

SUPPLEMENTARY TABLE 1: HTGTS LIBRARIES

26x I-SceI/ATM^{-/-}

Clone Name	Integration site	Primer	Treatment	Total hits	Hits on break chr		Hits on IgK		Hits on Ig/TCR loci	
					n	%	n	%	n	%
Chr2 ^{I-SceI}	Chr2-180173673	5'	TA+STI	822	178	21.65	136	16.55	176	21.41
Chr2 ^{I-SceI}	Chr2-180173673	5'	TA+STI+IR	9834	4407	44.81	94	0.96	126	1.28
Chr7 ^{I-SceI}	Chr7-31203181	5'	TA+STI	467	61	13.06	67	14.35	82	17.56
Chr7 ^{I-SceI}	Chr7-31203181	5'	TA+STI+IR	3005	802	26.69	37	1.23	47	1.56
Chr18 ^{I-SceI}	Chr18-70688564	5'	TA+STI	1378	326	23.66	346	25.11	425	30.84
Chr18 ^{I-SceI}	Chr18-70688564	5'	TA+STI+IR	8591	2862	33.31	279	3.25	331	3.85
Chr3 ^{I-SceI}	Chr3-37646273	5'	TA+STI	27	16	59.26	2	7.41	2	7.41
Chr3 ^{I-SceI}	Chr3-37646273	5'	TA+STI+IR	168	55	32.74	2	1.19	2	1.19
Chr2A ^{I-SceI}	Chr2-152188613	5'	TA+STI	27	7	25.93	2	7.41	3	11.11
Chr2A ^{I-SceI}	Chr2-152188613	5'	TA+STI+IR	148	44	29.73	0	0	1	0.68
Chr13 ^{I-SceI}	Chr13-76395508	5'	TA+STI	32	23	71.88	2	6.25	4	12.50
Chr13 ^{I-SceI}	Chr13-76395508	5'	TA+STI+IR	170	54	31.95	1	0.59	2	1.18
Total				24669	8835	35.81	968	3.92	1201	4.87

25x I-SceI/WT

Clone Name	Integration site	Primer	Treatment	Total hits	Hits on break site		Hits on IgK		Hits on Ig/TCR loci	
					n	%	n	%	n	%
Chr2B ^{I-SceI}	Chr2-148388069	5'	TA+STI+ATMi	1839	164	8.92	93	5.06	111	6.04
Chr2B ^{I-SceI}	Chr2-148388069	5'	TA+STI+ATMi+IR	1284	452	35.2	34	2.65	42	3.27
Chr2B ^{I-SceI}	Chr15-5565929	5'	TA+STI	1815	117	6.45	2	0.11	4	0.22
Chr15 ^{I-SceI}	Chr15-5565929	5'	TA+STI+ATMi	3575	179	5.01	85	2.38	104	2.91
Chr15 ^{I-SceI}	Chr15-5565929	5'	TA+STI+IR	2489	243	9.76	0	0	5	0.2
Total				11002	1155	10.50	214	1.95	266	2.42

DEL-CJ/F1

Library Name	Integration site	Treatment	Total hits	Total SNP hits	Hits on break site chromosome		Hits on non-break site chromosomes	
					129	BALB/c	129	BALB/c
YZ198	Chr7-133846876	STI+ATMi+IR	3632	344	8	55	151	130
YZ212	Chr7-133846876	STI+ATMi+IR	12322	1184	18	76	446	565
YZ224	Chr7-133846876	STI+ATMi+IR	5448	561	14	68	218	261
YZ196	Chr9-75863761	STI+ATMi+IR	3227	301	86	12	89	114
YZ211	Chr9-75863761	STI+ATMi+IR	6160	469	126	10	149	184
YZ223	Chr9-75863761	STI+ATMi+IR	3919	380	106	18	111	145
Total			34708	3239	358	239	1164	1399

Supplementary Table 2: Hi-C libraries.

