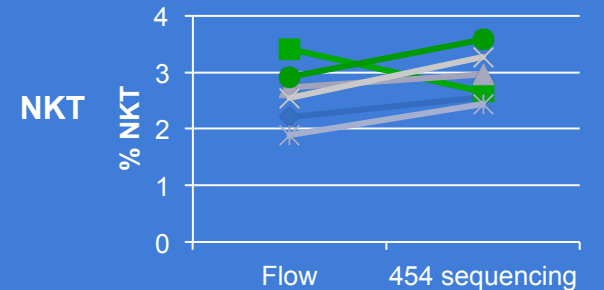
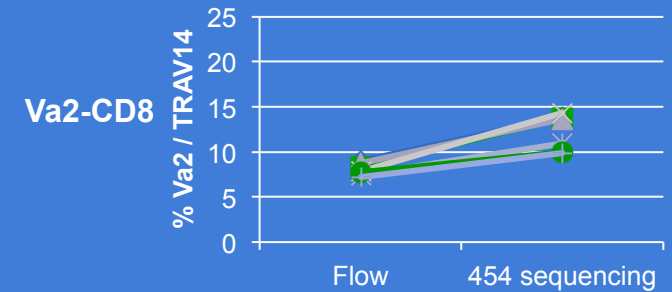
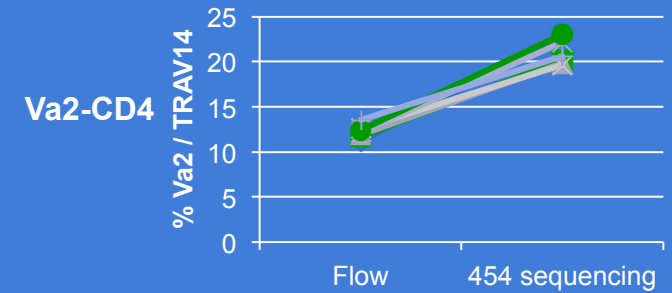
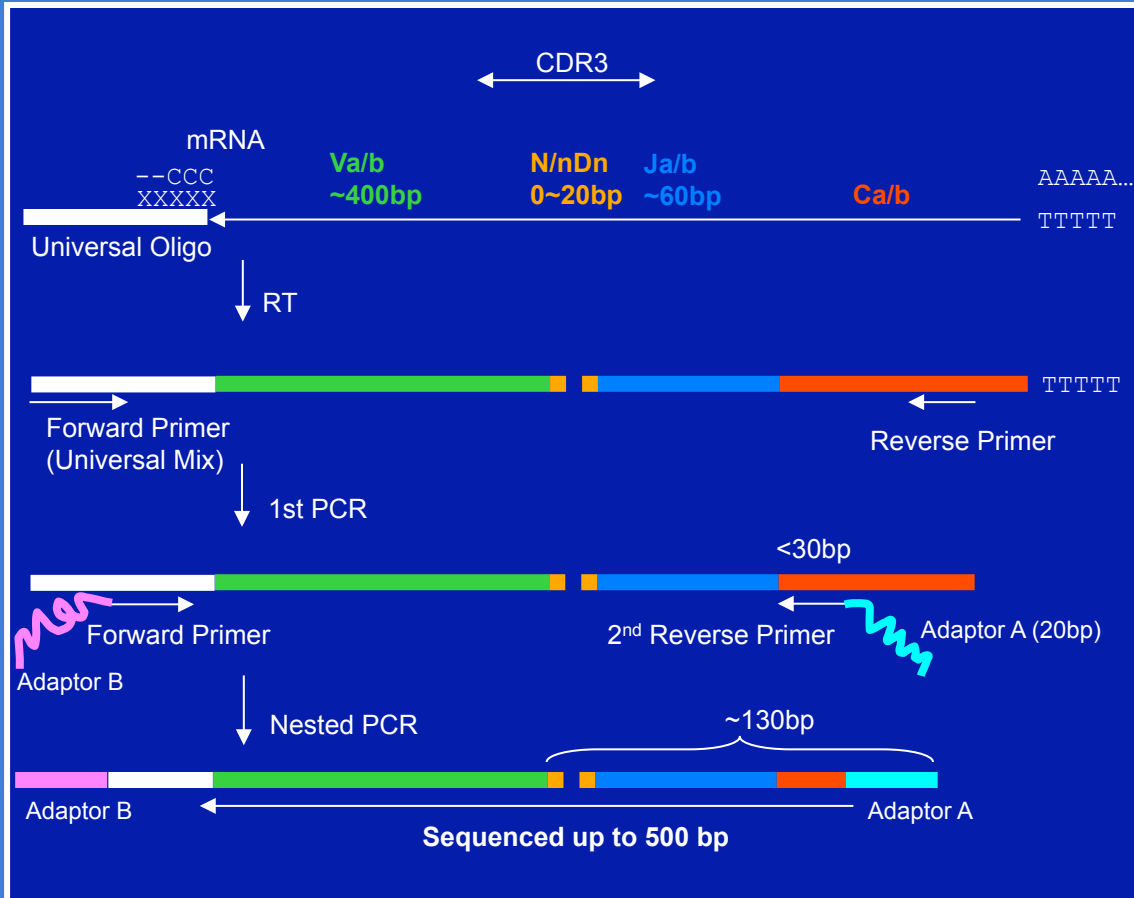
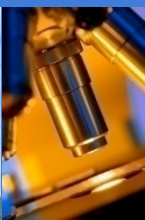


