

Table S1. Differential expressed genes between MCF-7 and MDA-MB-435 cells are listed.

Gene Name	Base Mean	Base Mean (MCF-7)	Base Mean (MDA-MB-435S)	Fold Change	Log₂(Fold Change)	pval	padj
VIM	40346.72	64.88799	80628.55	1242.58	10.27912	8.18E-05	0.010488
TNC	29779.56	36.29328	59522.83	1640.051	10.67952	2.77E-05	0.005376
CD74	26423.76	13.19756	52834.32	4003.341	11.96699	5.39E-06	0.003071
HLA-DRA	16291.53	14.29735	32568.75	2277.957	11.15352	4.05E-06	0.003071
HLA-DRB1	9195.26	72.58657	18317.93	252.3598	7.979338	7.43E-05	0.00991
MSN	8600.124	19.79634	17180.45	867.8601	9.761319	5.68E-06	0.003071
CD109	6273.227	155.0713	12391.38	79.90765	6.320262	0.000462	0.032953
SPARC	5858.92	27.49491	11690.34	425.1821	8.731937	1.13E-05	0.003511
HLA-DQB1	5621.431	98.98168	11143.88	112.5853	6.814874	0.000187	0.018558
ANXA1	5344.115	78.08555	10610.14	135.8785	7.086173	0.000114	0.013238
LDHB	4927.553	24.19552	9830.91	406.3111	8.666441	8.91E-06	0.003511
GPNMB	4705.195	13.19756	9397.193	712.0403	9.475815	2.48E-06	0.003071
PTRF	4680.781	93.4827	9268.078	99.14217	6.631427	0.00019	0.018558
LOXL2	4244.301	61.5886	8427.014	136.8275	7.096214	7.82E-05	0.0102
ITGA6	3719.348	120.9776	7317.717	60.48819	5.918582	0.000436	0.032121
ITM2C	3361.481	125.3768	6597.584	52.62205	5.717596	0.000536	0.036628
LAMB1	2723.284	105.5805	5340.988	50.5869	5.660692	0.000461	0.032953
COL1A2	2681.293	40.69247	5321.894	130.7833	7.031034	4.32E-05	0.00713
CNN3	2571.259	14.29735	5128.221	358.6832	8.486567	3.64E-06	0.003071
GSTP1	2487.608	14.29735	4960.918	346.9815	8.438715	3.73E-06	0.003071
AKAP12	2313.835	34.09369	4593.577	134.7339	7.073969	3.27E-05	0.005916
FKBP10	2165.674	92.38291	4238.966	45.88475	5.519943	0.000462	0.032953
NRP2	2121.484	23.09573	4219.872	182.7122	7.513429	1.37E-05	0.00393
IGFBP7	2090.188	18.69654	4161.679	222.5909	7.798251	8.29E-06	0.003511
CPA4	2059.251	13.19756	4105.305	311.0655	8.281075	3.66E-06	0.003071
ALDH1A3	2067.037	50.59064	4083.483	80.71617	6.334786	0.000104	0.012443
NFIX	2059.335	103.3809	4015.288	38.83976	5.279462	0.000673	0.042741
FAM129A	2007.657	26.39512	3988.92	151.1234	7.239583	2.04E-05	0.004511
GAS7	1972.409	34.09369	3910.724	114.7052	6.841787	4.01E-05	0.006783
ETS1	1911.137	14.29735	3807.977	266.3414	8.057133	4.79E-06	0.003071
FOSL1	1919.14	106.6803	3731.599	34.97929	5.128429	0.000828	0.047718
AKAP2	1842.129	15.39715	3668.861	238.2818	7.896525	5.99E-06	0.003071
HLA-DMA	1864.16	91.28311	3637.037	39.84348	5.316272	0.000577	0.038595
EMP1	1822.506	19.79634	3625.216	183.1256	7.51669	1.13E-05	0.003511
AKR1B1	1757.568	15.39715	3499.738	227.2978	7.82844	6.35E-06	0.003071
FXYS5	1737.82	34.09369	3441.546	100.9438	6.657408	4.83E-05	0.007774
PLS3	1690.568	18.69654	3362.44	179.8429	7.490593	1.08E-05	0.003511
KIFC3	1688.344	76.98575	3299.701	42.86119	5.4216	0.000438	0.032152
TSPO	1657.766	70.38698	3245.146	46.10435	5.526831	0.000357	0.027533
SPRY2	1624.552	17.59674	3231.507	183.6423	7.520755	9.85E-06	0.003511

MYLK	1622.439	35.19349	3209.685	91.2011	6.510979	5.86E-05	0.008603
