

Supplemental Table 1: Cross-recognition of homologous peptides from other CEA protein family members by CD8+ T cells transfected with RNAs encoding modified TCR α chains and wt β chains derived from CEA:691-699 reactive murine T cell clones*

	CEACAM5 691-699 (IMIGVLVGV)	CEACAM3/21: 240-248 (ILIGVLVGS)	CEACAM4:36/3: 156-164 (IVTGVLVGV)	CEACAM8: 338-347 (IMIGVLARV)	CEACAM7/2a: 254-262 (IMIGVLAGM)	HBVc: 18-27(23Y) (FLPSDYFPSV)
<u>wt</u>						
T2+10 ⁻¹² M	96	54	59	47	52	-
T2+10 ⁻¹¹ M	80	46	62	60	49	-
T2+10 ⁻¹⁰ M	<u>842</u> [†]	44	32	48	46	-
T2+10 ⁻⁹ M	<u>>1000</u>	40	48	53	58	-
T2+10 ⁻⁸ M	<u>>1000</u>	60	56	48	53	-
T2+10 ⁻⁷ M	<u>>1000</u>	<u>322</u>	87	45	77	-
T2+10 ⁻⁶ M	<u>>1000</u>	<u>895</u>	<u>160</u>	60	57	44
<u>S112T</u>						
T2+10 ⁻¹² M	128	66	52	44	62	-
T2+10 ⁻¹¹ M	<u>505</u>	45	44	40	78	-
T2+10 ⁻¹⁰ M	<u>>1000</u>	77	76	70	71	-
T2+10 ⁻⁹ M	<u>>1000</u>	<u>353</u>	<u>>1000</u>	55	67	-
T2+10 ⁻⁸ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>312</u>	75	-
T2+10 ⁻⁷ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	67	-
T2+10 ⁻⁶ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	54	81
<u>L110F S112T</u>						
T2+10 ⁻¹² M	283	170	128	286	186	-
T2+10 ⁻¹¹ M	<u>>1000</u>	317	146	218	213	-
T2+10 ⁻¹⁰ M	<u>>1000</u>	<u>>1000</u>	188	172	252	-
T2+10 ⁻⁹ M	<u>>1000</u>	<u>>1000</u>	351	167	303	-
T2+10 ⁻⁸ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	393	<u>720</u>	-
T2+10 ⁻⁷ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	-
T2+10 ⁻⁶ M	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	199

* IFN γ secretion (pg/ml) in 20 hr coculture supernatants of target cells with electroporated human CD8+ T cells

[†] Underlined values for peptide-pulsed targets indicate that IFN γ release in response to T2 cells pulsed with the indicated concentration of CEA:691-699 was \geq 50 pg/ml and at least twice background with media and T2 cells preloaded with 1 μ g/ml of the negative control peptide HBVc:18-27(23Y).