# Strategy of TCR sequencing by 454

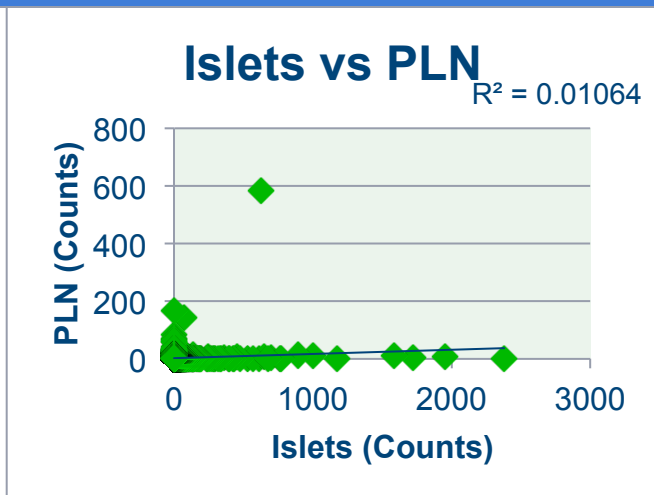
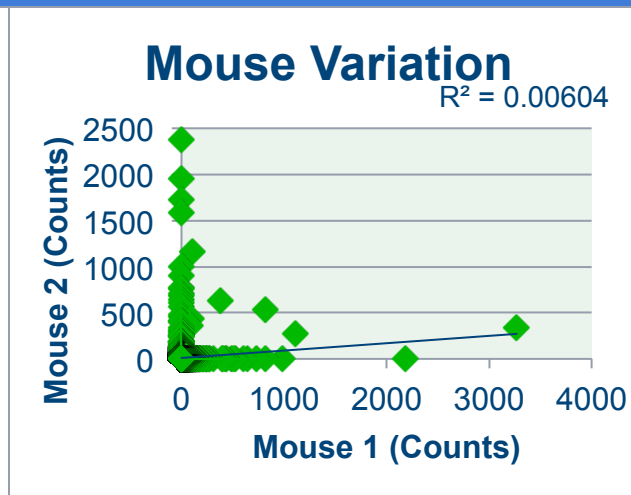
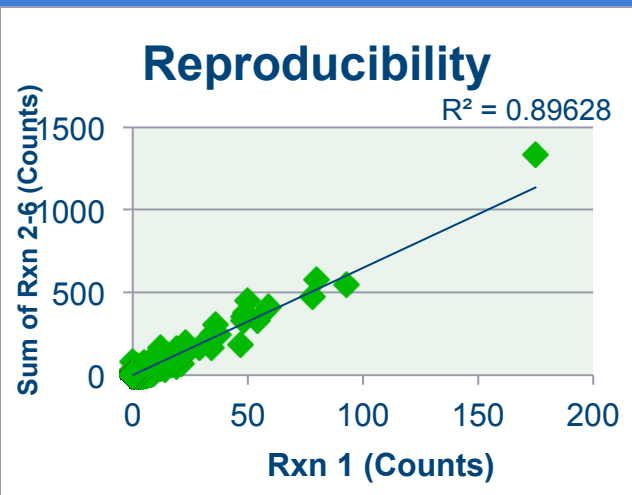