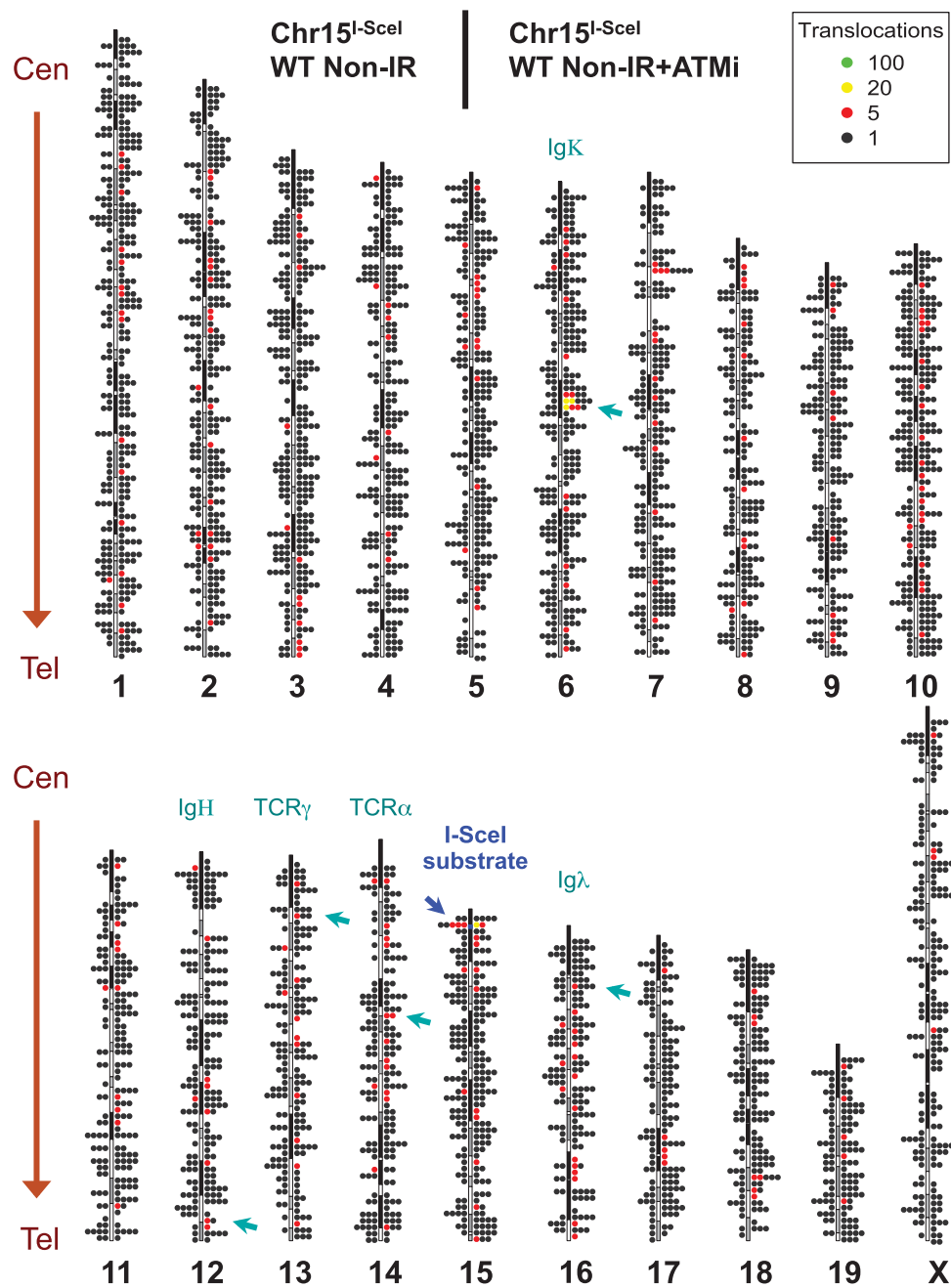
26x I-SceI/ATM^{-/-}

Hi-C Data Cell Line	Biological Replicate	Unique Interaction Pairs
Chr2 ^{I-SceI}	1	45,122,598
Chr2 ^{I-SceI}	2	49,316,157
Chr7 ^{I-SceI}	1	34,679,715
Chr18 ^{I-SceI}	1	16,553,041
Chr18 ^{I-SceI}	2	38,046,959
Total		183,718,470

26x I-SceI/WT

Hi-C Data Cell Line	Biological Replicate	Unique Interaction Pairs
Chr2 ^{I-SceI}	1	69,572,672
Chr15 ^{I-SceI}	1	13,734,501
Total		83,307,173173

A



B

	WT	WT	WT	ATM ^{-/-}	ATM ^{-/-}
Starting DNA + human DNA	Chr15 ^{I-SceI}	Chr15 ^{I-SceI}	Chr15 ^{I-SceI}	Chr18 ^{I-SceI}	Chr18 ^{I-SceI}
	TA+STI	TA+STI+IR	TA+STI+ATMi+IR	TA+STI	TA+STI+IR
Mouse translocations	177	286	534	713	435
Human "translocations"	15	25	11	12	4
background	8.50%	8.70%	2.10%	1.68%	1.15%

