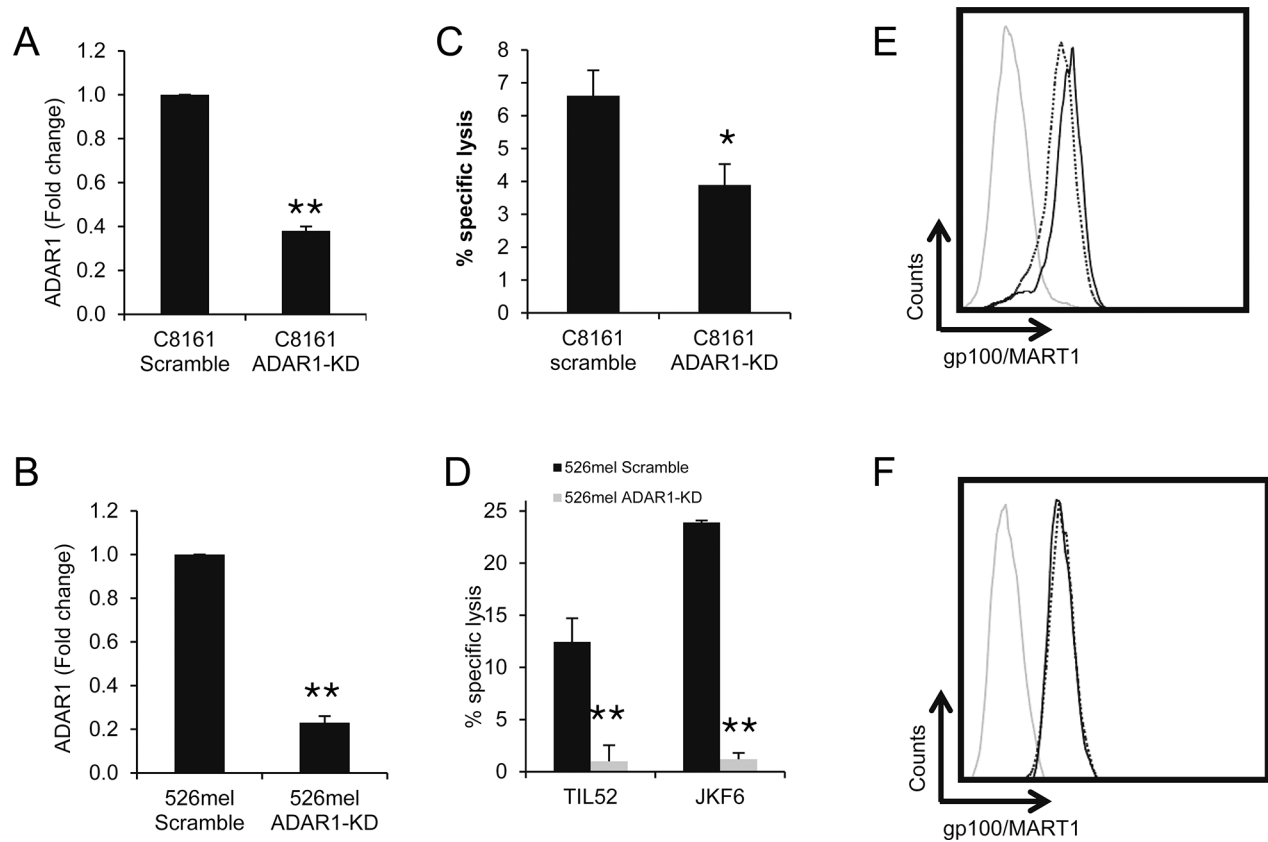
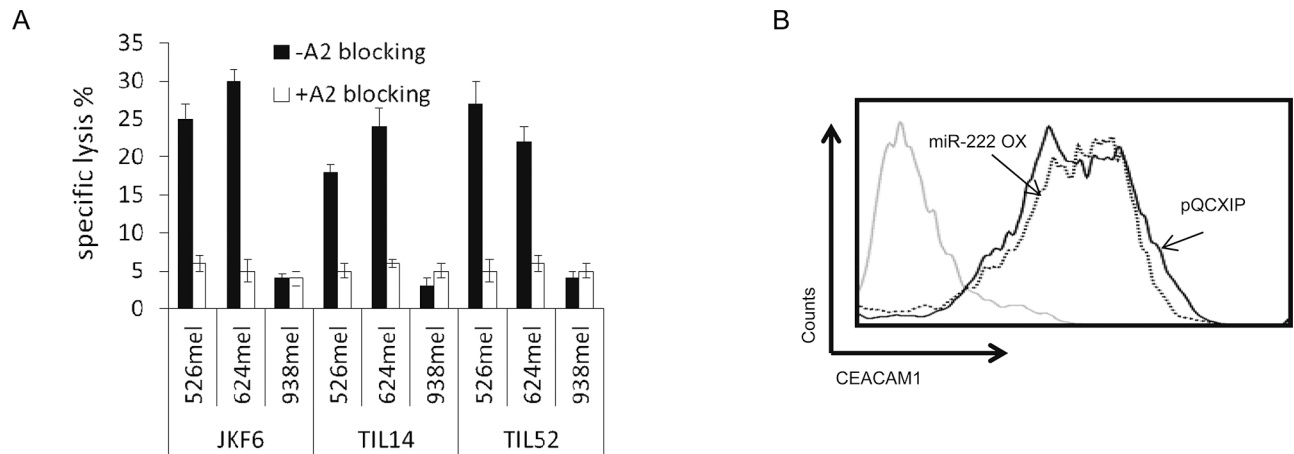


