

Supplementary Table 1. Hi-C Read and Filtering Statistics

Cell Type and Replica Number		Total Reads	Reads After Filtering	Cis Reads >10kb
Rods	R1	156,913,060	18,030,234	5,105,041
	R2	152,605,824	25,944,021	6,349,206
Non-rod Neurons	R1	116,252,619	19,226,557	5,650,359
	R2	146,003,208	40,646,198	15,748,047
LBR-null Thymocytes	R1	156,172,508	51,945,401	23,387,464
	R2	142,846,173	44,963,418	18,715,738
WT Thymocytes	R1	144,508,673	44,190,905	28,022,538
	R2	151,520,833	50,278,218	31,134,393

Primary Tissue Hi-C for Comparison²

Cell Type and Replica Number	Total Reads	Reads After Filtering	Cis Reads >10kb
Bladder, R1	233,041,838	52,456,550	24,121,444
Bladder, R2	236,250,557	43,395,294	19,659,511
Adrenal Gland, R1	181,680,303	48,951,415	22,449,886
Psoas Muscle, R1	196,863,028	36,856,215	13,566,008
Psoas Muscle, R2	95,110,351	25,776,091	10,410,829
Pancreas, R1	160,416,883	49,627,891	21,200,091
Pancreas, R2	12,147,138	3,538,979	1,367,214
Pancreas, R3	128,745,528	15,683,831	7,787,867
Lung, R1	308,335,703	85,597,004	24,417,652
Hippocampus, R1	187,658,680	64,151,770	29,220,961

Right Ventricle, R1	672,319,838	179,219,920	63,091,486
Small Bowel, R1	177,864,628	58,017,249	21,073,296
Spleen, R1	378,529,216	107,599,392	33,032,593
Ovary, R1	201,215,217	70,283,904	20,909,766
Dorsolateral Prefrontal Cortex, R1	165,728,687	52,713,868	25,426,433