

## **Intra-individual Gene Expression Variability of Histologically Normal Breast Tissue**

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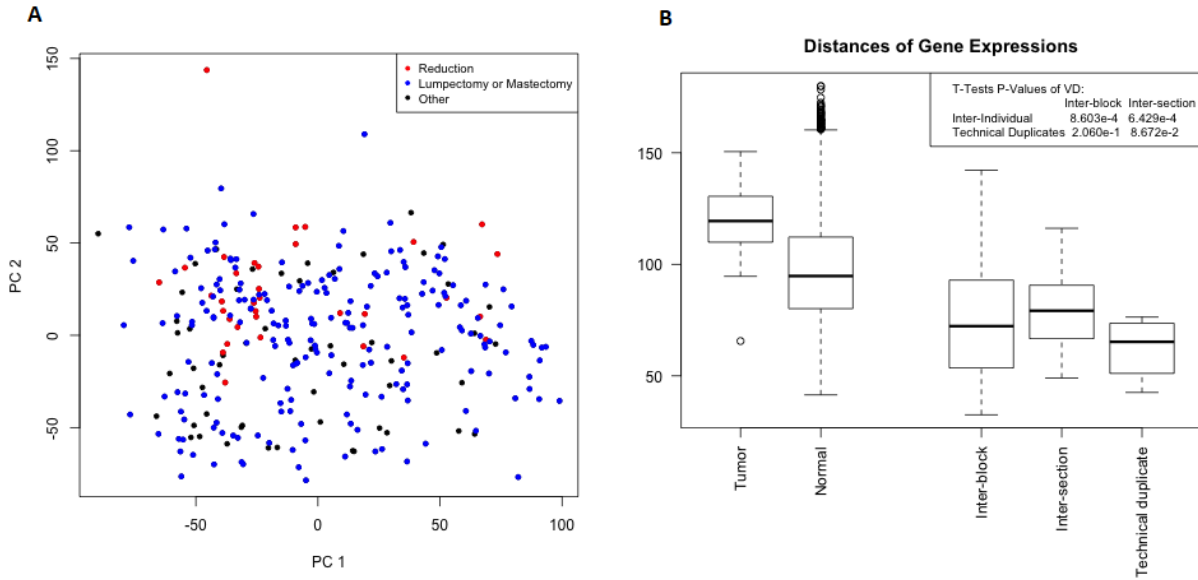
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## Supplementary Material

Definition of Variation-by-distance (VD): We decompose the gene expression through a hierarchical structure and quantify the variation at each hierarchy by a distance-based measurement. Let  $h = 1,2,3,4$  denote the hierarchies of individual, block, section, and technical replicate, respectively. For the  $g$ -th gene, let  $c_{h_i,g}$  denote the average expression of the  $g$ -th gene for the  $i$ -th object in the  $h$ -th hierarchy. For  $h \in \{1,2,3\}$ , we have  $c_{h_i,g} = \frac{1}{|\Omega_{h_i,g}|} \sum_{k \in \Omega_{h_i,g}} c_{k,g}$ , where  $\Omega_{h_i}$  denotes the index set at the  $(h + 1)$ -th hierarchy that contains the  $h_i$ -th object, and  $|\Omega_{h_i,g}|$  denotes the size of set  $\Omega_{h_i,g}$ . For  $h = 4$ ,  $c_{h_i,g}$  is the raw expression of the  $g$ -th gene for the  $h_i$ -th object. For a total of  $G$  genes, the Euclidean distance between the  $h_i$ -th object and the  $h_j$ -th object is defined as

$$d(c_{h_i}, c_{h_j}) = \sqrt{\sum_{g=1}^G (c_{h_i,g} - c_{h_j,g})^2}$$

Then, we measured the variation of the  $h_i$ -th object by the Euclidean distance between any pair of its appearance at the  $(h + 1)$ -th hierarchy. We named such a quantity as the *variation-by-distance* for the  $h_i$ -th object.



**Supplementary Figure 1. Results of sensitivity analyses. (A)** Principle component analysis plot by tissue sources. **(B)** Global gene expression variation at different levels in the subset (n=42) excluding samples with distance to tumor less than 1 cm. Y-axis is variation-by-distance (VD). Greater distance indicates higher variation. For inter-individual variability, n = 8 for tumor and n = 164 for normal; for intra-individual variability, n = 23 for inter-block, n = 20 for inter-section, and n=4 for technical duplicates. The block-level variabilities in all samples (n=57, Figure 2A) and in the subset (n=42) (section-level variability was not compared because the exclusion did not change the sample numbers at that level) were compared using paired permutation test, and no significant difference was detected (p-value =0.0943).

