

Supplementary Table 7. Relative frequency of the specificities detected in the TIL infusion product of subjects NCI-3998, 3784, 3903, 3926

Patient ID	Clinical outcome in response to TIL therapy	Specificities detected in the infusion bag
NCI-3998	NR	TMG1 (MAGEA6 _{E>K}), TMG5 (MED13 _{P>S}), NY-ESO-1
NCI-3784	CR	TMG3 (FLNA _{R>C}), TMG4, TMG5 (KIF16B _{L>P}), TMG8 (SON _{R>C}), GP100
NCI-3903	CR	TMG8, TMG9 (KIF1BP _{P>S}), SSX2
NCI-3926	NR	MART1, GP100, TYR, NY-ESO-1

Clinical outcome of the patients following treatment with non-myeloablative preparative regimen, TIL, and high-dose IL-2 was evaluated using RECIST criteria. CR = complete responder; NR = non-responder. The TIL infusion bag was co-incubated with autologous DCs transfected with the autologous TMG RNA encoding for mutated neoantigens identified by exome sequencing, or with RNA encoding for self-antigens MART1, GP100, TYR, NY-ESO-1, MAGEA3, and SSX2. IFN- γ ELISPOT at 20 h was used to evaluate reactivity. Reactivities >40 spots and >than twice the background are shown. The specific antigen recognized encoded by the TMG is shown in parenthesis. TIL infusion products were generated as previously described²