Viral load	Age	Gender
1	DF	Secondary	DENV-3	1.21E+07	18	Male
2	DF	Secondary	DENV-4	7.93E+08	23	Male
3	DF	Secondary	DENV-3	2.74E+06	19	Male
4	DF	Secondary	DENV-2	9.21E+03	17	Male
5	DF	Secondary	DENV-2	2.66E+08	30	Male
6	DF	Secondary	DENV-3	6.40E+09	17	Male
7	DF	Secondary	DENV-3	6.21E+09	16	Female
8	DF	Secondary	DENV-4	1.77E+06	37	Male
9	DHF	Secondary	DENV-3	5.45E+06	20	Male
10	DHF	Secondary	DENV-2	3.96E+07	15	Male
11	DHF	Secondary	DENV-2	2.00E+04	49	Female
12	DHF	Secondary	DENV-3	2.71E+07	27	Female
13	DHF	Secondary	DENV-2	3.82E+09	19	Male
14	DHF	Secondary	DENV-4	1.24E+05	19	Female
15	DHF	Secondary	DENV-3	4.16E+10	21	Female
16	DHF	Secondary	DENV-2	1.26E+03	20	Female

DF = dengue fever; DHF = dengue hemorrhagic fever. DENV = dengue virus

Table S2. Characteristics of DENV-infected patients used in the flow cytometry experiments (Cont.).

Sample	Clinical diagnosis	Types of infection	Serotypes	Viral load	Age	Gender
17	Healthy	-	-	Negative	50	Male
18	Healthy	-	-	Negative	27	Female
19	Healthy	-	-	Negative	25	Female
20	Healthy	-	-	Negative	50	Female
21	Healthy	-	-	Negative	55	Female
22	Healthy	-	-	Negative	36	Female
23	Healthy	-	-	Negative	28	Male
24	Healthy	-	-	Negative	53	Female
25	Healthy	-	-	Negative	51	Male
26	Healthy	-	-	Negative	NA	Female

Healthy controls were recruited from uninfected household family members of the index cases, who established no dengue-related clinical symptoms and tested negative for dengue viral genome by nested RT-PCR for three consecutive days. The detailed description for the recruitment of healthy controls can be found in our previous publication [19].