**Supplementary Table 1 Samples included at various levels.**

Patient_ID	Tissue_ID	Block_ID	Tissue_type	Array_version	Section	Technical_replicate
NBS09012	94921251	2	Tumor	V1	0	0
NBS10027	96930011	1	Tumor	V1	0	0
NBS10029	99704033	5	Tumor	V1	0	0
NBS10038	98612773	3	Tumor	V1	0	0
NBS10046	90681222	3	Tumor	V1	0	0
NBS10047	97710537	2	Tumor	V1	0	0
NBS10051	90010372	4	Tumor	V1	0	0
NBS10080	92839463	1	Tumor	V1	0	0
NBS09010	98627409	2	Cancer Adjacent Normal	V2	0	0
NBS09012	94322229	2	Cancer Adjacent Normal	V1	0	0
NBS09012	94322229	2	Cancer Adjacent Normal	V2	1	0
NBS09012	94322229	3	Cancer Adjacent Normal	V1	0	1
NBS09012	94322229	3	Cancer Adjacent Normal	V1	0	1
NBS09012	94322229	3	Cancer Adjacent Normal	V1	0	1
NBS09015	90337585	2	Cancer Adjacent Normal	V2	0	0
NBS09018	91271643	2	Others	V2	1	0
NBS10027	99519134	2	Cancer Adjacent Normal	V1	0	0
NBS10027	99519134	5	Cancer Adjacent Normal	V1	0	0
NBS10029	93280626	2	Cancer Adjacent Normal	V1	0	0
NBS10029	93280626	3	Cancer Adjacent Normal	V1	0	0

NBS10030	97636476	2	Cancer Adjacent Normal	V1	0	0
NBS10030	97636476	3	Cancer Adjacent Normal	V1	0	0
NBS10030	97636476	3	Cancer Adjacent Normal	V2	1	0
NBS10032	90178070	4	Cancer Adjacent Normal	V2	1	0
NBS10036	91406728	6	Cancer Adjacent Normal	V2	0	0
NBS10037	95786794	2	Cancer Adjacent Normal	V2	0	0
NBS10038	95518494	2	Cancer Adjacent Normal	V1	0	1
NBS10038	95518494	2	Cancer Adjacent Normal	V1	0	1
NBS10038	95518494	2	Cancer Adjacent Normal	V2	0	0
NBS10038	95518494	4	Cancer Adjacent Normal	V1	0	0
NBS10038	95518494	9	Cancer Adjacent Normal	V1	0	0
NBS10038	95518494	9	Cancer Adjacent Normal	V2	1	0
NBS10041	92220789	2	Others	V2	0	0
NBS10046	92384106	7	Cancer Adjacent Normal	V1	0	0
NBS10046	92384106	9	Cancer Adjacent Normal	V1	0	0
NBS10047	95644548	2	Cancer Adjacent Normal	V1	0	0

NBS10047	95644548	2	Cancer Adjacent Normal	V1	0	1
NBS10047	95644548	2	Cancer Adjacent Normal	V1	0	1
NBS10047	95644548	8	Cancer Adjacent Normal	V1	0	0
NBS10047	95644548	8	Cancer Adjacent Normal	V2	1	0
NBS10049	98717911	2	Cancer Adjacent Normal	V1	0	0
NBS10049	98717911	4	Cancer Adjacent Normal	V1	0	0
NBS10049	98717911	6	Cancer Adjacent Normal	V1	0	0
NBS10049	98717911	9	Cancer Adjacent Normal	V1	0	0
NBS10051	98684327	2	Cancer Adjacent Normal	V1	0	0
NBS10051	98684327	2	Cancer Adjacent Normal	V2	0	0
NBS10051	98684327	9	Cancer Adjacent Normal	V1	0	0
NBS10051	98684327	9	Cancer Adjacent Normal	V2	0	0
NBS10051	98684327	9	Cancer Adjacent Normal	V2	1	0
NBS10053	95184032	9	Cancer Adjacent Normal	V2	0	0
NBS10055	93071371	2	Cancer Adjacent Normal	V2	0	0