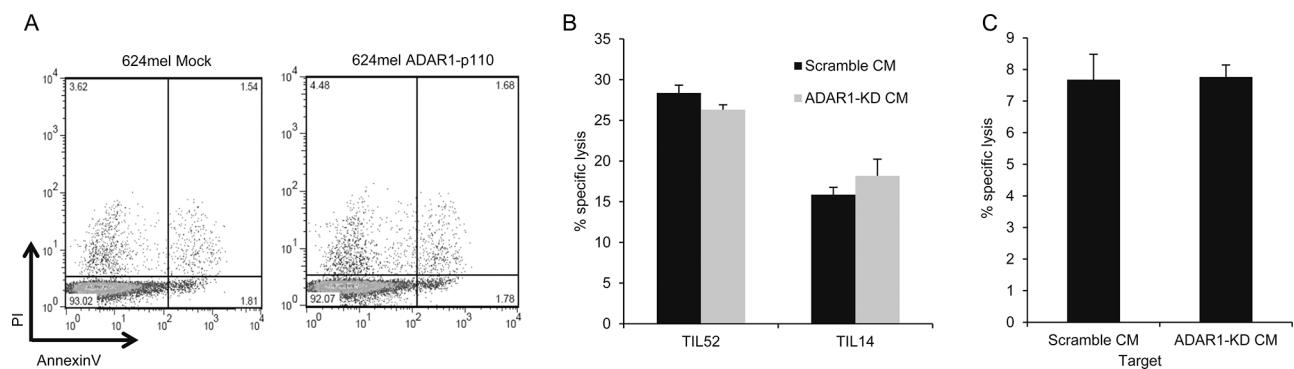
## SUPPLEMENTARY FIGURES AND TABLE



**Supplementary Figure S1: ADAR1 regulates melanoma immune resistance.** ADAR1 mRNA levels were assessed by qRT-PCR and normalized to GAPDH expression in C8161 **A**, and 526mel **B**, melanoma cells. CFSE-labeled C8161 ADAR1-KD and Scramble cells were co-incubated with TIL14 **C**, and CFSE-labeled 526mel ADAR1-KD and Scramble cells were co-incubated with TIL2 or JKF6 **D**, for 5 hours. Specific lysis of melanoma cells was assessed by flow cytometry. ADAR1-KD (dotted line) and Scramble (black line) cells were stained with anti-melanoma (gp100/MART1) antibody in C8161 **E**, and 526mel **F**, melanoma cells. Intracellular expression was analyzed by flow cytometry.