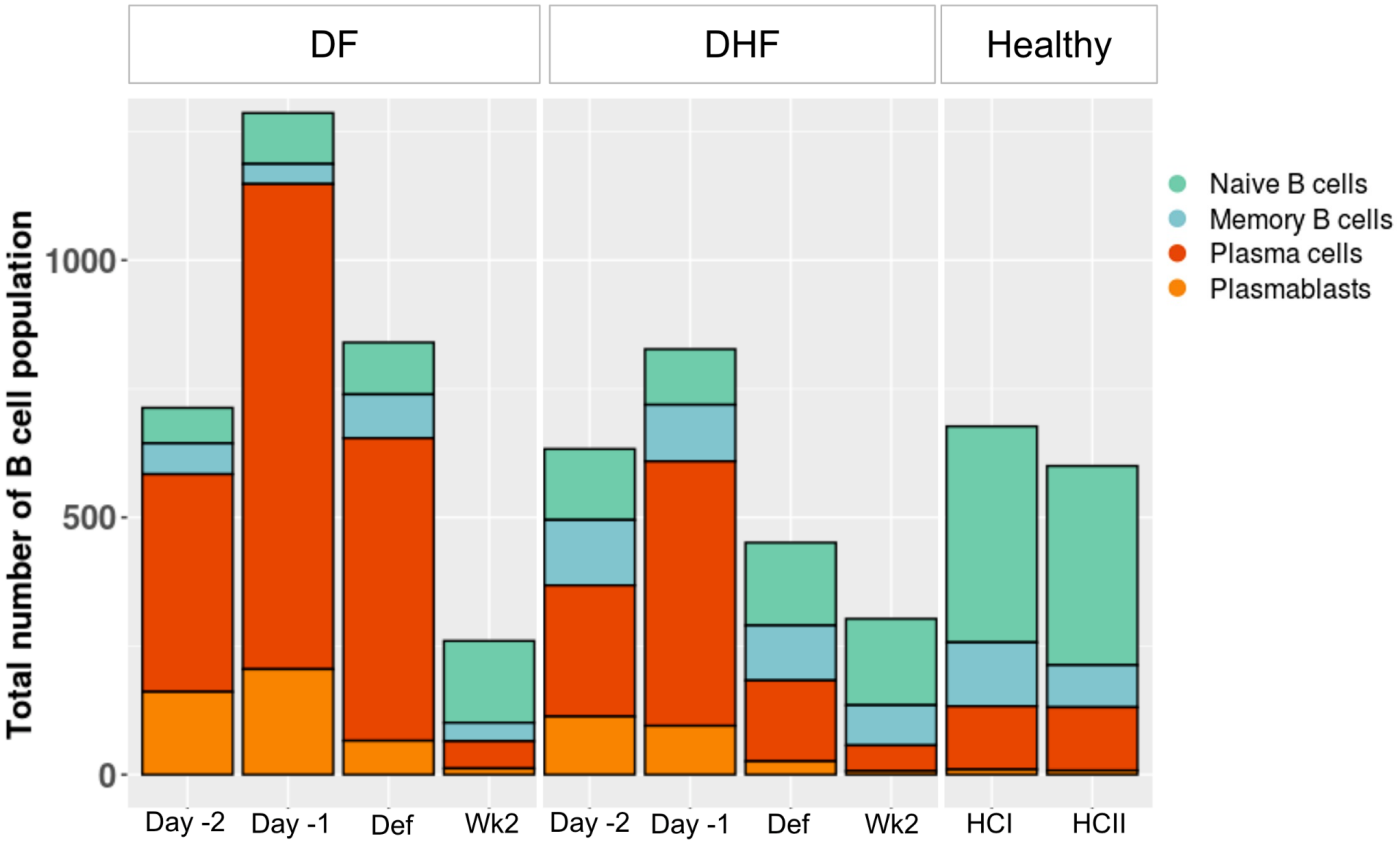

Fig. S1. Abundances of B cell subpopulations in each donor during the acute (Day -2, Day -1, and Def), and late convalescent (Wk2, two-week after defevescence) phases. Def = defevescence, Day -2 = two days before Def, Day -1 = one day before Def, HC = healthy control, DF = dengue fever and DHF = dengue hemorrhagic fever.