NBS10058	91068346	2	Cancer Adjacent Normal	V2	0	0
NBS10059	99792327	2	Cancer Adjacent Normal	V2	0	1
NBS10059	99792327	8	Cancer Adjacent Normal	V2	1	0
NBS10060	94482775	8	Cancer Adjacent Normal	V2	0	0
NBS10062	96209762	2	Cancer Adjacent Normal	V2	0	0
NBS10063	97619225	2	Cancer Adjacent Normal	V2	0	0
NBS10063	97619225	9	Cancer Adjacent Normal	V2	0	0
NBS10063	97619225	9	Cancer Adjacent Normal	V2	1	0
NBS10065	94612124	8	Cancer Adjacent Normal	V2	0	0
NBS10067	92362565	2	Others	V2	0	0
NBS10067	92362565	3	Others	V2	0	0
NBS10069	91810705	8	Cancer Adjacent Normal	V2	1	0
NBS10072	97227730	2	Cancer Adjacent Normal	V1	0	0
NBS10072	97227730	6	Cancer Adjacent Normal	V1	0	0
NBS10072	97227730	8	Cancer Adjacent Normal	V1	0	0
NBS10073	96202213	2	Cancer Adjacent Normal	V2	0	1
NBS10073	96202213	2	Cancer Adjacent Normal	V2	0	0

NBS10074	92042407	1	Cancer Adjacent Normal	V2	0	0
NBS10077	95029484	2	Cancer Adjacent Normal	V1	0	0
NBS10077	95029484	2	Cancer Adjacent Normal	V2	1	0
NBS10077	95029484	4	Cancer Adjacent Normal	V1	0	0
NBS10077	95029484	6	Cancer Adjacent Normal	V1	0	0
NBS10077	95029484	8	Cancer Adjacent Normal	V1	0	0
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NBS10081	99274342	2	Cancer Adjacent Normal	V1	0	0
NBS10081	99274342	4	Cancer Adjacent Normal	V1	0	0
NBS10081	99274342	6	Cancer Adjacent Normal	V1	0	0



NBS10081	99274342	9	Cancer Adjacent Normal	V1	0	0
NBS10081	99274342	9	Cancer Adjacent Normal	V2	1	0
NBS10082	91224048	2	Reduction	V2	0	0
NBS10082	91224048	2	Reduction	V2	1	0
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NBS10084	98879026	4	Cancer Adjacent Normal	V1	0	0
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NBS10084	98879026	8	Cancer Adjacent Normal	V1	0	0
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NBS10089	93309698	2	Others	V2	0	1
NBS10090	96590005	8	Cancer Adjacent Normal	V2	0	0
NBS10093	90915042	1	Cancer Adjacent Normal	V2	0	0
NBS10094	90668096	5	Cancer Adjacent Normal	V2	0	0
NBS10095	94183647	2	Cancer Adjacent Normal	V2	0	0
NBS10096	90900150	2	Cancer Adjacent Normal	V2	0	0
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NBS10097	97519847	2	Reduction	V2	1	0
NBS10098	94152899	2	Cancer Adjacent Normal	V2	0	0
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NBS10100	93627867	8	Cancer Adjacent Normal	V2	1	0
NBS10103	94696606	1	Others	V2	0	0
NBS10104	90158635	2	Cancer Adjacent Normal	V2	1	1
NBS10105	91951624	2	Others	V2	0	0
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NBS10107	90998329	2	Cancer Adjacent Normal	V1	0	0
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NBS10107	90998329	8	Cancer Adjacent Normal	V2	1	0
NBS10109	92171917	0	Cancer Adjacent Normal	V2	0	0
NBS10110	96468624	2	Cancer Adjacent Normal	V1	0	0

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NBS10110	96468624	9	Cancer Adjacent Normal	V2	1	0
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NBS10129	92367044	6	Cancer Adjacent Normal	V1	0	0
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NBS10131	98340219	2	Others	V2	0	0
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NBS10132	90252966	2	Reduction	V2	1	0
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NBS10133	98085434	6	Cancer Adjacent Normal	V1	0	0
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NBS10141	99988438	8	Cancer Adjacent Normal	V2	0	0

NBS10142	96245626	2	Others	V2	0	0
NBS10143	92877471	8	Cancer Adjacent Normal	V2	1	0
NBS10145	93223865	4	Cancer Adjacent Normal	V2	0	0
NBS10146	96186002	8	Cancer Adjacent Normal	V2	0	0
NBS10148	97208243	8	Cancer Adjacent Normal	V2	0	0
NBS10149	95130985	2	Cancer Adjacent Normal	V2	0	1
NBS10151	95801551	2	Cancer Adjacent Normal	V1	0	0
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NBS10151	95801551	6	Cancer Adjacent Normal	V1	0	0
NBS10151	95801551	8	Cancer Adjacent Normal	V1	0	0
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NBS10154	90860750	2	Others	V2	0	0
NBS10155	96533807	2	Cancer Adjacent Normal	V2	0	0

