SUPPLEMENTARY DATA

Supplementary Table 1. List of primers used for qRT-PCR transcript analysis and for cloning of Vα5 and Vβ13 CDR3 sequences.

Primers for qRT-PCR	
TCR-Vβ13-Fwd	TCGACACAGTTCTGTCTGAAAC
TCR-Vβ13-Rev	TGTCCAGAAACAGGGTCACA
TCR-Cβ-Fwd	GGTCAGAGGACTCACCCAAA
TCR-Cβ-Rev	AGCACAGCATACAGGGTGG
GAPDH-Fwd	GCACCACCAACTGCTTAGCC
GAPDH-Rev	CTGAGTGGCAGTGATGGCAT
Insulin-Fwd	CAAACAGCACCTTTGTGGT
Insulin-Rev	CCAGTTGGTAGAGGGAGCAG
Primers for TCR transcript cloning	
TCR-Vβ13	TCGACACAGTTCTGTCTGAAAC
TCR-Cβ-Rev	GCTTCTGATGGCTCAAACAAGG
TCR-Vα5 Fwd (1)	ATGAGCCAAGGTGAGCAAGT
TCR-Vα5 Fwd (2)	CAGCTTCCTTCCATCCTGAG
TCR-Cα Rev	GCTCTGGGACACATTGGTTT
Primers for TCR-Vα5 confirmation analysis	
TCR-Vα5-Fwd	AAAGAAAGCAGACCCAACGA
TCR-Vα68-Fwd	AACCCCATGGTTCAAGGATT
TCR-Ja28-Rev	TCCCAAAAGTGAGCTGGTAAC
TCR-Ja53-Rev	CCAAATGTCAGTTTGTAGCTGG
TCR-Ja10-Rev	CAAAGACAAGGTTGTAGCCTGTT
TCR-Ja28-Fwd	GTACCAAACTCTCAGTCATACCGA
TCR-Ja53-Fwd	CAGGAAGTACCAGCTACAAACTGAC
TCR-Ja10-Fwd	GGGACAGGAACAAGACTGCT
TCR-Cα-Rev	GCTCTGGGACACATTGGTTT

SUPPLEMENTARY DATA

Supplementary Table 2. This complete listing of all TCR-Vβ13 CDR3-Jβ sequences and frequencies is being provided at the request of the reviewer.

TCR-Vβ13 Spleen Untreated (N=127 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASSLGGLTDKIYFGSGTRLTVL	7.1%
CASQTGGVSYEQYFGPGTKLTVL	3.9%
CASRGTGEVFFGKGTRLTVV	2.4%
CASSLGGESYEQYFGPGTKLTVL	2.4%
CASSLETGALSYAEQFFGSGTRLTVL	2.4%
CASSLDQNTLFFGAGTRLSVL	1.6%
CASSLSDWGGQNTLFFGAGTRLSVL	1.6%
CASFQGPGQLYFGEGSKLTVL	1.6%
CASSLGTGAGNVLYFGEGSRLLVV	1.6%
CASSRTGFNERLFFGHGTKLSVL	1.6%
CASSRTGFNERLFFGHGTKLSVL	1.6%
CASTWDNNERLFFGHGTKLSVL	1.6%
CASSLAGSSNTEVFFGKGTRLTVV	1.6%
CASSLGGLLNTEVFFGKGTRLTVV	1.6%
CASSPSGGEVFFGKGTRLTVV	1.6%
CASRQTGGVSYEQYFGPGTKLTVL	1.6%
CASSLGTGSSYEQYFGPGTKLTVL	1.6%
CASSPFLNQETQYFGPGTRLLVL	1.6%
CASSLSLGGASDKIYFGSGTRLTVL	1.6%
CASLKQGNTLFFGAGTRLSVL	0.8%
CASSFGWGGVYDTLFFGAGTRLSVL	0.8%
CASSLASQNTLFFGAGTRLSVL	0.8%
CASSLKQGNTLFFGAGTRLSVL	0.8%
CASSPTGQNTLFFGAGTRLSVL	0.8%
CASSSSQNTLFFGAGTRLSVL	0.8%
CASRAGTHTGQLYFGEGSKLTVL	0.8%
CASSFQGPGQLYFGEGSKLTVL	0.8%
CASSPETGGSNTGQLYFGEGSKLTVL	0.8%
CASLTGPSGNVLYFGEGSRLLVV	0.8%
CASRPTGESGNVLYFGEGSRLLVV	0.8%
CASSLGQISGNVLYFGEGSRLLVV	0.8%
CASSLHNSGNVLYFGEGSRLLVV	0.8%
CASSPGQGGNVLYFGEGSRLLVV	0.8%
CASSSTPSGNVLYFGEGSRLLVV	0.8%
CASSRDRGNQAQYFGEGTRLSVL	0.8%
CASRTNTGQGGERLFFGHGTKLSVL	0.8%
CASSFGNSNERLFFGHGTKLSVL	0.8%
CASSLEGAINERLFFGHGTKLSVL	0.8%
CASSLPGPNERLFFGHGTKLSVL	0.8%
CASSPDRGRYERLFFGHGTKLSVL	0.8%
CASSPGTNERLFFGHGTKLSVL	0.8%
CASSPGAGGNERLFFGHGTKLSVL	0.8%

