

Combined CD8⁺ and CD4⁺ adenovirus hexon-specific T cells associated with viral clearance after stem cell transplantation as treatment for adenovirus infection

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Online Supplementary Table S1. Characterization of HAdV hexon CD8⁺ epitopes recognized by T-cell lines as determined by peptide-MHC I tetramer staining or recognition of specific hexon peptides.

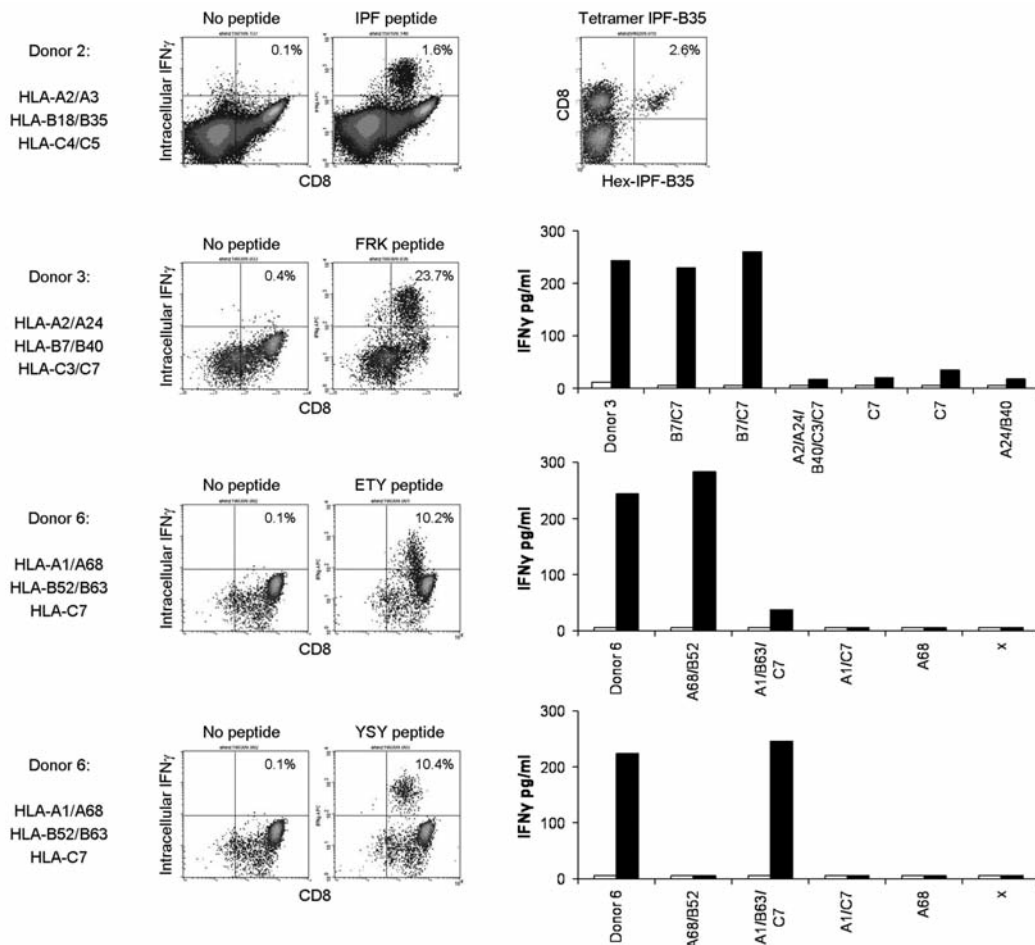
Donor	Peptide	HAdV hexon CD8 ⁺ epitopes recognized				
		Previously described		Newly identified		HLA restriction
		AA	HLA restriction	Peptide	AA	HLA restriction
1	MPN	320-329	B35			
	IPY	705-713	B35	IPF	873-882	B35
2	YVL	917-926	A2			
	MPN	320-329	B35	IPF	873-882	B35
	IPY	705-713	B35			
3	YVL	917-926	A2			
	KPY	114-124	B7	FRK	585-593	B7
	MPN	320-329	B7			
	TYF	37-45	A24			
4	TDL	886-894	A1	YSY	78-86	B63
5	TYF	37-45	A24			
6	TDL	886-894	A1	ETY	36-45	B52
				YSY	78-86	B63

Online Supplementary Table S2. Conservation of HAdV hexon CD8⁺ epitopes between different HAdV species.

		Previously described HAdV hexon CD8 ⁺ epitopes					
HAdV species	HAdV serotype	AA 37-45	AA 114-124	AA 320-329	AA 705-713	AA 886-894	AA 917-926
C	5	TYFSLNNKF	KPYSGTAYNAL	MPNRPNYIAF	IPYLDGTFY	TDLGQNLLY	YVLFVFDVY
A	12	---T-G---	-----S-	A---A----	-----	-----M--	-----
B	35	---N-G---	-----S-	-----G-	-----	-----M--	-L-----
C	2	-----	-----	-----	-----	-----	-----
D	30	----G---	-----S-	-----G-	-----	-----M--	-L-----
E	4	----G---	-----S-	-----G-	-----	-----M--	--V-----
F	40	----G---	-----S-	A-----G-	V-----	-----M--	-----

		Newly identified HAdV hexon CD8 ⁺ epitopes			
HAdV species	HAdV serotype	AA 36-45	AA 78-86	AA 585-593	AA 873-882
C	5	ETYFSLNNKF	YSYKARFTL	FRKDVNMVL	IPFSSNFMSM
A	12	D---T-G---	-----	-----I-	-----
B	35	D---N-G---	---V-Y--	-----	-----
C	2	-----	-----	-----	-----
D	30	D---G---	-----	-----I-	-----
E	4	D---G---	---V-Y--	-----I-	-----
F	40	D---G---	---V---	-----I-	-----

HAdV hexon sequences were compared between serotype 5 (AP_000211), serotype 12 (AP_000121), serotype 35 (AP_000585), serotype 2 (AP_000175), serotype 30 (ABA00012), serotype 4 (AAO24097), and serotype 40 (NP_040862). The sequence derived from serotype 5 is depicted for each HAdV hexon CD8⁺ epitope, and amino acids that differ are shown for the other serotypes.



Online Supplementary Figure S1. Confirmation of newly identified HAdV hexon CD8⁺ T-cell epitopes. Intracellular IFN γ staining of HAdV-specific T-cell lines after restimulation with minimal MHC class I restricted HAdV hexon peptides. In addition, the HAdV-specific T-cell line derived from donor 2 was stained with IPF/HLA-B35 tetramers. To confirm HLA-restriction of the other epitopes, IFN γ release was determined by ELISA upon incubation with autologous or partially HLA-matched allogeneic EBV-LCL without peptide (white bars), or loaded with the relevant minimal HAdV hexon peptide (black bars).