

Gene	Neighbor Node ID	Node Coordinates	Regulatory Region Coordinates
TOP2B	51819	chr3:25830000-25840000	
	51820	chr3:25840000-25850000	
	51821	chr3:25850000-25860000	
	51822	chr3:25860000-25870000	
	51823	chr3:25870000-25880000	chr3:25878006-25881223
	51824	chr3:25880000-25890000	chr3:25884649-25888494, chr3:25878006-25881223
	51829	chr3:25930000-25940000	
	51830	chr3:25940000-25950000	
	51831	chr3:25950000-25960000	
	51832	chr3:25960000-25970000	chr3:113212739-113215893
SIDT1	60557	chr3:113210000-113220000	chr3:113212739-113215893
	60558	chr3:113220000-113230000	chr3:113228501-113232053
	60559	chr3:113230000-113240000	chr3:113228501-113232053
	60560	chr3:113240000-113250000	
	60562	chr3:113260000-113270000	
	60563	chr3:113270000-113280000	
	60564	chr3:113280000-113290000	
	60565	chr3:113290000-113300000	
	60566	chr3:113300000-113310000	
60582	chr3:113460000-113470000		
LAPTM5	3119	chr1:31190000-31200000	
	3120	chr1:31200000-31210000	
	3124	chr1:31240000-31250000	
	3125	chr1:31250000-31260000	
	3137	chr1:31370000-31380000	
	3138	chr1:31380000-31390000	
	3139	chr1:31390000-31400000	
	3140	chr1:31400000-31410000	chr1:31401583-31405576
AKR1B1	136734	chr7:134120000-134130000	
	136738	chr7:134160000-134170000	
	136739	chr7:134170000-134180000	
	136740	chr7:134180000-134190000	
	136741	chr7:134190000-134200000	
	136744	chr7:134220000-134230000	
	136746	chr7:134240000-134250000	
	136747	chr7:134250000-134260000	
	136750	chr7:134280000-134290000	
	136751	chr7:134290000-134300000	chr7:134293046-134298798
BAX	264946	chr19:49350000-49360000	
	264947	chr19:49360000-49370000	
	264948	chr19:49370000-49380000	chr19:49376085-49376585, chr19:49376745-49377245

	264949	chr19:49380000-49390000	
	264950	chr19:49390000-49400000	
	264951	chr19:49400000-49410000	chr19:49401746-49402745
	264952	chr19:49410000-49420000	
	264954	chr19:49430000-49440000	
	264955	chr19:49440000-49450000	
	264957	chr19:49460000-49470000	
	200464	chr12:54610000-54620000	
	200468	chr12:54650000-54660000	
	200471	chr12:54680000-54690000	chr12:54689425-54689965
	200473	chr12:54700000-54710000	chr12:54700765-54701285
HNRNPA1	200474	chr12:54710000-54720000	
	200475	chr12:54720000-54730000	
	200476	chr12:54730000-54740000	
	200477	chr12:54740000-54750000	
	200478	chr12:54750000-54760000	
	200479	chr12:54760000-54770000	
	261291	chr19:12800000-12810000	
	261292	chr19:12810000-12820000	
	261294	chr19:12830000-12840000	
	261295	chr19:12840000-12850000	
PRDX2	261297	chr19:12860000-12870000	
	261298	chr19:12870000-12880000	
	261299	chr19:12880000-12890000	chr19:12886184-12886825, chr19:12888325-12888845, chr19:12889945-12890545
	261304	chr19:12930000-12940000	chr19:12935945-12936745
	261305	chr19:12940000-12950000	chr19:12943165-12943725
	261308	chr19:12970000-12980000	
	261310	chr19:12990000-13000000	chr19:12995825-12996325, chr19:12996905-12998745
	261311	chr19:13000000-13010000	
RAD23A	261313	chr19:13020000-13030000	
	261314	chr19:13030000-13040000	
	261315	chr19:13040000-13050000	chr19:13049025-13049663
	261317	chr19:13060000-13070000	
	261331	chr19:13200000-13210000	
	261332	chr19:13210000-13220000	
	261333	chr19:13220000-13230000	

Table S3: Neighbor coordinates for exemplar genes. The second column lists the node identifiers for all neighboring nodes of the relevant gene, including neighboring nodes that contain interacting fragments as well as those that do not. The third column third lists the corresponding chromosome coordinates for the node identifier. The fourth column lists the regulatory fragments that interact with each gene as described in Jung et al. (2019) and Fulco et al. (2019)