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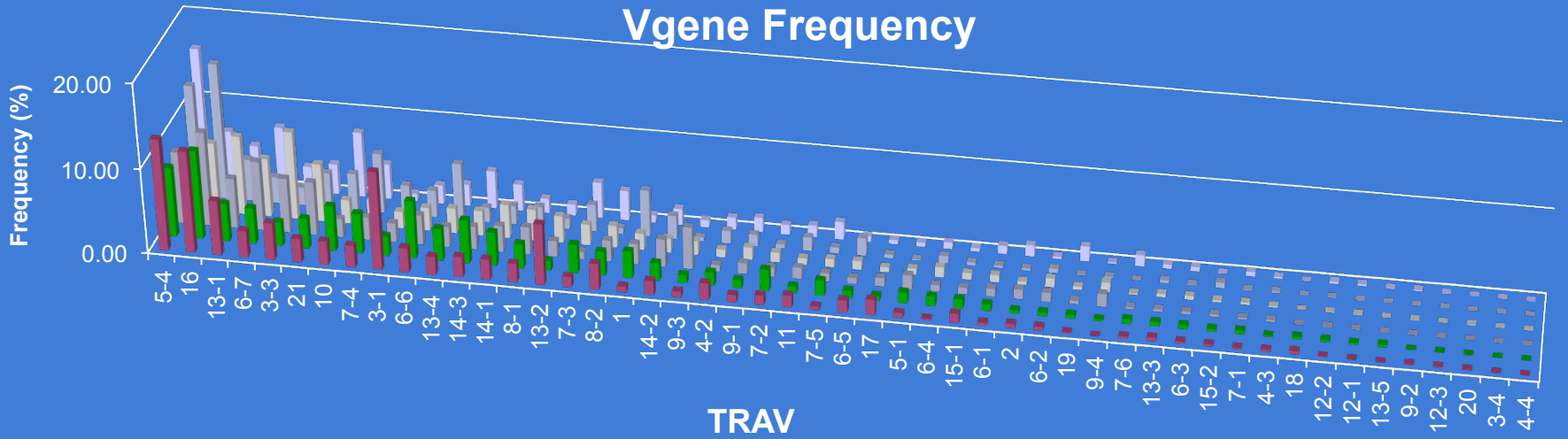


# Sequencing of T cells infiltrating NOD islets

	Unique / Total Sequence	Rxn 1 vs others	Rxn 2 vs others	Rxn 3 vs others	Rxn 4 vs others	Rxn 5 vs others	Rxn 6 vs others
Reproducibility	14161 / 36410	0.90	0.92	0.89	0.93	0.93	0.93
Mouse Variation	41853 / 198216	0.003	0.012	0.005	0.021	0.013	<0.001
Islets vs PLN		0.010	<0.001				



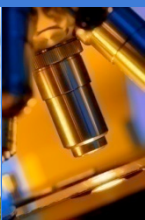
# Common sequences shared by multiple mice