CASSPRGWSERLFFGHGTKLSVL	0.8%
CASSRDALNERLFFGHGTKLSVL	0.8%
CASSSGTVNERLFFGHGTKLSVL	0.8%
CASSSGVSNERLFFGHGTKLSVL	0.8%
CASSSNERLFFGHGTKLSVL	0.8%
CASSSWTGDERLFFGHGTKLSVL	0.8%
CASSFGPANTEVFFGKGTRLTVV	0.8%
CASSFGETEVFFGKGTRLTVV	0.8%
CASSFWGKDTEVFFGKGTRLTVV	0.8%
CASSGTGDTEVFFGKGTRLTVV	0.8%
CASSLAQGDTEVFFGKGTRLTVV	0.8%
CASSLDTNTEVFFGKGTRLTVV	0.8%
CASSLQGNTEVFFGKGTRLTVV	0.8%
CASSLTEINTEVFFGKGTRLTVV	0.8%
CASSPQGYTEVFFGKGTRLTVV	0.8%
CASSRDRGDTEVFFGKGTRLTVV	0.8%
CASSSSAGEGTEVFFGKGTRLTVV	0.8%
CASTGNTEVFFGKGTRLTVV	0.8%
CASSLDWGVSYEQYFGPGTKLTVL	0.8%
CASSLEDVYEQYFGPGTKLTAL	0.8%
CASSLLDGSYEQYFGPGTKLTVL	0.8%
CASSPLLGGSYEQYFGPGTKLTVL	0.8%
CASSRDSSYEQYFGPGTKLTVL	0.8%
CASSRQLVSYEQYFGPGTKLTVL	0.8%
CASSRTGNEQYFGPGTKLTVL	0.8%
CASSSGDSYEQYFGPGTKLTVL	0.8%
CASSSGQGLYEQYFGPGTKLTVL	0.8%
CASSXXYEQYFGPGTKLTVX	0.8%
CASVPEAYEQYFGPGTKLTVL	0.8%
CASXSGXGAYEXYFGPGTKLTVL	0.8%
CASIDREETQYFGPGTRLLVL	0.8%
CASRGTGMYDYTFGPGTRLLVI	0.8%
CASRKDRVQETQYFGPGTRLLVL	0.8%
CASSFTLNYDYTFGPGTRLLVI	0.8%
CASSLGQGLNYDYTFGPGTRLLVI	0.8%
CASSLLGGAQETQYFGPGTRLLVL	0.8%
CASSLPGADQETQYFGPGTRLLVL	0.8%
CASSLTQETQYFGPGTRLLVL	0.8%
CASSSGTEETQYFGPGTRLLVL	0.8%
CASSSGTEETQYFGPGTRLLVL	0.8%
CASSLXQITERLFFGQGSKLSVL	0.8%
CASKEGNAEQFFGSGTRLTVL	0.8%
CASRSGTYTDKIYFGSGTRLTVL	0.8%
CASSADWGGADEQFFGSGTRLTVL	0.8%
CASSFNWGGKIYFGSGTRLTVL	0.8%
CASSLGQVYAEQFFGSGTRLTVL	0.8%
CASSLIGTDKIYFGSGTRLTVL	0.8%

