SUPPLEMENTAL DATA:

Supplemental Table 1: Composition of nanoparticles

Nanoparticles	**No. of individual peptide components**	**Amount of individual peptide/NP** (ug of individual peptide /mg of NP)
NP-FMP	1	9
NP-CEF	32	0.5625
NP-SOX2	22	4.1616

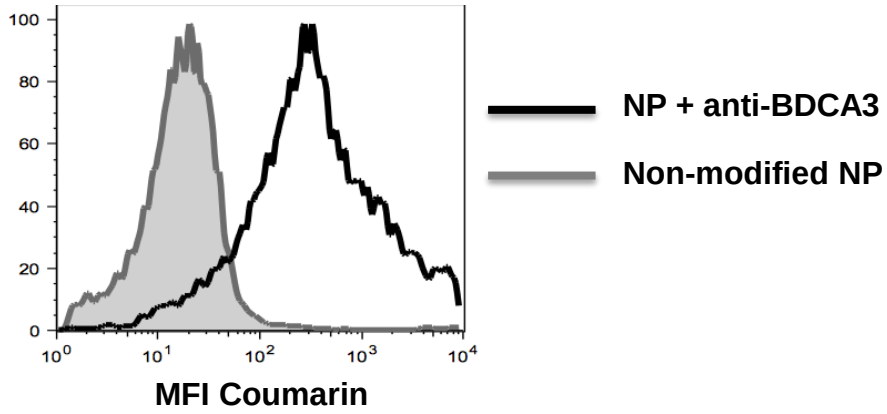
Supplemental Table 2: Description of individual peptide components of SOX2 pool peptide, encapsulated in NP-SOX2

Serial Number	SOX2 Peptide Sequence
1	LGAEWKLLSETEKR
2	EWKLLSETEKRPFI
3	LLSETEKRPFIDEAK
4	TEKRPFIDEAKRLRA
5	PFIDEAKRLRALHMK
6	EAKRLRALHMKEH
7	KRLRALHMKEHPDYK
8	ALHMKEHPDYKYRPR
9	KEHPDYKYRPRRKTK
10	DYKYRPRRKTKTLMK
11	RPRRKTKTLMKKDKY
12	KTKTLMKKDKYTLPG
13	LMKKDKYTLPGGLLA
14	DKYTLPGGLLAPGG
15	TLPGGLLAPGGNSMA
16	GLLAPGGNSMASGVG
17	PGGNSMASGVGVGAG
18	SMASGVGVGAGLGAG
19	GVGVGAGLGAGVNQR
20	GAGLGAGVNQRMDSY
21	GAGVNQRMDSYAHM
22	VNQRMDSYAHMNGWS

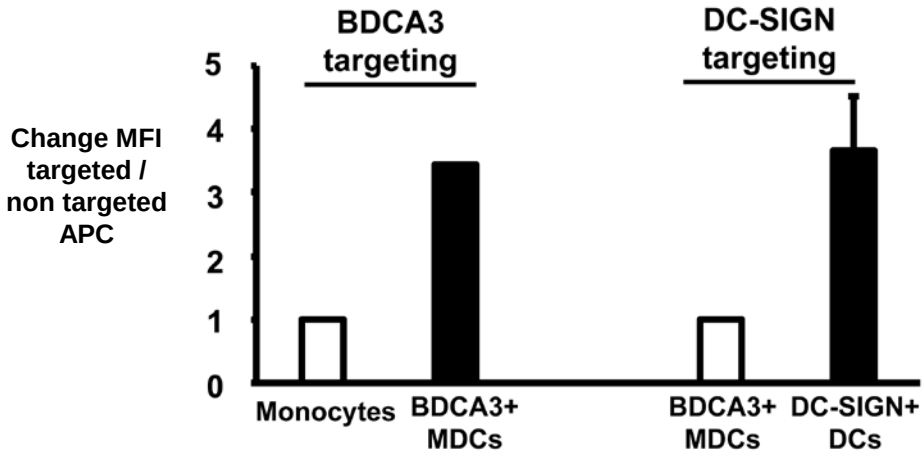
Supplemental Table 3: Description of individual peptide components of CEF pool peptide used for re-stimulation of cells primed with NP-CEF (shown in Fig.3d)