AXL	1572.269	17.59674	3126.942	177.7	7.4733	1.03E-05	0.003511
CDC42EP3	1568.983	37.39308	3100.574	82.91838	6.37362	7.28E-05	0.00984
ETV5	1533.119	27.49491	3038.744	110.5202	6.788167	3.37E-05	0.006013
SPOCK1	1482.941	30.7943	2935.088	95.31271	6.574597	4.79E-05	0.007774
TM4SF1	1448.346	19.79634	2876.896	145.3247	7.183136	1.58E-05	0.004166
NPAS2	1409.841	31.8941	2787.788	87.40766	6.449688	5.73E-05	0.008603
COL8A1	1380.394	12.09776	2748.69	227.2065	7.82786	4.95E-06	0.003071
ACP5	1376.398	13.19756	2739.598	207.5837	7.697549	6.16E-06	0.003071
UBASH3B	1376.969	19.79634	2734.142	138.1135	7.109711	1.71E-05	0.004191
FBXO32	1396.493	82.48474	2710.501	32.86064	5.038289	0.000763	0.045977
PCOLCE	1380.126	82.48474	2677.768	32.4638	5.02076	0.000781	0.046035
LINC00673	1310.1	56.08962	2564.111	45.71453	5.514581	0.000301	0.025
LZTS1	1286.043	19.79634	2552.29	128.9274	7.010415	1.91E-05	0.004502
ITIH5	1276.956	67.08759	2486.824	37.06831	5.212115	0.000518	0.036005
TMBIM1	1249.232	46.19145	2452.272	53.0893	5.730349	0.000194	0.01862
F2R	1190.827	38.49288	2343.161	60.87258	5.927721	0.00013	0.014518
CSPG4	1175.642	15.39715	2335.887	151.709	7.245163	1.17E-05	0.003511
ENG	1149.464	17.59674	2281.331	129.6451	7.018424	1.72E-05	0.004191
MID1	1161.562	41.79227	2281.331	54.5874	5.770496	0.000171	0.017217
ANKH	1173.131	70.38698	2275.876	32.33376	5.014969	0.000707	0.044225
LPXN	1106.443	14.29735	2198.589	153.7759	7.264686	1.08E-05	0.003511
ACSL4	1129.032	70.38698	2187.677	31.08071	4.957948	0.000769	0.046019
ST6GAL1	1092.349	14.29735	2170.402	151.8044	7.24607	1.11E-05	0.003511
CHST3	1067.263	39.59267	2094.933	52.91214	5.725527	0.000176	0.017594
ARHGAP3	1054.806	16.49695	2093.115	126.8789	6.987308	1.71E-05	0.004191
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ST5	1046.878	35.19349	2058.563	58.49272	5.870185	0.000133	0.014715
MCAM	1031.334	13.19756	2049.47	155.2916	7.278836	1.01E-05	0.003511
BIN1	1036.898	40.69247	2033.103	49.96264	5.642778	0.000202	0.018796
MTAP	977.6056	38.49288	1916.718	49.7941	5.637903	0.000198	0.018691
CDCP1	960.6021	15.39715	1905.807	123.7766	6.951595	1.75E-05	0.004191
PSMB8	963.2262	35.19349	1891.259	53.73889	5.747895	0.00016	0.016516
ETV1	915.7626	12.09776	1819.428	150.3937	7.232601	1.05E-05	0.003511
ECM1	890.3685	28.59471	1752.142	61.27505	5.937228	0.000109	0.012886
FAM86DP	873.7294	51.69044	1695.768	32.80623	5.035898	0.000596	0.038845
C15orf52	863.1125	34.09369	1692.131	49.6318	5.633193	0.000192	0.01862
CMTM7	845.2951	12.09776	1678.492	138.744	7.116282	1.28E-05	0.003745
AP1S2	843.0786	49.49084	1636.666	33.07009	5.047455	0.000579	0.038595
COL4A2	823.6851	19.79634	1627.574	82.21591	6.361346	4.93E-05	0.007839
MAP1B	827.409	41.79227	1613.026	38.59627	5.27039	0.000379	0.029091
KIAA1549	802.5732	38.49288	1566.653	40.69983	5.346951	0.000327	0.026028
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EMILIN1	793.5107	23.09573	1563.926	67.71494	6.081402	8.26E-05	0.01049

RCN3	769.9218	13.19756	1526.646	115.6764	6.853951	2.05E-05	0.004511