CASSPGTGGDTDKIYFGSGTRLTVL	0.8%
CASSQTGVAEQFFGSGTRLTVL	0.8%
CASSRDWGVSYAEQFFGSGTRLTVL	0.8%
CASSSGTSSYAEQFFGSGTRLTVL	0.8%
CASSSTGTDKIYFGSGTRLTVL	0.8%
CASSRTGGSYAEQFFGSGTRPTVL	0.8%
TCR-Vβ13 Islet-Day 4 (N=64 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASIRTGGLKYFGPGTKLTVL	3.1%
CASSLDSSYEQYFGPGTKLTVL	3.1%
CASSLDWGGREQYFGPGTKLTVL	3.1%
CASSLVWGGQNTLFFGAGTRLSVL	3.1%
CASSNWTGGGYEQYFGPGTKLTVL	3.1%
CASSPQGADKIYFGSGTRLTVL	3.1%
CASSRDISYEQYFGPGTKLTVL	3.1%
CASRARDGYEQYFGPGTKLTVL	1.6%
CASRHGLGGNAEQFFGSGTRLTVL	1.6%
CASRSGGNTEVFFGKGTRLTVV	1.6%
CASSAPGRSDKIYFGSRTRLTVL	1.6%
CASSFWGKAEQFFGSGTRLTVL	1.6%
CASSGQNTLFFGAGTRLSVL	1.6%
CASSGTEVFFGKGTRLTVV	1.6%
CASSKDWGGNSYAEQFFGSGTRLTVL	1.6%
CASSKGQGAPNERLFFGHGTKLSVL	1.6%
CASSLAGRGETDKIYFGSGTRLTVL	1.6%
CASSLARGLSLYEQYFGPGTKLTVL	1.6%
CASSLARGQTRYILAQEPDPFSRIKRLHPRS	1.6%
CASSLDRANTEVFFGKGTRLTVV	1.6%
CASSLDWGVNTLFFGAGTRLSVL	1.6%
CASSLEGVDNEILFFGHGTKLSVL	1.6%
CASSLFARGQETQYFGPGTRRLVL	1.6%
CASSLGAEQFFGSGTRLTVL	1.6%
CASSLGDWGGREQYFGPGTKLTVL	1.6%
CASSLGFNERLFFGHGTKLSVL	1.6%
CASSLGGLSNERLFFGHGTKLSVL	1.6%
CASSLGGPYEQYFGPGTKLTVL	1.6%
CASSLGGQYEQYFGPGTKLTVL	1.6%
CASSLGGRDWGGRYAEQFFGSGTRLKVL	1.6%
CASSLGIRNSPLYFAAGTRLTVT	1.6%
CASSLGLGGVQNTLFFGAGTRLSVL	1.6%
CASSLGQGRAEQFFGSGTRLTVL	1.6%
CASSLGTLSNERLFFGHGTKLSVL	1.6%
CASSLIGEERLFFGHGTKLSVL	1.6%
CASSLQGAYDYTFGPGTRLLVI	1.6%
CASSLTGDYAEQFFGSGTRLTVL	1.6%
CASSLTGRDWGSYEQYFGPGTKLTVL	1.6%

CASSLVGDTEVFFGKGTRLTVV	1.6%
CASSPDRDGNVLYFGEGSRLLVV	1.6%
CASSPGHNSPLYFAAGTRLTVT	1.6%
CASSPGQGSGNVLYFGEGSRLLVV	1.6%
CASSPGTGGQAQYFGEGTRLSVL	1.6%
CASSPSSTGQLYFGEGSKLTVL	1.6%
CASSQTGRDTGQLYFGEGSKLTVL	1.6%
CASSRDSTGQLYFGEGSKLTVL	1.6%
CASSRDWGGRGDKIYFGSGTRLTVL	1.6%
CASSRRGGDTGQLYFGEGSKLTVL	1.6%
CASSRTGPWAEQFFGSGTRLTVL	1.6%
CASSSDSERLFFGHGTKLSVL	1.6%
CASSSESYAEQFFGSGTRLTVL	1.6%
CASSSGAGGSYAEQFFGSGTRLTVL	1.6%
CASSSGSSSYEQYFGPGTKLTVL	1.6%
CASSSTGYAEQFFGSGTRLTVL	1.6%
CASSWAGGAYEQYFSPGTKLTVL	1.6%
CASSWDRENTLFFGAGTRLSVL	1.6%
CASSXGGGGGDKIYFGSGTRLTVL	1.6%
TCR-Vβ13 Islet-Day 5 (Expt 1) (N=74 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASSRAGSGNVLYFGEGSRLLVV	25.0%
CASSERDVQETQYFGPGTRLLVL	15.6%
CASSWTGGDTLLFGAGTRLSVL	10.9%
CASSFGTGGTDKIYFGSGTRLTVL	9.4%
CASSQDKGGQLYFGEGSKLTVL	7.8%
CASSWTGGDTLFFGAGTRLSVL	6.3%
CASSLEXSGNVLYFGEGSRLLVV	6.3%
CASSFPGNTEVFFGKGTRLTVV	3.1%
CASSFGTGYEQYFGPGTKLTVL	3.1%
CASSSTGGTDKIYFGSGTRLTVL	3.1%
CASSSTGGDAEQFFGSGTRLTVL	3.1%
CASSWTGGDTLFFXASTLLSVL	1.6%
CASSRDREAQYFGEGARLSVL	1.6%
CASSRDREAQYFGEGTRLSVL	1.6%
CASSSTGGRHXIFFGCTLMTVL	1.6%
TCR-Vβ13 Islet-Day 5 (Expt 2) (N=71 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASSRDRVSGNVLYFGEGSRLLVV	22.5%
CASSPDRDERLFFGHGTKLSVL	11.3%
CASSLDQNTLFFGAGTRLSVL	8.5%
CASRRQGERLFFGHGTKLSVL	5.6%
CASSWDRAFSNERLFFGHGTKLSVL	5.6%
CASSRAGSGNVLYFGEGSRLLVV	4.2%
CASSQLDKNQAQYFGEGTRLSVL	4.2%