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NBS10161	96935374	2	Reduction	V2	0	0
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NBS10162	96771944	2	Reduction	V2	0	0
NBS10162	96771944	2	Reduction	V2	1	0
NBS10162	96771944	4	Reduction	V2	0	0
NBS10164	97383111	2	Cancer Adjacent Normal	V2	0	0
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NBS10169	92556307	2	Cancer Adjacent Normal	V2	0	0
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NBS10175	90633538	1	Others	V2	0	0
NBS10176	93168235	8	Cancer Adjacent Normal	V2	0	0
NBS10179	98951288	8	Cancer Adjacent Normal	V2	1	0

NBS10180	98048572	8	Cancer Adjacent Normal	V2	0	0
NBS10181	94349438	8	Cancer Adjacent Normal	V2	0	0
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NBS10188	92720820	8	Cancer Adjacent Normal	V2	0	0
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NBS11195	99254690	2	Cancer Adjacent Normal	V2	0	0
NBS11197	95342515	2	Reduction	V2	0	0
NBS11197	95342515	2	Reduction	V2	1	0
NBS11198	95714861	8	Cancer Adjacent Normal	V2	0	1
NBS11200	92642727	8	Cancer Adjacent Normal	V2	0	0
NBS11201	92921469	2	Reduction	V2	0	0
NBS11201	92921469	4	Reduction	V2	0	0
NBS11204	92611805	8	Cancer Adjacent Normal	V2	1	0
NBS11206	92614429	2	Reduction	V2	0	0
NBS11206	92614429	2	Reduction	V2	1	0
NBS11207	90415522	8	Cancer Adjacent Normal	V2	0	0
NBS11208	91418350	2	Others	V2	0	0
NBS11209	97705206	8	Cancer Adjacent Normal	V2	0	0
NBS11210	98807324	2	Cancer Adjacent Normal	V2	0	1

NBS11214	93854651	2	Cancer Adjacent Normal	V2	0	0
NBS11218	92357102	8	Cancer Adjacent Normal	V2	0	0
NBS11220	98256464	8	Cancer Adjacent Normal	V2	0	0
NBS11221	91941765	1	Cancer Adjacent Normal	V2	0	0
NBS11229	95524989	8	Cancer Adjacent Normal	V2	0	0
NBS11233	90457284	10	Others	V2	0	0
NBS11236	92979756	8	Cancer Adjacent Normal	V2	1	0
NBS11237	90375635	2	Cancer Adjacent Normal	V2	0	0
NBS11239	94963998	2	Reduction	V2	1	0
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NBS11240	93278828	2	Reduction	V2	1	0
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NBS11245	93859536	2	Cancer Adjacent Normal	V2	0	0
NBS11248	97705347	1	Cancer Adjacent Normal	V2	0	0
NBS11251	94435138	8	Cancer Adjacent Normal	V2	0	0
NBS11252	90684911	1	Cancer Adjacent Normal	V2	0	1
NBS11256	90088402	2	Reduction	V2	0	0
NBS11256	90088402	2	Reduction	V2	1	0
NBS11261	90240128	2	Others	V2	0	0



NBS11262	96633128	2	Cancer Adjacent Normal	V2	0	0
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NBS11265	99386831	8	Cancer Adjacent Normal	V2	0	0
NBS11272	91511352	1	Cancer Adjacent Normal	V2	0	1
NBS11276	93023968	2	Cancer Adjacent Normal	V2	0	0
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NBS11285	99094021	8	Cancer Adjacent Normal	V2	0	0
NBS11287	95807681	1	Cancer Adjacent Normal	V2	0	1
NBS11297	98716335	2	Cancer Adjacent Normal	V2	0	0
NBS11297	98716335	8	Cancer Adjacent Normal	V2	1	1
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NBS11299	93144020	4	Cancer Adjacent Normal	V2	0	1
NBS11300	99662678	8	Cancer Adjacent Normal	V2	0	0
NBS11301	93807204	2	Reduction	V2	0	0
NBS11309	99494965	2	Cancer Adjacent Normal	V2	0	0