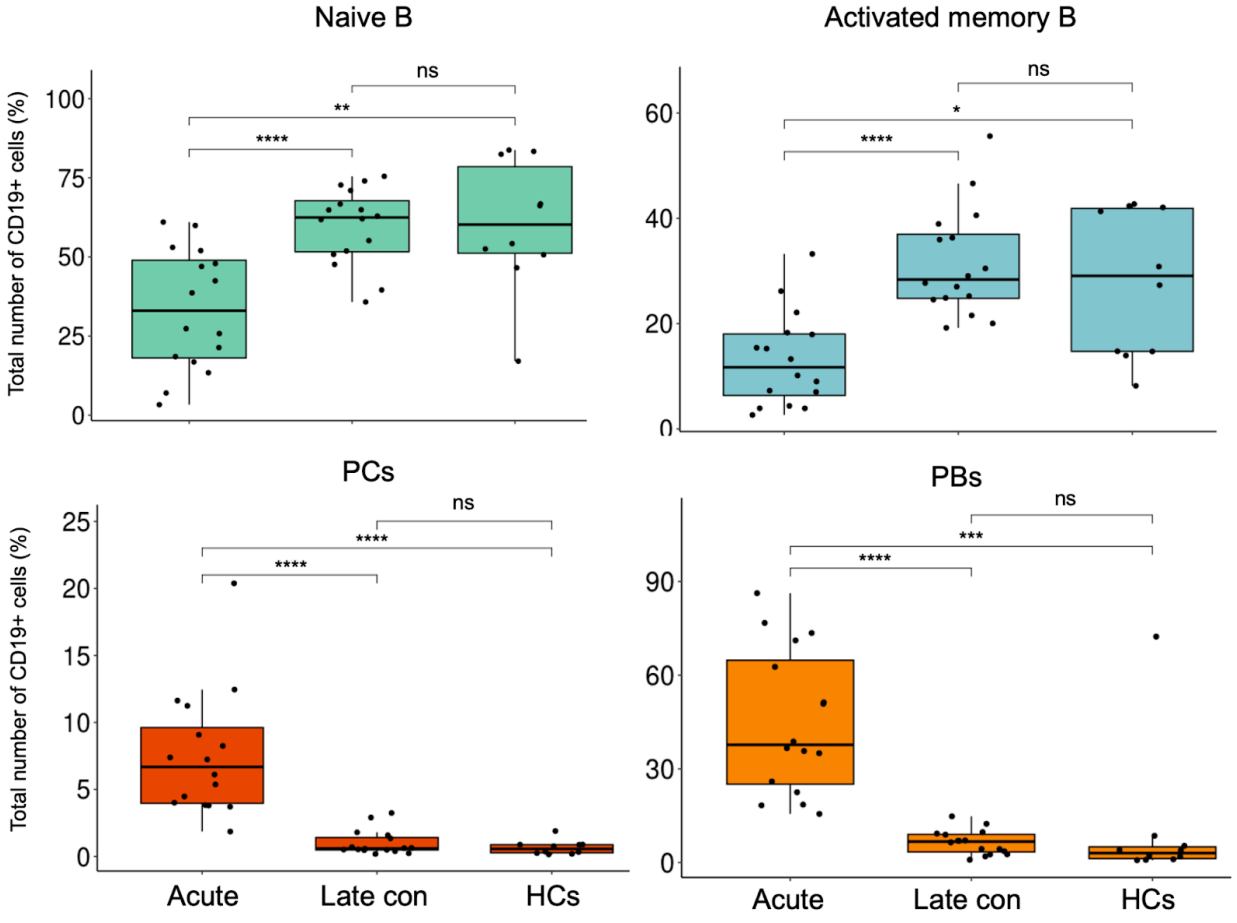

Fig. S2. A comparison of percentages in each B cell subpopulation between DENV-infected patients during acute (at Day -1) and late convalescent (at Wk2), as well as healthy controls. The statistical significance was assessed using Kruskal-Wallis test followed by Dunn's test with a Bonferroni correction method. ns = $p > 0.05$, *$p <= 0.05$, **$p <= 0.01$, ***$p <= 0.001$, and ****$p <= 0.0001$. Patient donors, n = 16 and healthy donors, n = 10. HC = healthy control, PCs = plasma cell, PBs = plasmablasts, Late con = late convalescent phase.

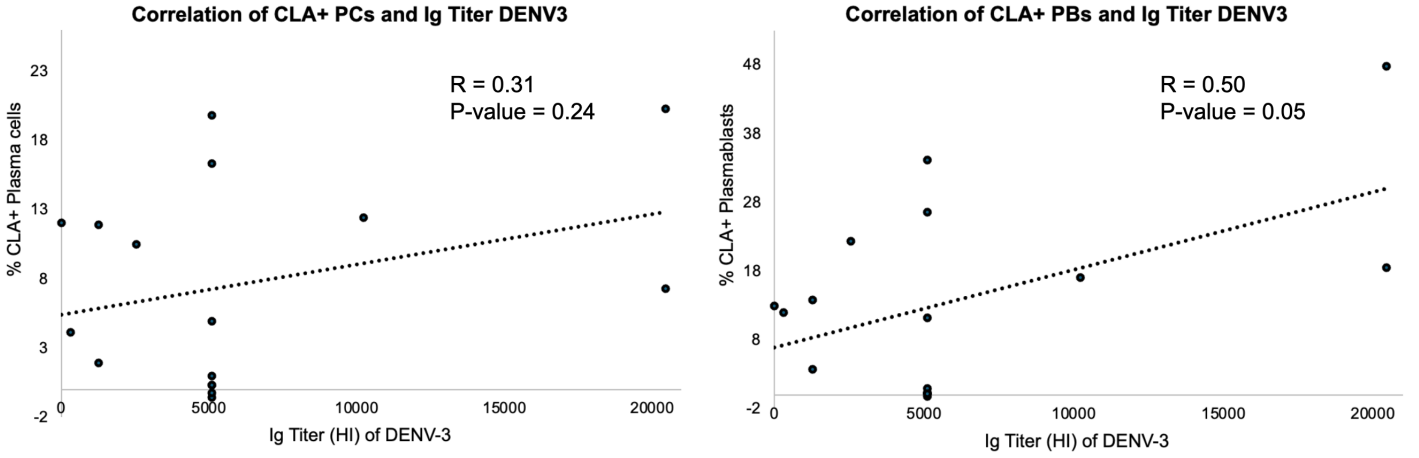

Fig. S3. Correlation of the percentages of CLA+ PCs (left panel) and PBs (right panel) with the Ig titer of anti-DENV 3 across DF and DHF patients. R represents the Pearson correlation coefficient. PCs refer to plasma cells and PBs refer to plasmablasts.