CASSPTISNERLFFGHGTKLSVL	4.2%
CASSFAQNTEVFFGKGTRLTVV	4.2%
CASSLGGARTGQLYFGEGSKLTVL	2.8%
CASSLGTGAGNVLYFGEGSRLLVV	2.8%
CASSLGTGAGNVLYFGEGSRLLVV	2.8%
CASSPRDRDQAQYFGEGTRLSVL	2.8%
CASSLGTGAGNVLYFGERSRLLVV	2.8%
CASSLEGTSSYEQYFGPGTKLTVL	2.8%
CASSPDWGGRGNTGQLYFGEGSKLTVL	1.4%
CASSPRDRDQAQYFGEGTWLSVL	1.4%
CASSLRPHMGVFFGKGTRLTVV	1.4%
CASSLTGTEVFFGKGTRLTVV	1.4%
CASSSDRVDTEVFFGKGTRLTVV	1.4%
CASSFGGRSYEQYFGPGTKLTVL	1.4%
CASKEGNAEQFFGSGTRLTVL	1.4%
CASSLGQVYAEQFFGSGTRLTVL	1.4%
CASSLSGRYAEQFFGSGTRLTVL	1.4%
TCR-Vβ13 Islet-Day 7 (N=66 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASSFAGGYEQYFGPGTKLTVL	43.9%
CASSERGNYDYTFGPGTRLLVI	6.1%
CASSSGRYNSPLYFAAGTRLTVT	3.0%
CASSQGGFGNVLYFGEGSRLLVV	3.0%
CASSSGTGWERLFFGHGTKLSVL	3.0%
CASSRDSSYEQYFGPGTKLTVL	3.0%
CASSSGGASYAEQFFGSGTRLTVL	3.0%
CASSLGGRNDLFFGAGTQLSVL	1.5%
CASSLAGNTLFFGAGTRLSVL	1.5%
CASSLAPGEDTLFFGAGTRLSVL	1.5%
CASSSTGGGEVTLFFGAGTRLSVL	1.5%
CASSEGAGNSPLYFAAGTRLTVT	1.5%
CASKGGNTGQLYFGEGSKLTVL	1.5%
CASSFEQGGISNERLFFGHGTKLSVL	1.5%
CASSLSQDRAPERLFFGHGTKLSVL	1.5%
CASSLRASTEVFFGKGRTLTVV	1.5%
CASSFSGLTNTEVFFGKGTRLTVV	1.5%
CASSRGPGTEVFFGKGTRLTVV	1.5%
CASSFAGGYEQYFGTGTKLTVL	1.5%
CASASGGTYEQYFGPGTKLTVL	1.5%
CASRLLGGLDXDYYFGPGTKLTDQ	1.5%
CASSLGARTEVFFGPGTRLTVV	1.5%
CASSLAGGVNQETQYFGPGTRLLVL	1.5%
CASSLGLGGETQYFGPGTRLLVL	1.5%
CASSLWDWGGEETQYFGPGTRLLVL	1.5%
CASRSGGGQETQYFGPGTRLLVL	1.5%
CASSSTPNQETQYFGPGTRLLVL	1.5%

CASSLAGGYEQXFGSGTKLTVL	1.5%
CASSLGGGADKIYFGSGTRLTVL	1.5%
CASSSGDWGTDKIYFGSGTRLTVL	1.5%
TCR-Vβ13 Cultured Islet T-Cells (N=117 sequences)	
CDR3-Jβ Sequence	**Frequency**
CASSFAGGVYEQYFGPGTKLTVL	50.4%
CASSLGLGGETQYFGPGTRLLVL	18.8%
CASSLEGGERLFFGHGTKLSVL	5.1%
CASRAGLGGDYEQYFGPGTKLTVL	3.4%
CASSLWTGDGNTEVFFGKGTRLTVV	2.6%
CASREAGTGSDKIYFGSGTRLTVL	2.6%
CASSRTGGYAEQFFGSGTRLTVL	2.6%
CASSFRGGRENTLFFGAGTRLSVL	1.7%
CASSFYLGLSNERLFFGHGTKLSVL	1.7%
CASSPRLGGALAEQFFGSGTRLTVL	1.7%
CASSPRGGGAIQNTLFFGAGTRLSVL	0.9%
CASSQGDQNTLFFGAGTRLSVL	0.9%
CASSLGTGAGNVLYFGEGSRLLVV	0.9%
CASSFRGSNERLFFGHGTKLSVL	0.9%
CASSFYLGLXNERMFFGHGTKLSVL	0.9%
CASSSGTGGPNERLFFGHGTKLSVL	0.9%
CASSFAVGVYNQYFGPGTHLLVL	0.9%
CASSLAGGVYEQYFGPGTKLTVL	0.9%
CASSLFGGTSYEQYFGPGTKLTVL	0.9%
CASSLGGGGETQYFGPGTRLLVL	0.9%
CASSPSGKETQYFGPGTRLLVL	0.9%

SUPPLEMENTARY DATA

Supplementary Table 3. This complete listing of all TCR-Vα5 CDR3-Jα sequences and frequencies is being provided at the request of the reviewer.