NBS11309	99494965	8	Cancer Adjacent Normal	V2	0	0
NBS11310	91471011	2	Reduction	V2	0	1
NBS11311	95181889	4	Cancer Adjacent Normal	V2	0	1
NBS11316	92676253	2	Cancer Adjacent Normal	V2	0	1
NBS11316	92676253	2	Cancer Adjacent Normal	V2	0	1
NBS11317	98522964	8	Cancer Adjacent Normal	V2	0	0
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NBS11331	95289435	8	Cancer Adjacent Normal	V2	1	0
NBS11345	90466491	8	Cancer Adjacent Normal	V2	0	0
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NBS11354	95713137	8	Cancer Adjacent Normal	V2	0	0
NBS11356	97128227	2	Cancer Adjacent Normal	V2	0	0
NBS11357	90321670	8	Cancer Adjacent Normal	V2	0	0
NBS12374	91016089	2	Cancer Adjacent Normal	V2	0	0
NBS12374	91016089	8	Cancer Adjacent Normal	V2	0	0
NBS12376	91131474	1	Cancer Adjacent Normal	V2	0	1
NBS12377	91154260	1	Cancer Adjacent Normal	V2	0	1
NBS12378	90191529	2	Reduction	V2	0	0
NBS12378	90191529	2	Reduction	V2	1	0
NBS12384	96000658	8	Cancer Adjacent Normal	V2	0	0
NBS12387	91714162	2	Cancer Adjacent Normal	V2	0	0
NBS12387	91714162	8	Cancer Adjacent Normal	V2	0	0
NBS12392	96867650	2	Others	V2	0	0
NBS12393	99676918	2	Cancer Adjacent Normal	V2	0	0
NBS12393	99676918	8	Cancer Adjacent Normal	V2	0	0
NBS12394	97357321	2	Cancer Adjacent Normal	V2	0	0
NBS12394	97357321	8	Cancer Adjacent Normal	V2	0	0

NBS12395	97734107	2	Cancer Adjacent Normal	V2	0	0
NBS12395	97734107	8	Cancer Adjacent Normal	V2	0	0
NBS12399	96361233	4	Cancer Adjacent Normal	V2	0	1
NBS12401	94733060	1	Cancer Adjacent Normal	V2	0	1
NBS12402	97315493	1	Cancer Adjacent Normal	V2	0	1
NBS12402	97315493	1	Cancer Adjacent Normal	V2	0	1
NBS12412	98047129	8	Cancer Adjacent Normal	V2	0	1
NBS12415	93403558	2	Cancer Adjacent Normal	V2	0	0
NBS12415	93403558	8	Cancer Adjacent Normal	V2	0	0
NBS12419	95293858	2	Cancer Adjacent Normal	V2	0	0
NBS12419	95293858	8	Cancer Adjacent Normal	V2	0	0
NBS12424	97412332	4	Cancer Adjacent Normal	V2	0	1
NBS12428	90139379	2	Reduction	V2	0	1
NBS12440	90918558	4	Cancer Adjacent Normal	V2	0	1
NBS12458	95136107	4	Cancer Adjacent Normal	V2	0	1

**Supplementary Table 2 Entrez ID of the selected signature**

Age	Obesity	Parity
28966	32	140
89797	51	199
26823	98	241
3717	185	272
8663	310	283
5337	683	306
7292	719	644
6335	734	669
6660	762	683
122616	781	719
149351	788	759
799	794	919
55366	858	929
1454	1066	940
50507	1160	945
8869	1318	952
2011	1389	962
8840	1438	963
5136	1580	968
1154	1634	1029
5195	1879	1089
4239	2012	1230
4585	2018	1259
50507	2038	1396
347735	2110	1407
1942	2200	1435
55147	2202	1536
2288	2213	1612
146057	2252	1780
23327	2328	1880
64943	2350	1896
8526	2662	2019
286467	2675	2038
5136	2790	2100
55089	2819	2123
414328	2822	2124
4801	2934	2212
201895	3075	2213
64359	3290	2239

7035	3554	2246
79776	3640	2359
115294	3745	2512
353141	3751	2533
5364	3910	2628
6721	4060	2662
84888	4190	2745
9839	4352	3045
605	4481	3055
9742	4828	3059
4287	4857	3108
1735	4883	3269
9910	4886	3310
1730	4889	3357
3985	5101	3570
23345	5207	3587
23433	5602	3663
23327	5724	3682
317762	5733	3684
11252	5781	3689
5859	5959	3702
27145	6445	3784
79760	6545	3920
1E+08	6913	3936
79664	7345	3937
23326	7360	4004
4651	7499	4094
54973	8034	4129
8869	8076	4190
92521	8322	4239
331	8814	4481
23598	8839	4688
7111	8992	4689
3276	9370	5027
27319	9459	5169
55005	9509	5184
81932	9926	5212
5701	9940	5294
8839	10008	5641
7157	10060	5737
5136	10110	5740

11252	10659	5742
6659	10810	5788
84105	11244	5800
10025	23433	6039
9547	23460	6275
5898	23531	6281
2196	23743	6335
7082	25890	6347
4287	25939	6348
51750	25975	6495
1856	26166	6503
6198	26353	6622
28987	26577	6629
6597	26872	6690
23200	27129	6850
158056	27286	6916
151258	29796	7096
92126	29958	7098
342035	29969	7111
53342	29995	7251
9508	50507	7409
345557	50862	7454
6474	50863	7462
54796	51421	7850
647121	51655	7942
259230	51716	8417
10476	51776	8540
22930	53342	8705
55714	54221	8843
780	55024	8876
1119	55286	9046
8349	55701	9051
51082	55819	9056
10457	56246	9182
55573	56603	9296
10523	56937	9308
1375	57124	9340
80323	57419	9473
4208	57623	9595
6159	58533	9863
27097	63924	9935