HLA-H	780.8897	50.59064	1511.189	29.87092	4.90067	0.000761	0.045977
SIRPA	774.4079	43.99186	1504.824	34.20687	5.096214	0.000526	0.036296
SH3PXD2A	758.3788	37.39308	1479.365	39.56252	5.306063	0.000354	0.027514
MRAS	746.9395	41.79227	1452.087	34.74535	5.118748	0.000505	0.035298
MITF	718.8044	31.8941	1405.715	44.07444	5.46187	0.000267	0.023186
ADCY7	718.1291	45.09166	1391.166	30.85197	4.947291	0.000703	0.044178
IGF2BP2	707.4169	26.39512	1388.439	52.60211	5.717049	0.000167	0.016914
ZEB2	702.6584	18.69654	1386.62	74.16453	6.212658	6.70E-05	0.009619
APBB1	687.9197	16.49695	1359.342	82.39963	6.364566	5.15E-05	0.008094
SYDE1	680.6155	31.8941	1329.337	41.67971	5.381273	0.000316	0.025735
AHRR	677.169	34.09369	1320.244	38.724	5.275156	0.000387	0.029494
QPCT	662.7897	30.7943	1294.785	42.04625	5.393905	0.000313	0.025735
ITGB8	658.4556	38.49288	1278.418	33.21182	5.053625	0.000592	0.038845
EMP3	658.7414	41.79227	1275.691	30.52456	4.931899	0.000743	0.045642
ARHGEF6	635.659	21.99593	1249.322	56.79787	5.827765	0.000144	0.015436
TRIM9	630.3505	13.19756	1247.504	94.52533	6.562629	3.88E-05	0.006652
LEPREL2	637.0663	32.99389	1241.139	37.61722	5.233321	0.000431	0.031944
VCAN	619.4611	18.69654	1220.226	65.26479	6.028233	0.000102	0.012353
CSRP2	622.5917	28.59471	1216.589	42.54594	5.41095	0.000314	0.025735
TRPM2	612.5247	12.09776	1212.952	100.2625	6.647638	3.45E-05	0.006075
OSBPL3	609.9875	14.29735	1205.678	84.32872	6.397952	5.36E-05	0.008262
CELF2	589.9102	18.69654	1161.124	62.10368	5.956607	0.000122	0.013724
C1S	587.2777	19.79634	1154.759	58.33196	5.866215	0.000144	0.015436
DAB2	572.7079	14.29735	1131.118	79.11382	6.305858	6.78E-05	0.009622
GLIS3	579.0425	29.69451	1128.391	37.99998	5.247927	0.00045	0.032611
FAM126A	576.5053	31.8941	1121.117	35.15122	5.135503	0.000555	0.03756
ZNF655	558.5408	18.69654	1098.385	58.74804	5.876469	0.000149	0.015652
ADORA2B	545.781	34.09369	1057.468	31.01654	4.954966	0.000812	0.047029
CLIP4	529.9944	19.79634	1040.192	52.54469	5.715473	0.000213	0.019666
PSMB9	515.9009	19.79634	1012.005	51.12084	5.67584	0.000237	0.021319
NLRC5	506.713	18.69654	994.7295	53.20393	5.733461	0.00022	0.020199
ETV4	501.9979	21.99593	981.9999	44.64462	5.480414	0.000349	0.027283
6-Sep	476.8244	25.29532	928.3536	36.70061	5.197732	0.000622	0.040059
HDAC9	465.0559	15.39715	914.7147	59.40805	5.892586	0.000195	0.01862
STAT5A	457.2754	25.29532	889.2554	35.15494	5.135656	0.000742	0.045642
RXRG	430.2183	12.09776	848.3388	70.12362	6.131828	0.000156	0.016187
ADAMTS1	428.4432	23.09573	833.7906	36.10151	5.173987	0.000781	0.046035
ACSL5	422.1519	18.69654	825.6073	44.15829	5.464612	0.000492	0.034538
AZGP1	421.8878	20.89613	822.8795	39.37951	5.299373	0.000651	0.041715
SECTM1	417.3198	15.39715	819.2425	53.20741	5.733555	0.000322	0.02579
VGLL3	379.9449	14.29735	745.5925	52.14898	5.704567	0.000427	0.031881
PEG10	341.2061	13.19756	669.2147	50.70747	5.664126	0.000609	0.039416
ELMO1	338.5736	14.29735	662.8499	46.36172	5.534862	0.000758	0.045977

RPS6KB1	6833.955	13461.51	206.4018	0.015333	-6.02724	0.000795	0.046416