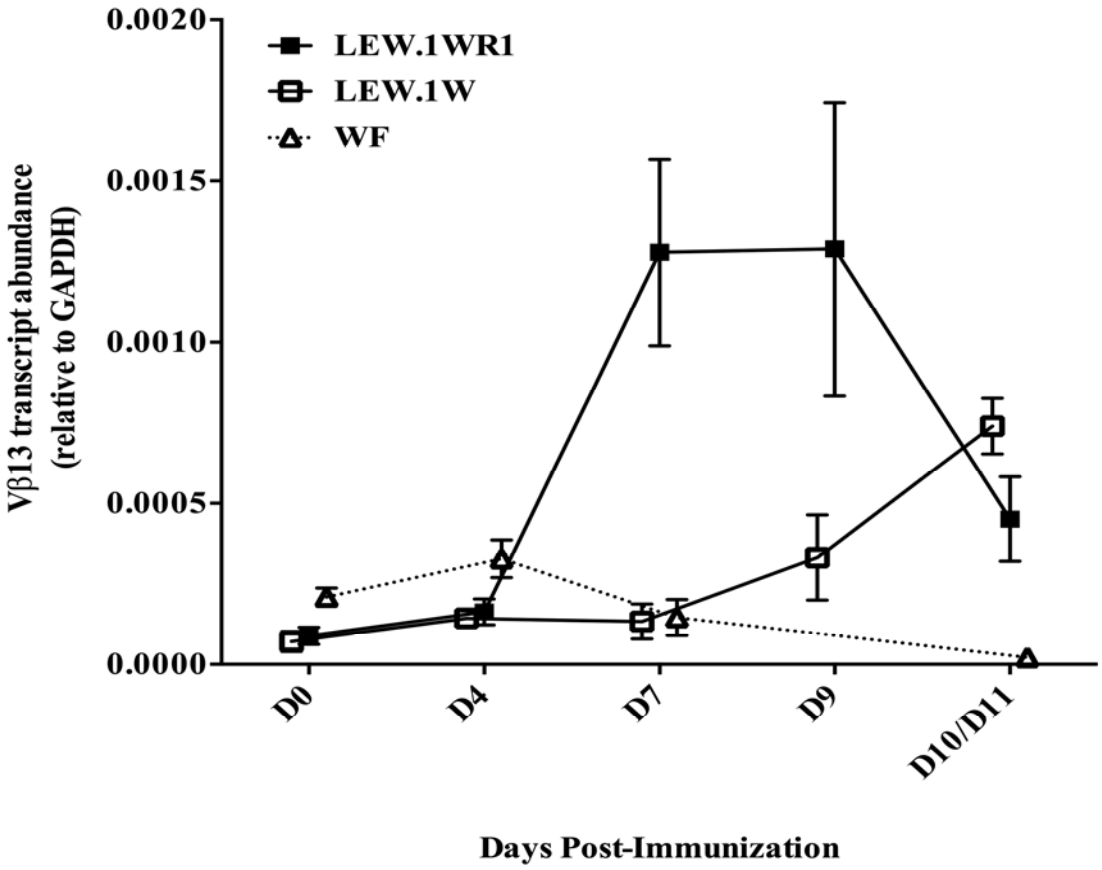
TCR-Vα5 Spleen Untreated (N=62 sequences)	
CDR3-Jα Sequence	**Frequency**
CAASDNSNYQLIWGSGTKLIIKPD	3.9%
CAASRGNNNAPRFGAGTRLTVKPN	2.6%
CAATPYNSNAGKLTFGDGTRLTVKPN	2.6%
CAASEGGGSFAKPTFGKGTKLSVKSN	2.6%
CAAKGYNQGKLIFGQGTKLSIKPN	2.6%
CANRAGNRLTFGRGTRVLIRPD	2.6%
CAASNNNAPRFGAGTRLTVKPN	1.3%
CAARAHNNNAPRFGAGTRLTVKPN	1.3%
CAASAGNNNAPRFGAGTRLTVKPN	1.3%
CAARANNNNAPRFGAGTRLTVKPN	1.3%
CAASAGNNAPRFGAGTRLTVKPN	1.3%
CAASRHTGNKYVFGAGTRLKVIPH	1.3%
CAARYNNNAPRFGAGTRLTVKPN	1.3%
CAASASNNNNRLFFGDGTQLVVKPN	1.3%
CAPRGNRLSFGDGTQLVVKPN	1.3%
CAASNSNAGKLTFGDGTRLTVKPN	1.3%
CAASPNSNAGKLTFGDGTRLTVKPN	1.3%
CAASAGGGSQKLIFGEGTKLTVSLY	1.3%
CAASGVAGGLSGKLTFGEGTQVTVISD	1.3%
CAASAGSALGKLYFGIGTQLTVTPD	1.3%
CTASIRGSALGKLYFGIGTQLTVTPD	1.3%
CTARPHRGSALGKLYFGIGTQLTVTPD	1.3%
CTASRGSALGKLYFGIGTQLTVTPD	1.3%
CAASNANKVIFGKGTRLHVLPN	1.3%
CAASAGTGSYQLTFGKGTKLSVIPN	1.3%
CAASEGSGGSFAKPTFGKGTKLSVKSN	1.3%
CAASGGSFAKPTFGKGTKLSVKSN	1.3%
CAAGGSFAKPTFGKGTKLSVKSN	1.3%
CAAVGAGSTSYKLTFGKGTLLTVNPN	1.3%
CAAINSGGSFAKPTFGKGTKLSVKSN	1.3%
CAAPPGTGSYQLTFGKGTKLSVIPN	1.3%
CAASRESGRTLIFGKGTLVLVSPN	1.3%
CAAVSGGSFAKPTFGKGTKLSVKSN	1.3%
CAAGTGSTSYKLTFGKGTLLTVNPN	1.3%
CAASVRDGANNKLTFGKGTTLSVIPD	1.3%
CAASGKGNTGKLIFGLGTTLQVQPD	1.3%
CTASNDVGVNSKLIWGLGTSLAVNPN	1.3%
CAALTAMQANPLGMGPGSQSQMS	1.3%