8876	63982	10216
286144	64081	10333
65124	64168	10476
7050	64219	10553
162394	64231	10638
79649	64400	10673
27250	64757	10904
644192	79190	10981
79191	79614	11010
10607	79689	11025
80143	79712	11026
2788	79987	11027
6990	80704	11309
5239	80760	11314
3609	80830	22797
5144	80854	22800
159013	81603	22918
122616	83445	23136
79869	83473	23484
8884	84674	23545
9654	84883	23547
8835	84886	23582
10673	84935	25798
2060	84981	27010
91612	85477	27128
160428	90135	27287
51119	116328	28974
9839	117581	29095
29894	117854	29760
84448	123879	29919
3714	126364	30009
8541	130399	50507
10479	130827	50856
27346	134145	51071
1829	137075	51167
4857	145376	51234
84265	151306	51255
84231	151651	51284
5552	151887	51338
5167	152302	51365
5136	154807	51371



6386	166336	51411
5883	196047	51635
6598	206338	51744
10491	254228	53353
404201	259217	54469
4886	285386	54491
285753	301	54504
284	338094	54952
1938	338382	54968
1182	339834	55013
5412	339983	55016
51547	340719	55052
6305	348094	55089
54873	388650	55203
27235	389033	55322
8720	389136	55328
64400	389756	55505
1E+08	400649	55799
727910	400707	55803
1154	414328	55808
51348	643783	55840
5239	644189	56000
84747	653140	57150
51084	801	57217
284217	1038	58484
6495	5376	63898
51490	6510	64092
55506	9604	64174
4094	10114	64333
8876	11237	64976
9444	26106	79145
51108	83890	79166
738	84215	79895
55799	1E+08	79953
7919	1E+08	80231
30812	122953	80342
514	169200	80762
140462	285386	80896
23644	388690	83464
57473	399951	83658
6624	402560	84079

22998	1	84437
388886	58	84448
6472	70	84519
5105	93	84868
644	222	85013
26578	273	85477
10919	321	89857
51477	384	90523
51338	534	91851
81706	575	93589
27316	607	114926
22833	634	115286
55819	711	117289
3075	770	117854
57186	784	122970
388815	883	128387
389058	923	130814
6526	1002	133418
4744	1082	147525
2662	1108	149351
586	1119	199221
55389	1154	199857
9240	1164	205251
8853	1181	219833
2108	1196	219855
28987	1287	220213
7037	1288	221143
80790	1294	260293
723790	1298	282969
6198	1299	283078
83857	1302	283316
375010	1382	283481
9976	1488	284013
10251	1592	284106
83648	1606	284593
4004	1644	284942
142678	1663	285440
8499	1746	339390
157773	1757	414308
4257	1775	414328
151254	1816	493861

201134	1829	644189
10399	1846	646278
5424	1911	653361
3005	1933	729515
283464	1937	
27250	1938	
1879	1942	
4651	2011	
25959	2091	
1663	2115	
6159	2134	
8289	2155	
9569	2187	
54751	2275	
121512	2288	
1499	2319	
23580	2521	
6660	2535	
8837	2593	
10743	2625	
8884	2686	
57332	2786	
9770	2788	
139818	2794	
130814	2859	
9945	2863	
8971	2877	
6335	2923	
25939	2962	
27237	3005	
51614	3081	
940	3150	
93589	3249	
10490	3276	
1E+08	3280	
131870	3321	
57188	3371	
57559	3609	
8600	3675	
116039	3714	
9869	3728	

9532	3732	
8772	3748	
9659	3755	
144363	3770	
10371	3778	
554203	3782	
3012	3816	
1181	3852	
10160	3902	
1213	3978	
50628	3980	
8825	4058	
84219	4143	
1E+08	4174	
22902	4192	
84288	4293	
130399	4355	
10371	4485	
9936	4486	
664	4488	
64420	4494	
91543	4744	
9968	4798	
129685	4884	
54221	5129	
7919	5137	
4926	5190	
5338	5296	
10919	5318	
4644	5324	
124583	5355	
6741	5413	
4907	5424	
645513	5427	
1240	5514	
4094	5524	
9820	5569	
64400	5596	
441094	5625	
1131	5634	
1511	5831	

