

**Table S2. Summary of HOCl and gene expression data analysis****A. Comparison of HOCl, ChIA-PET anchor and Hi-C loop anchor**

	<b>Overlapped HOClS (total: 12231)</b>
Anchors of CTCF ChIA-PET(185614)	4998(41%)
Anchors of Pol II ChIA-PET(227182)	4454(47%)
Loop anchors of in situ Hi-C(12903)	2524(21%)

**B. Comparison of TAD boundary detected from Hi-C data and HOCl detected from OCEAN-C data**

	<b>Total HOClS</b>	<b>HOClS overlapped with TAD boundaries</b>	<b>Number of Boundaries</b>	<b>mean of random sampling HOClS overlapped with TAD boundaries</b>	<b>P-value</b>
<b>U266</b>	12003	1152	4253	709	5.2e-35
<b>RPMI8226</b>	14592	898	4429	617	1.0e-28
<b>GM12878 rep1</b>	9505	782	4259	500	2.3e-34
<b>GM12878 rep2</b>	9787	802	4259	515	5.3e-25

**C. RPKM of three different types of genes**

<b>Types</b>	<b>U266</b>			<b>RPMI8226</b>		
	<b>Gene Number (All:22372)</b>	<b>Exp Gene (RPKM&gt;= 0.5)</b>	<b>Mean (RPKM)</b>	<b>Gene Number (All:22372)</b>	<b>Exp Gene (RPKM&gt;= 0.5)</b>	<b>Mean (RPKM)</b>
<b>Hub</b>	5780	5072(87.8%)	46.8	4206	3724(88.5%)	48.2
<b>Interacting</b>	10617	5230 (49.3%)	42.7	13401	6838(51.0%)	43.1
<b>Dissociative</b>	5975	1301(21.8%)	18.5	4765	1187(24.9%)	22.0

**D. The components of expressed gene in U266 and RPMI8226 cell line**

	<b>U266</b>	<b>RPMI8226</b>
<b>Expressed Genes (RPKM &gt;= 0.5)</b>	11603	11749
<b>Expressed Hub Genes</b>	5072 (43.7%)	3724 (31.7%)
<b>Expressed Interacting Genes</b>	5230 (45%)	6838(58.2%)
<b>Expressed Hub/Interacting Gene</b>	10302(88.7%)	10562(89.9%)

**E. The components of housekeeping gene**

<b>Housekeeping Gene (3640)</b>	<b>Types</b>	<b>U266 cell</b>	<b>RPMI8226 cell</b>
	<b>Hub</b>	1901(52.2%)	1415(38.9%)
	<b>Interacting</b>	1435(39.4%)	1971(54.1%)
	<b>Dissociative</b>	304(8.4%)	254(7%)