SUPPLEMENTARY DATA

CTASITGFGSALKFGPGTKVIVIPY	1.3%
CAATSSNSKLVFGQGTSLSVIPN	1.3%
CAANRAGNRLTFGRGTRVLIRPD	1.3%
CTASEFYDKLYFGSGTKLIVKPN	1.3%
CAAIESGGYKLVFGSGTRLLVSAD	1.3%
CTARGQVVGQLTFGSGTRLQVYAN	1.3%
CTASISSGNWQLVFGSGTQLTVLPD	1.3%
CTAVRGGGYKLVFGSGTRLLVSAD	1.3%
CAASAGGSANXLIFGTGTLLSVKPN	1.3%
CAAPGDSGTYQSFGTGTKLSVIPN	1.3%
CAARGSSGTDKVIFGTGTRLQVSPN	1.3%
CTASIGTGFGKLQFGTGTQVVVTPD	1.3%
CTASKGSGTYQSFGTGTKLSVIPN	1.3%
CTASPSSGTDKVIFGTGTRLQVSPN	1.3%
CAARSYGGSGNKLIFGTGTLLSVKPN	1.3%
CAARSGTDKVIFGTGTRLQVSPN	1.3%
CAASSGTDKVIFGTGTRLQVSPN	1.3%
TCR-Vα5 islet Day 5 (N=24 sequences)	
CDR3-Jα Sequence	**Frequency**
CAASLYGNEKMTFGAGTRLTIKPN	45.8%
CAAGNSNAGKLTFGDGTRLTVKPN	29.2%
CAASPGGNYKLTFGKGTSLVVHPH	8.3%
CAASAWSSGGSFAKPTFGKGTKLSVKSN	8.3%
CAASATGTDKVIFGTGTRLQVSPN	4.2%
CAASNISSSGNWQLVFGSGTQLTVLPD	4.2%
TCR-Vα5 Cultured Islet T-Cells (N=113 sequences)	
CDR3-Jα Sequence	**Frequency**
CAASPGTGSYQLTFGKGTKLSVIPN	59.3%
CAASSSYGANNKLTFGKGTTLSVIPD	14.2%
CAASALRGSGNKLIFGTGTLLSVKPN	9.7%
CAASAGDSGTYQSFGTGTKLSVIPN	4.4%
CAASPGTGSYQLTFGKD	3.5%
CAVESSSGNWQLVFGSGTQLTVLPD	2.7%
CAGQGGSQKLIFGEGTKLTVSLY	1.8%
CAASALHGNEKMTFGAGTRLTIKPN	0.9%
CAGQGGXQKLIFGEGTKLTVSLY	0.9%
CAASSSYGANNKLTFGEGTTLSVIPD	0.9%
CAASALRGSGNKLIFGTGTLLSVKPN	0.9%
CAAVTTTGFGKLQFGTGTQVVVTPD	0.9%