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55831	5915	
80723	5916	
5130	5984	
23077	6097	
158295	6122	
22822	6136	
23002	6137	
285148	6139	
493869	6141	
55885	6142	
94240	6152	
63982	6158	
29887	6159	
30827	6167	
5141	6170	
317772	6189	
1193	6191	
115361	6208	
51209	6210	
3835	6228	
5066	6229	
116255	6242	
84719	6253	
23403	6307	
5834	6334	
5424	6421	
9136	6599	
256355	6636	
57404	6652	
2542	6714	
81029	6721	
80233	6764	
9757	6770	
9641	6926	
339344	6932	
8905	7015	
2662	7157	
730	7169	
5734	7249	
205327	7349	

38	7364	
5980	7365	
139065	7474	
151827	7551	
388815	7593	
969	7625	
4841	7637	
64794	7748	
5627	7753	
85377	7760	
7205	7775	
51278	7780	
1969	7916	
151556	7991	
6579	8019	
10395	8021	
54518	8086	
10061	8089	
327	8187	
54972	8189	
6414	8237	
2054	8241	
6139	8359	
80723	8481	
6445	8553	
79711	8570	
23654	8572	
8705	8632	
25849	8798	
830	8861	
6666	8906	
3075	8926	
6647	8927	
8484	9047	
81493	9061	
9473	9092	
647121	9136	
6941	9145	
23002	9235	
27316	9254	
1666	9394	

206338	9456	
57419	9466	
902	9468	
9353	9654	
23301	9742	
4883	9746	
9368	9820	
283078	9918	
80154	9925	
8228	10025	
29081	10083	
130026	10124	
729046	10140	
2690	10152	
57708	10155	
8073	10224	
23598	10256	
3344	10280	
5130	10385	
3908	10399	
339352	10522	
4762	10535	
8325	10610	
79974	10720	
4194	10740	
10157	10763	
27005	10765	
9353	10849	
2686	10868	
205327	10886	
22797	10902	
1E+08	10919	
9918	10951	
160897	10961	
83879	10998	
9098	11013	
50940	11039	
2002	11147	
4849	11180	
3269	11223	
353134	11237	

644538	11253	
9976	22838	
388403	22873	
2837	22883	
29887	22937	
55722	23081	
10097	23082	
81628	23089	
27344	23126	
5634	23205	
2581	23217	
10513	23269	
728142	23316	
54469	23363	
27023	23403	
55529	23421	
3067	23481	
191	23521	
5442	23523	
221895	23542	
55752	23563	
9686	23598	
552889	23640	
26099	23647	
7117	26000	
147015	26013	
125113	26047	
10742	26059	
5531	26151	
5627	26167	
4286	26233	
23028	26261	
285966	26354	
284441	27005	
3985	27092	
1E+08	27124	
55843	27316	
11031	27346	
197335	27440	
84056	29789	
38	30000	



7125	30845	
91526	50636	
4240	50861	
4644	51053	
2627	51116	
1577	51176	
7534	51477	
387758	51514	
28962	51559	
9444	51599	
91584	51750	
8992	53635	
340947	54094	
4094	54487	
55012	54512	
51170	54535	
1580	54549	
51277	54880	
54796	54972	
253935	54997	
388341	55072	
619426	55124	
1036	55144	
9590	55147	
122786	55190	
4060	55214	
58533	55311	
95	55374	
23654	55621	
23136	55657	
7099	55715	
354	55738	
8525	55765	
92906	55859	
353355	56033	
92521	56143	
65108	56256	
728131	56924	
767	56949	
79883	56974	
22921	57106	

824	57291	
551	57332	
79987	57497	
2206	57555	
151556	57613	
51185	57680	
51527	57695	
55374	57713	
780	57714	
152485	57820	
1787	57821	
1838	58500	
79987	60314	
6189	60681	
8774	64064	
10800	64073	
2078	64359	
965	64763	
440712	65057	
1E+08	65095	
57118	65108	
51115	65243	
1E+08	65266	
51660	65267	
4150	65989	
4627	79022	
6468	79025	
55352	79101	
122553	79140	
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1591	79690	
57134	79805	
1718	79861	
801	79869	
4889	79915	
2213	79957	
79137	79971	
55799	80032	
5908	80154	
11079	80162	
5166	80344	

2122	80347	
27352	80775	
3054	80863	
55380	81618	
6520	81831	
51024	81857	
10489	83650	
645	83743	
11107	83871	
7625	84057	
1E+08	84197	
7186	84221	
4326	84249	
10490	84271	
8906	84292	
3841	84303	
10226	84365	
9743	84433	
23179	84451	
6189	84461	
84891	84501	
54553	84532	
219749	84561	
29882	84717	
10351	84798	
23363	84856	
79739	84865	
7249	84889	
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10558	84922	
23085	84960	
1738	84970	
8322	84986	
1937	85028	
9590	85301	
375790	85320	
3675	90233	
284232	90506	
22871	90522	
388152	90525	
2905	90678	