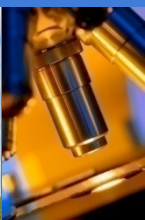
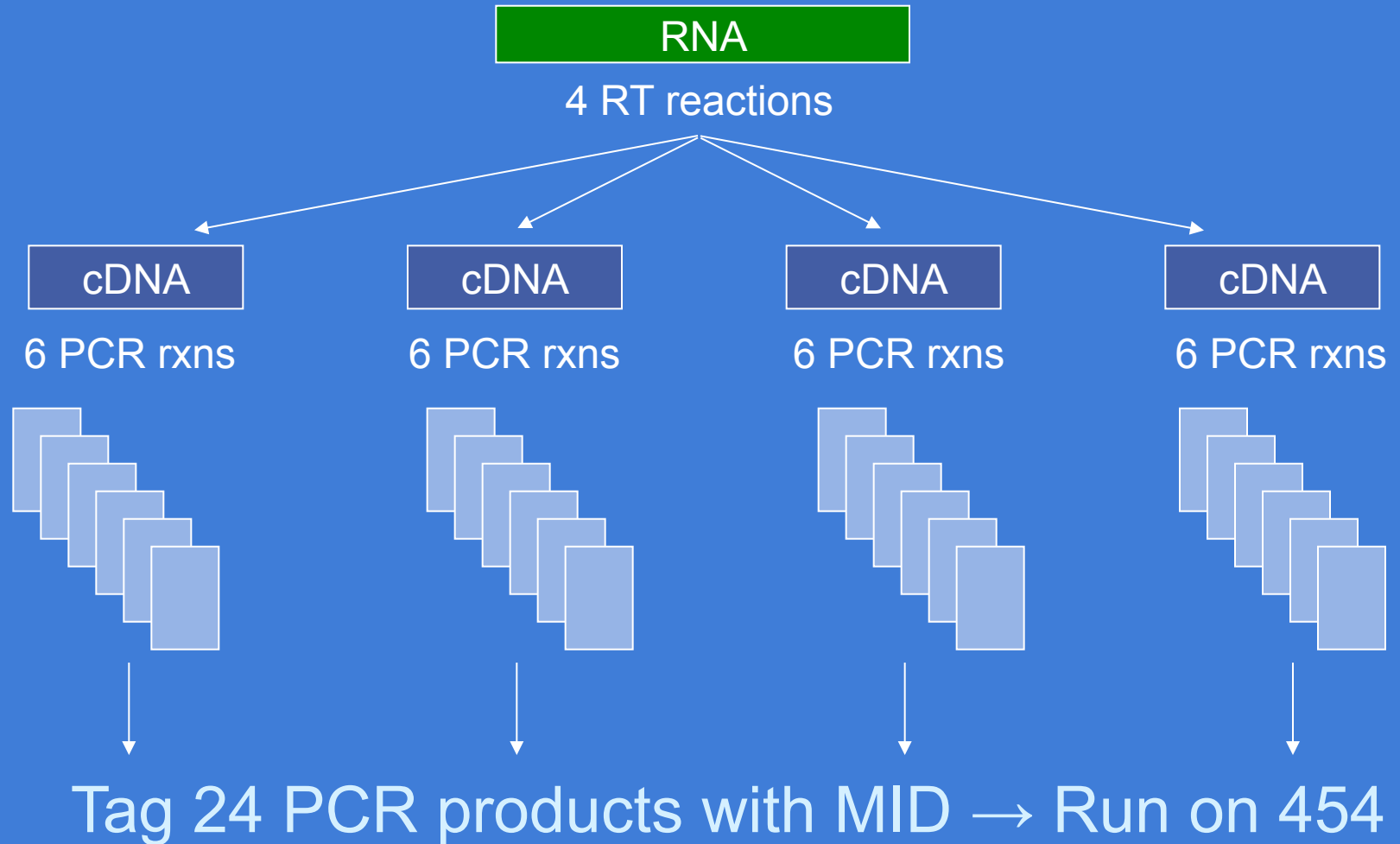
Vgene	Junction	Jgene	NOD						Vgene	Junction	Jgene	NOD					
			1	2	3	4	5	6				1	2	3	4	5	6
TRAV1*01	CAVREP <span style="color:red">N</span> YNVLYF	TRAJ21	3	8	12	17	0	26	TRAV5D-4*02	CAASAGGADRLTF	TRAJ45	1	42	4	17	96	436
TRAV1*01	CAVRE <span style="color:red">L</span> PNYNVLYF	TRAJ21	1	5	11	2	0	25	TRAV5D-4*02	CAASASGG <span style="color:red">S</span> NYKLTTF	TRAJ53	28	3	1	43	57	0
TRAV1*01	CAVRE <span style="color:red">M</span> PNYNVLYF	TRAJ21	18	55	14	46	0	12	TRAV5D-4*02	CAAS <span style="color:red">E</span> SGGSNYKLTTF	TRAJ53	47	89	38	0	85	363
TRAV11*01	CVVGD <span style="color:red">R</span> GSALGRLHF	TRAJ18	201	230	98	171	287	634	TRAV5D-4*04	CAAS <span style="color:red">E</span> SGGSNYKLTTF	TRAJ53	1	2	5	0	2	4