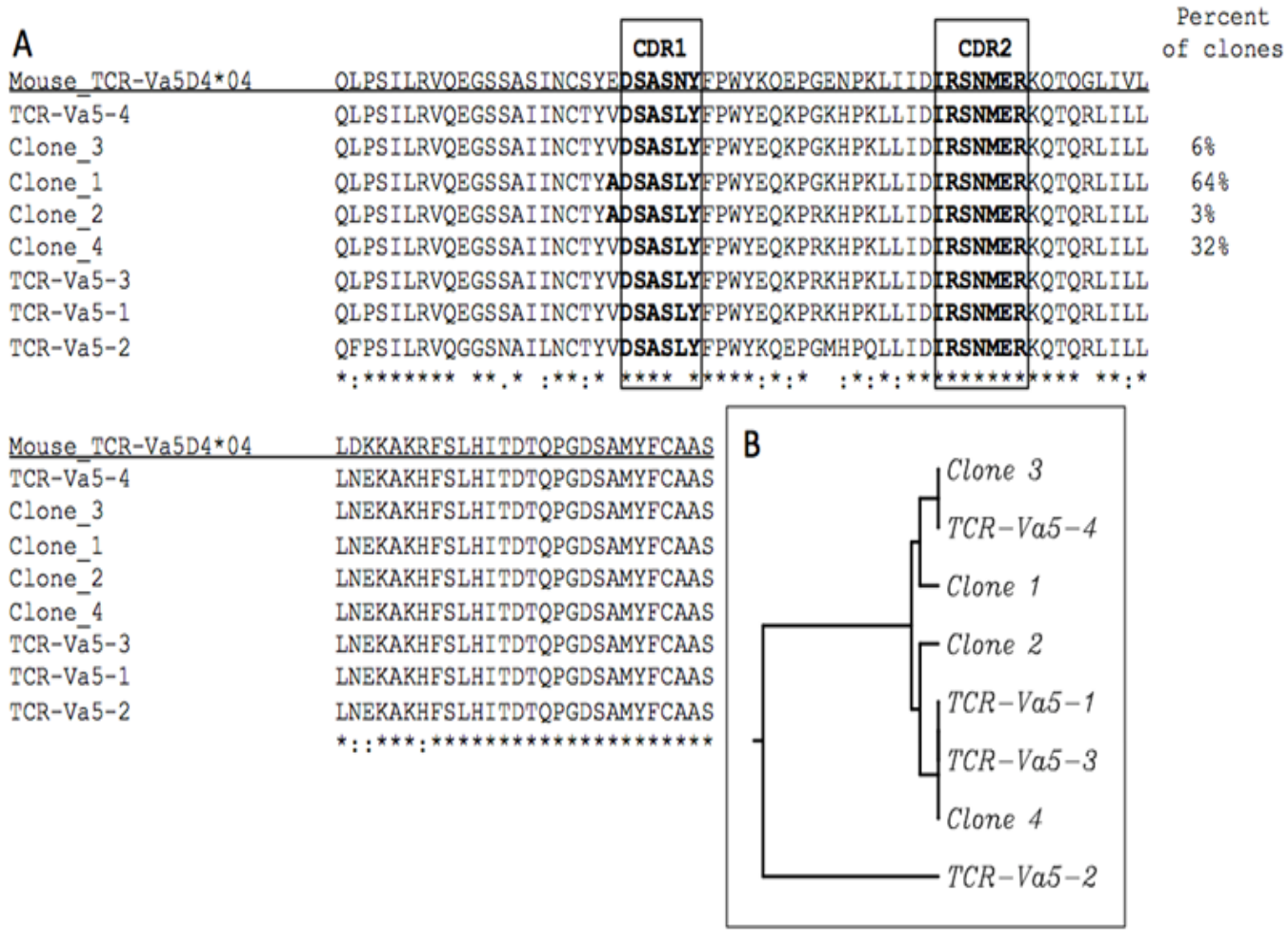
SUPPLEMENTARY DATA

Supplementary Figure 1. Vβ13+ T-cells in the islets of diabetes resistant rats. We analyzed the abundance of Vβ13+ transcripts in the islets of LEW.1WR1, LEW.1W and WF rats to determine if we could compare the clonality of Vβ13+ transcripts between susceptible and resistant rats at a given time. While Vβ13+ transcripts increase significantly in LEW.1WR1 islets on day 7, the abundance in resistant islets is not above the baseline level of untreated samples. Of interest, this is a slight elevation of Vβ13+ transcripts between day 9 and 11 in the LEW.1W rat. This delayed accumulation of potentially diabetogenic T-cells corresponds to the later onset of diabetes in a limited subset of LEW.1W rats.