79625	90701	
7755	91227	
63976	91522	
390705	91975	
23034	92292	
84498	92312	
1911	92714	
55333	112724	
57404	112885	
23208	112939	
5627	114044	
84293	114821	
57826	115509	
83544	115703	
6621	116840	
11154	120071	
6867	120224	
22822	122402	
646890	122616	
1984	123016	
216	124930	
2593	127281	
5689	127545	
221662	130612	
81571	134353	
843	136051	
6275	140578	
284185	140680	
51136	144203	
10439	144423	
4708	147341	
5689	147699	
284114	147968	
51115	148189	
1730	148252	
169792	150223	
116138	151230	
339390	158056	
55179	163154	
439951	163786	
6601	164592	

9315	171391	
7629	196403	
79611	196968	
134957	197258	
5279	200058	
5739	200172	
256355	200765	
339047	220433	
4254	221914	
118432	254887	
127943	256355	
53373	267002	
10097	283989	
79843	284086	
197258	284217	
56652	284244	
23492	284339	
54968	284889	
8817	284904	
6474	285986	
5950	286826	
55796	333926	
2823	339047	
23276	339479	
9632	339665	
23647	340286	
57097	349114	
6764	353149	
57130	360200	
5050	373863	
115265	375790	
2790	378825	
1852	388152	
3570	388610	
11213	388886	
84261	389127	
64097	389404	
6990	389435	
6159	390183	
55704	390595	
80856	390705	

123803	391081	
441430	391132	
1029	391777	
85477	392008	
147808	392522	
116447	400818	
1131	401105	
9736	402176	
808	441294	
84461	442075	
155435	548321	
10905	552889	
143187	643669	
1E+08	645159	
80267	645683	
19	647946	
23005	728411	
5101	728485	
79785	728732	
6508	729046	
170680	729279	
4154	731688	
83641	775	
9043	996	
7026	1196	
23208	5590	
8905	6170	
8082	6234	
5352	8237	
84271	8396	
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130026	23114	
493869	23523	
644189	80052	
843	80154	
23643	80279	
5908	84133	
6400	84771	
63922	84950	
5567	91227	

7010	92312	
22875	1E+08	
64081	1E+08	
5140	1E+08	
9475	1E+08	
8943	1E+08	
163732	1E+08	
10522	1E+08	
284	1E+08	
136319	1E+08	
22919	121551	
140688	150244	
79175	150291	
64321	166994	
3603	253650	
2050	344423	
6909	344875	
6464	373861	
9618	387937	
2009	402562	
221806	402694	
116988	440030	
444	440703	
1666	445582	
55704		
29915		
3728		
114991		
23593		
6223		
55727		
26272		
1153		
83541		
375061		
683		
84552		
10878		
2819		
9194		
55139		

443		
2444		
6159		
122616		
79797		
79839		
635		
9050		
137964		
790		
5818		
8394		
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7593		
90411		
161725		
50512		
57666		
6776		
1984		
7297		
51365		
3075		
4482		
10216		
Stroma	Epithelium	Immune
19	19	640
32	48	643
48	132	6354
51	133	1232
111	155	930
133	283	914
147	310	919
153	323	940
154	338	916
157	343	917
185	477	920
187	540	923
217	573	968
230	599	8832
284	644	925



364	664	10225
368	665	10563
398	666	6374
412	686	1536
443	727	79368
444	734	2335
477	830	50943
493	858	2358
551	1028	11251
554	1185	3004
635	1362	3112
650	1528	29851
654	1738	3560
762	1739	3568
781	1909	3577
794	1979	3579
847	2247	9834
857	2258	3902
858	2329	3932
859	2632	10288
869	2673	4094
943	2690	931
948	2729	4481
1012	2770	9437
1030	2790	4790
1031	2822	5133
1036	2908	29126
1050	2981	5473
1053	3032	5551
1066	3099	4068
1071	3225	55423
1160	3351	84868
1268	3419	608
1282	3679	23043
1284	3799	7185
1290	4023	9319
1306	4047	7535
1311	4122	
1368	4128	
1393	4139	
1464	4199	

1551	4223	
1580	4257	
1645	4259	
1728	4329	
1730	4352	
1776	4522	
1796	4547	
1842	4637	
1879	4901	
1892	4952	
1901	5091	
1962	5095	
2012	5105	
2034	5106	
2038	5151	
2042	5202	
2100	5207	
2110	5291	
2122	5352	
2171	5441	
2180	5525	
2184	5537	
2200	5602	
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