**Supplementary Figure S2: A.** TIL-mediated cytotoxicity is HLA-A2 restricted. CFSE-labeled 526mel, 624mel and 938mel cells were incubated with isotype control (-A2) or HLA-A2 antibody. After 1h, cells were co-incubated with JKF6 for 5h (E:T - 10:1). Specific lysis of melanoma cells was assessed by flow cytometry. **B.** miR-222 over-expression does not affect CEACAM1 protein expression. CEACAM1 protein expression in miR-222 OX (dotted line) and pQCXIP (black line) cells was analyzed by extracellular flow cytometry staining using FITC-Kat4C antibody (Dako, Glostrup, Denmark).



**Supplementary Figure S3: ADAR1 does not induce spontaneous apoptosis.** Spontaneous apoptosis of ADAR1-p110 and Mock cells was determined by AnnexinV and PI co-staining and analyzed by flow cytometry. **A. ADAR1-mediated regulation of melanoma immune resistance is dependent on cell-cell interaction.** TILs were pre-incubated with conditioned media (CM) from 624mel ADAR1-KD or Scramble cells. After 1h, the cells were co-incubated with non-manipulated melanoma cells; TIL52 or TIL14 were co-incubated with 526mel cells over-night **B.** and TIL52 were co-incubated with C8161 cells for 5 h **C.** Specific lysis of melanoma cells was assessed by flow cytometry.

**Supplementary Table S1: List of primers used**

Gene	Forward primer	Reverse primer
<i>Generation of constructs primers</i>		
ADAR1 p110	5'- GCTAAGCTTGCCGCCACCA TGGCCGAGATCAAGGAGAAA	5'-GCTCTCGAGCTATACTGGGC AGAGTTAAAAGTTCTTTTCCTCC
ΔCAT-S	5'- GCTAAGCTTGCCGCCACCA TGGCCGAGATCAAGGAGAAA	5'-GATCTCGAGCTAATGGT GATGGTGATGATGCACTGG GGTTACCTCTGTGAA
miR-222-precursor	5'-AAGAATGCGGCCGCATGAT CCAAAGAAAATGTGCA	5'-CGGAATTCGACTGCCCA ATAATCTCTCTCA
miR-221-precursor	5'-GTACGCGGCCGCCCCAGCA TTTCTGACTGTTG	5'-GCCAATTCCTCCTGGA AAACAGTTATTCAG
miR-222 promoter	5'-CCGCTCGAGACAAGGGGCA AAAGACCA	5'-CCCAAGCTTTGGGTGAT CCTTTGCCTT
ICAM1 UTR	5'-CCGCTCGAGACCTATCCCG GGACAGG	5'- ATGCGCGGCCGCACTAA CACAAAGGAAGTCTGGG
ICAM1 UTR MUT	5'-GGGCCTTTGTGTTTTGAGG ATAGACATGTCTATGGAGGGCCACTT	5'-AAGTGGCCCTCCATAGA CATGTCTATCCTCAAAACACAAAGGCC
<i>qRT-PCR primers</i>		
ADAR1	5'-ACAGCCAAAGACACTCCCTCTC	5'-GGCTCAGCATGGCTATCTGG
ADAR1-HIS	5' GCTCTCCGTGTCTTGATTGGG	5' TGGTGATGGTGATGATGCACTG
ICAM1	5'-TGCAGACAGTGACCATCTACAGC	5'-TCACCTCGGTCCCTTCTGAG
GAPDH	5'-TGCACCACCAACTGCTTAGC	5'-GGCATGGACTGTGGTCATGAG
HPRT	5'-TGACACTGGCAAAACAATGCA	5'-GGTCCTTTTCACCAGCAAGCT
Pri-miR-222	5'-AGCTGCTGGAAGGTGTAGGT	5'-TCTCAGGACACTGAAGCAGAAG