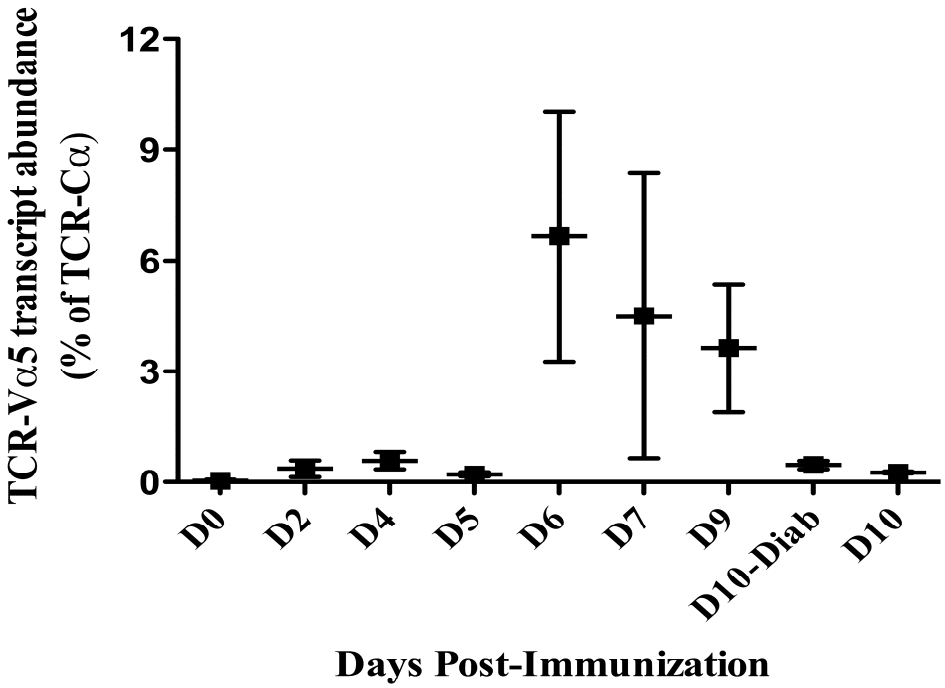
SUPPLEMENTARY DATA

Supplementary Figure 2. TCR-Vα5 paralogs: novel identification and alignments A. Amino acid sequences from mouse TCR-Vα5D4*04 and the four rat TCR-Vα5 paralogs identified in the rat reference sequence with cDNA clones (Clone 1-4) from our experiments. Clones 1 and 2 are novel sequences and differ from the reference sequences at the residues indicated in bold to the left of CDR1. Interestingly, the CDR2 nucleotide sequence of TCR-Vα5-2 differs from the other paralogs at a single base but retains the same amino acid sequence indicating a concerted evolutionary selection to retain this particular CDR2 peptide sequence B. Branch-length dendrogram display of rat sequences in A. Clones 1 and 2 are likely to be novel paralogous variants derived from TCR-Vα5-4 and TCR-Vα5-1 (or 5-3) respectively with the difference of a single nucleotide polymorphism. This identification of two novel paralogs suggests there may be an additional TCRα locus duplication adding further complexity to our understanding of TCR genetics.



SUPPLEMENTARY DATA

Supplementary Figure 3. TCR-Va5+ Transcripts have a tight temporal accumulation in the LEW.1WR1 pre-diabetic islet. TCR-Vα5+ Transcripts from LEW.1WR1 islets were analyzed by qRT-PCR analysis and normalized to TCR-Cα to determine the percent of Vα5+ T-cells. There is a trend toward Vα5+ transcript accumulation by day 6 in the LEW.1WR1 islet but means are not significantly different. Latency is variable even among littermates so within each day (6,7,9) biological replicates may represent different staging of diabetes progression. If Vα5+ T-cells infiltrate the islet only briefly during initiation of diabetes this explains the high variability between animals on days 6-9. N= 3-5 rats per time point, 29 rats total.



SUPPLEMENTARY DATA

Supplementary Figure 4. Islet specific antigen focusing of Vα5+ transcripts. TCR-Vα5+Jα28+ sequences represent about 60% of cultured islet T-cell transcripts analyzed above (Figure 4.B, sequence 3). To confirm the islet-specific skewing of Vα5-Jα28 transcripts we analyzed the abundance of specific CDR3-Jα regions among Vα5 and Vα68 transcripts (Vα forward and Jα reverse primers) by qRT-PCR. Vα68 was chosen as an additional Vα gene comparator as it was frequent on T-cells infiltrating cardiac allographs in Lewis rats and thus expected to be in low abundance in infiltrated islet (35). The abundance of each Vα-Jα amplicon was normalized to total Jα abundance (Jα forward and Cα reverse primers). qRT-PCR of Vα-Jα and Jα-Cα transcripts was performed as described in methods and primers are listed in supplemental table 1. We confirmed a ~100 fold enrichment of Vα5-Jα28 in islet T-cells relative to the periphery. We also show that other Jα segments were not over represented in Vα5 transcripts (Jα53 was frequent on insulin-reactive, NOD Vα5+ T-cells while Jα10 was rarely observed in our sequence analysis). Lastly, Vα68 joined to any Jα analyzed was infrequent in islet or peripheral T-cells.