TRAV11*01	CVV <span style="color:red">Y</span> DRGSALGRLHF	TRAJ18	7	11	4	5	83	0	TRAV5D-4*02	CAAS <span style="color:red">E</span> GGGSNYKLTTF	TRAJ53	115	2	6	0	1	1
TRAV16*02	CAMREG <span style="color:red">W</span> TDKVVVF	TRAJ34	4	2	3	6	0	1	TRAV5D-4*02	CAASKTGANTGKLTTF	TRAJ52	2	33	6	4	0	35
TRAV16D*01	CAMREG <span style="color:red">W</span> TDKVVVF	TRAJ34	6	2	7	3	0	30	TRAV5D-4*02	CAASPGNYKYVF	TRAJ40	1	14	5	2	0	3
TRAV16*02	CAMRDSGG <span style="color:red">S</span> NAKLTTF	TRAJ42	16	0	263	289	820	532	TRAV6-6*01	CALGDQ <span style="color:red">T</span> GGADRLTF	TRAJ45	15	11	26	8	482	1
TRAV16*02	CAMR <span style="color:red">N</span> SGGSNAKLTTF	TRAJ42	20	0	12	37	33	22	TRAV3-1*01	CAVSGANTGKLTTF	TRAJ52	2	0	4	21	3268	343
TRAV16D*01	CAMRDSGG <span style="color:red">S</span> NAKLTTF	TRAJ42	81	3	0	238	100	1170	TRAV14D-2*01	CAASANYNVLYF	TRAJ21	82	93	29	49	0	133



