**Supplementary Table 1**: Subjects used in the study

HLA type used in study	Number of subjects[*]
Epitope mapping study	
HLA-DRB1*0101	5
HLA-DRB1*0401	6
HLA-DRB1*0404	4
HLA-DRB1*0701	7
HLA-DRB1*1101	4
HLA-DRB1*1501	2
HLA-DRB5*0101	3
H1N1 2009 monovalent Vaccination study	
HLA-DRB1*0401	4
HLA-DRB1*0701	5
HLA-DRB1*1101	1
2009 Trivalent vaccination study	
HLA-DRB1*0401	4
HLA-DRB1*0404	2
HLA-DRB1*0101	1
H1N1 patients	
HLA-DRB1*0401	2
HLA-DRB1*0701	2
HLA-DRB1*1101	3

[*] Some subjects had two HLA of interest and are therefore listed twice in the table
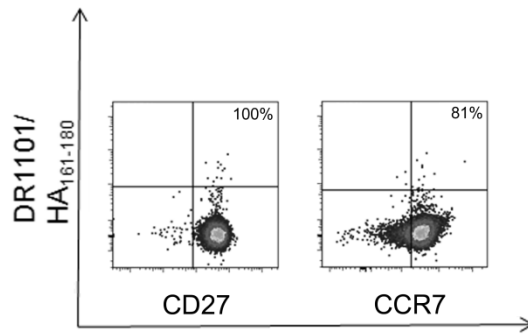
Supplementary Figure 1. Further phenotypic analysis of CD45RA+ H1N1/09 specific

T cells. The *ex vivo* surface marker expression of HA/09$_{161-180}$ specific CD4+ T cells for

a representative subject, analyzed by multicolor flow cytometry after tetramer

enrichment. The percentages in the upper right quadrant of each plot indicate the

percentage of CD45RA+ tetramer positive cell that express the marker of interest.
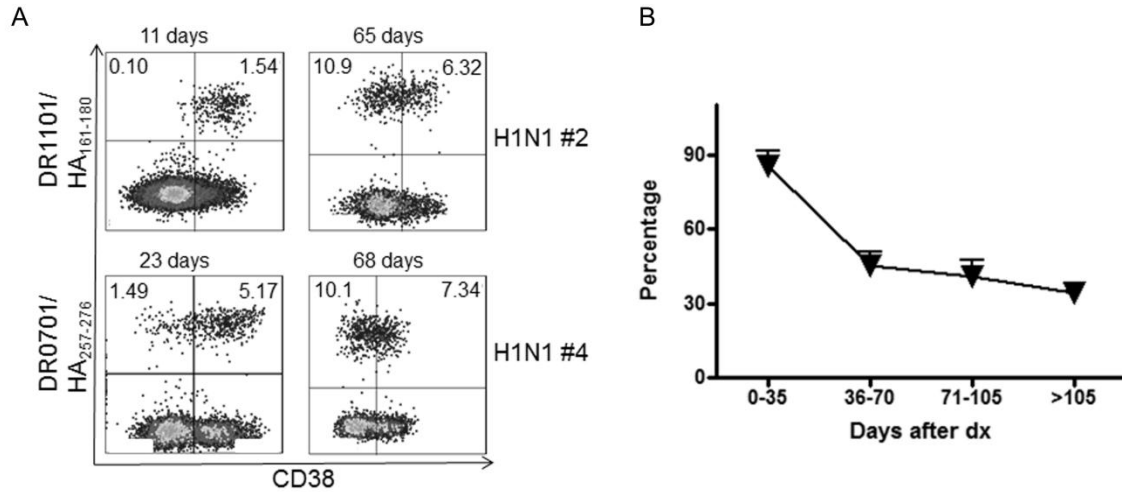
Supplementary Figure 2. Dynamic changes in H1N1/09 HA-specific T cell activation.

(A) *Ex vivo* expression of CD38 by H1N1/09 HA-specific T cells between 11 and 68

days after diagnosis. Representative results from two naturally infected subjects are

shown. The percentages of tetramer positive cells are indicated at right and left corners of

FACS plots.

(B) Summary of T cell activation (percent CD38 positive – downward triangles) for all of

the 7 subjects tested. The time intervals for these samples were as indicated on the x-axis.