Peptide	HLA Allele	Virus	Protein & Region	Peptide Sequence
Pep 1	A1	INFLUENZA A	PB1 (591 – 599)	VSDGGPNLY
Pep 2	A2	EBV	BMLF1 (259 – 267)	GLCTLVAML
Pep 3	A2	INFLUENZA A	MATRIX 1 (58 – 66)	GILGFVFTL
Pep 4	A3	INFLUENZA A	NP (265 – 273)	ILRGSVAHK
Pep 5	A3	EBV	BRLF1 (148 -156)	RVRAYTYSK
Pep 6	A3	EBV	EBNA 3A (603 – 611)	RLRAEAQVK
Pep 7	A11	EBV	EBNA 3B (416 – 424)	IVTDFSVIK
Pep 8	A11	EBV	BRLF1 (134 – 143)	ATIGTAMYK
Pep 9	A24	EBV	BRLF1 (28 – 37)	DYCNVLNKEF
Pep 10	A68	INFLUENZA A	NP (91 – 99)	KTGGPIYKR
Pep 11	B7	EBV	EBNA 3A (379-387)	RPPIFIRRL
Pep 12	B8	EBV	EBNA 3A (158 – 166)	QAKWRLQTL
Pep 13	B8	EBV	EBNA 3A (325-333)	FLRGRAYGL
Pep 14	B8	EBV	BZLF1 (190 – 197)	RAKFKQLL
Pep 15	B27	EBV	EBNA 3C (258 – 266)	RRIYDLIEL
Pep 16	B27	INFLUENZA A	NP (383 – 391)	SRYWAIRTR
Pep 17	B35	EBV	EBNA 3A (458 – 466)	YPLHEQHGM
Pep 18	B44	HCMV	Pp65 (512 – 521)	EFFWDANDIY

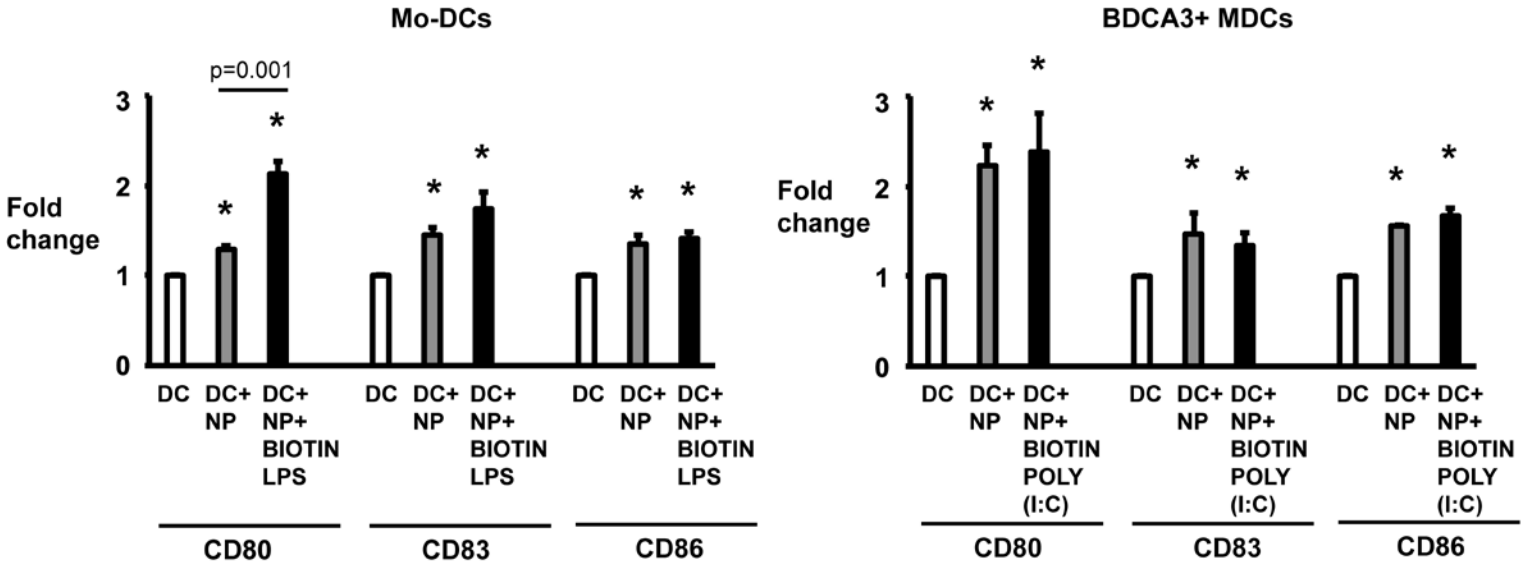
*EBV = Epstein Barr virus, HCMV = Human cytomegalovirus.



Supplemental Fig. 1a: Evaluation of coupling of biotinylated antibody on the surface of avidin-coated NP. To detect the presence of biotin-labeled BDCA3 antibody (mouse IgG1, clone AD5-14H12) on the surface, NP were stained with rat anti-mouse IgG1-APC (clone X56) for 15 minutes and analyzed by FACSCalibur.



Supplemental Fig. 1b: Coumarin-labeled NPs were coated with either anti-BDCA3 or anti DC-SIGN antibody and co-cultured with PBMCs for 30 min at 4^0C. Figure shows change MFI of coumarin in targeted APCs versus non-targeted APCs.



Supplemental Fig. 1c: Bar graphs shows fold change MFI of CD80, CD83 and CD86 in DCs cultured alone or with NPs or NPs coated with TLRs (LPS or Poly (I:C). * represents significant p value compared to DC alone (DC).