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# PCR protocol for nPOD samples





# Frequent TCRs for Insulin B:9-23-reactive cells

Alpha chain

Vgene	Junction	Jgene	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TRAV16	CALRFGSSNTGKLI	TRAJ37	30	23	32	31	45	69	44	31	5	25	20	22	37	15	27	39	29	14	48	19	40	16	20	20	21
TRAV8-2	CVVQRITITMCAPSDNNDNMR	TRAJ43	12	19	1	25	1	0	12	21	15	11	9	24	17	15	7	11	21	39	9	9	11	7	8	9	6
TRAV12-1	CVVNKGTNAGKSTF	TRAJ27	8	24	11		13	0	7		19	14	10		0	24			6			14	5	9	6	10	8
TRAV23/DV6	CAASGGTGGFKTIF	TRAJ9	5			0	9	14		8		9	12	0	10	6	0		1	1	5	8	0			12	
TRAV38-1	CAFMSPTYGGATNKLI	TRAJ32	5	0	17	6	0	0	8	7	6	0	0	8		0	5	5	0	0	6	1	11	7	9	5	10
TRAV14/DV4	CAMRPMDTGRRALTF	TRAJ5	3	1	12	2	2	1	4	6	7	2	2	2	2	6	4	2	2	11	2	2	2	5	4	1	2
TRAV14/DV4	CAMRGVDTGRRALTF	TRAJ5	2			1			1		8					8			1	1							0
TRAV14/DV4	CAMIPMDTGRRALTF	TRAJ5	2	1					0	7								5						5			
TRAV21	CAVKFNKIFY	TRAJ21	2	9	0	0	0	0	0	0	0	0	0	9	0	0	0	5	1	0	0	0	0	0	6	0	4
TRAV6	CALVRSTDKLI	TRAJ34	2	0	0	0	0	0	0	0	9	0	9	0		0	0	2	2	0	2	0	0	10	0	0	0

Beta chain

Vgene	Junction	Jgene	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
TRBV19	CASSIVGRAVDEQFF	TRBJ2-1	19	12	19	15	31	18	21	26	25	24	23	22	24	12	19	10	12	18	8.7	21	14	14	25	
TRBV10-2	CASSERAGGSDTDQYF	TRBJ2-3	18	8.8	18	17	10	16	20	15	17		17	14	12	27	21	30	17	14	17	22	17	21	20	
TRBV7-9	CASSSIWGEEQYF	TRBJ2-5	15	14	7.5	13	15	10	15	8.5	11	15	15	16	17	20	16	10	26	20	24	9.1	10	19	15	
TRBV6-2/6-3	CASEGAGGNEQFF	TRBJ2-1	4.7	5.4	7.8	5.4			6.8	5	5.2	9.7				7.4	5.9	5	5	11	1		8.5			
TRBV6-2/6-3	CASSDSSGGAGDTDQYF	TRBJ2-3	4.2	6.4	6.8	6.4	6.4	10	8.1	6.4	6.4	0	6.7	6.4	6.4	5.8	5.9	6.4	6.4	5.7	6.4	8.8	6	0.8		
TRBV28	CASSGTGGGFSYTF	TRBJ1-2	3.5	4.1	1.3	0.8	3.1	2.8	0	0.9	5.4	5.1	3.3	1.8	4.8	5.2	1.9	2.8	0.8	2.8	6.8	6.1	6.6	3.7	0	
TRBV24-1	CATSDSSGGRETQYF	TRBJ2-5	3.4	6.9	0	0	7.5	6.9	6.9	5.1	6.9	9.9	6.4	11	0	0	0	0	6.8	5.9	6.9	6.8	6.9	6.9	6.9	
TRBV28	CASNDSSTGSGWQPQHF	TRBJ1-5	3	4.1	1.8	7.9	3.1	3.8	1	3.8	6.6	8.4	3.2	3.8		3.8	0	0	1.7	2.8	5.2	3.1	0	0	3.4	
TRBV5-1	CASSETGTGKPDQYF	TRBJ2-3	2	0		0	0	6.2	6.2	7.3	0	0	6.2	6.2	6.2	0	0	0.4	6.2	6.2	0	6.2	6.2	6.2	0.8	0
TRBV10-3	CAISEISPEQFF	TRBJ2-1	1.9	4.1	2.9	3.6		0	0	0.3	4.7	0	0	4.7	0.3	0	4.7	4.7	4.7	0	0.4	4.7	0.9	0	4.7	
TRBV19	CASSIHGTNTTEAFF	TRBJ1-1	1.9	0.3	4.8	3.1	0.4	6.7	0	0.8	0	2.6	3.4	2.3	2.7	3.5	0	0.9	1.7	1.7	2.4	1.7	1.7	1.8	2.5	
TRBV5-1	CASSPKSTGGDNEQFF	TRBJ2-1	1.4										0	0									0		0	



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