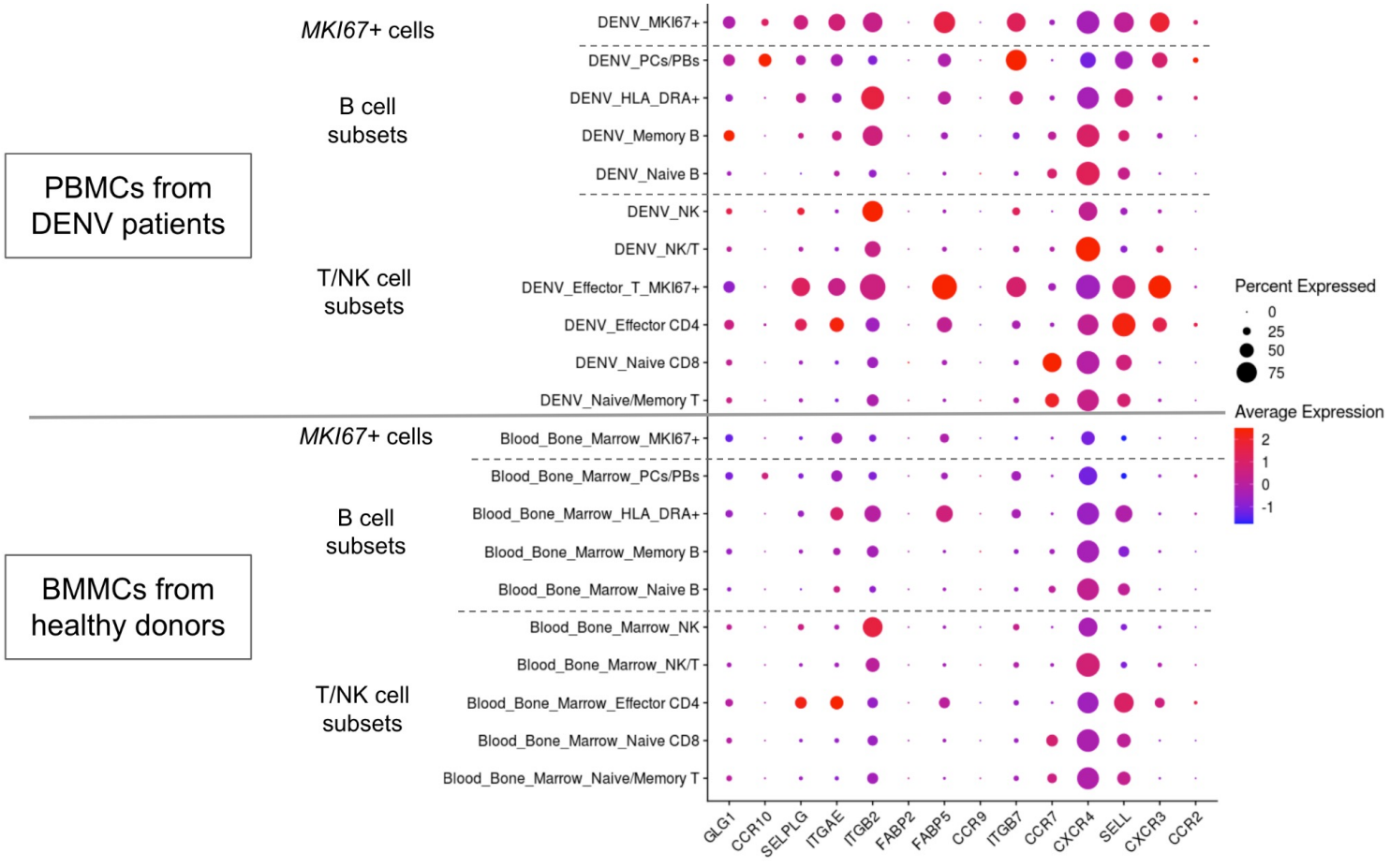

Fig. S4. Dotplot representing the average expression levels of tissue-homing genes on *MKI67*+, B, T, and NK cell subsets in blood samples of DENV-infected patients (upper panel) and bone marrow dataset from healthy donors (lower panel). Color intensity represents relative expression values and dot size represents fraction of cells within the subsets expressing a given gene. PCs = plasma cells, PBs = plasmablasts, and BMMCs = bone marrow mononuclear cells.