LLGL2	3229.962	6332.628	127.2963	0.020102	-5.63654	0.000582	0.038595
FAM102B	4604.582	9096.417	112.7481	0.012395	-6.33412	0.000295	0.024957
GATA3	12364.69	24626.64	102.7463	0.004172	-7.90499	0.000134	0.014762
ZNF185	1682.077	3279.593	84.5611	0.025784	-5.27738	0.000563	0.037898
STC1	1441.772	2798.982	84.5611	0.030211	-5.04876	0.000759	0.045977
SLC7A2	10276.58	20480.41	72.74073	0.003552	-8.13727	7.17E-05	0.00984
PARD6B	1729.719	3393.972	65.46666	0.019289	-5.69607	0.000269	0.023192
TSKU	1291.663	2525.133	58.19258	0.023045	-5.43938	0.000338	0.026526
PRDX1	5216.382	10375.48	57.28333	0.005521	-7.50085	5.75E-05	0.008603
FXYD3	1187.108	2320.571	53.64629	0.023118	-5.43486	0.00032	0.025735
ITGB4	2614.475	5178.942	50.00925	0.009656	-6.69432	7.31E-05	0.00984
ABAT	1371.801	2694.501	49.09999	0.018222	-5.77815	0.000189	0.018558
MYO5C	1002.1	1958.738	45.46296	0.02321	-5.42909	0.000291	0.02482
GFRA1	10112.74	20184.57	40.91666	0.002027	-8.94635	2.31E-05	0.004761
ANXA9	1165.992	2291.976	40.0074	0.017455	-5.84018	0.000147	0.015652
CD24	14483.43	28926.85	40.0074	0.001383	-9.49793	2.28E-05	0.004761
KCNK2	1088.097	2138.004	38.18888	0.017862	-5.80697	0.000149	0.015652
MYB	634.5258	1231.772	37.27962	0.030265	-5.0462	0.000597	0.038845
ANK3	634.5258	1231.772	37.27962	0.030265	-5.0462	0.000597	0.038845
C1QTNF6	695.0147	1352.75	37.27962	0.027558	-5.18136	0.000446	0.0325
WWC1	645.0692	1253.768	36.37037	0.029009	-5.10736	0.000528	0.036296
TM7SF2	775.3951	1514.42	36.37037	0.024016	-5.37986	0.0003	0.025
CELSR1	1415.477	2794.583	36.37037	0.013015	-6.26373	7.88E-05	0.0102
LONRF2	747.3503	1458.33	36.37037	0.02494	-5.32541	0.000334	0.02639
SYNPO2	1503.556	2971.65	35.46111	0.011933	-6.38888	6.64E-05	0.009619
PBX1	3330.318	6625.174	35.46111	0.005352	-7.54558	2.50E-05	0.004932
NPEPL1	1367.276	2700	34.55185	0.012797	-6.28805	7.29E-05	0.00984
NOTCH3	1425.206	2817.679	32.73333	0.011617	-6.4276	5.87E-05	0.008603
IGFBP5	609.157	1185.581	32.73333	0.02761	-5.17869	0.000478	0.033712
ALDH5A1	527.772	1022.811	32.73333	0.032003	-4.96564	0.000804	0.046747
RBM47	1065.118	2098.412	31.82407	0.015166	-6.04304	9.43E-05	0.011632
CRABP2	6183.571	12335.32	31.82407	0.00258	-8.59846	1.49E-05	0.004012
CLDN4	2406.415	4781.915	30.91481	0.006465	-7.27315	2.39E-05	0.004856
ESRP2	858.7372	1689.287	28.18703	0.016686	-5.90524	0.000111	0.013024
ESRP1	1958.629	3889.98	27.27777	0.007012	-7.15589	2.22E-05	0.004761
LYPD3	654.2703	1281.263	27.27777	0.02129	-5.5537	0.000226	0.020598
PLEKHA6	658.2149	1290.061	26.36851	0.02044	-5.61248	0.000202	0.018796
FAM174B	534.4878	1042.607	26.36851	0.025291	-5.30524	0.000426	0.031881
SULF2	12092.89	24160.33	25.45926	0.001054	-9.89023	9.48E-06	0.003511
SPINT2	9790.111	19556.58	23.64074	0.001209	-9.69216	7.92E-06	0.003511
DHRS2	728.8877	1434.135	23.64074	0.016484	-5.92276	0.000108	0.012876
GALNT6	1606.525	3189.41	23.64074	0.007412	-7.07587	2.04E-05	0.004511
CYP1B1	1010.531	1998.33	22.73148	0.011375	-6.45796	4.19E-05	0.007009

PGR	1102.914	2183.096	22.73148	0.010412	-6.58554	3.50E-05	0.00608
PKP3	558.5145	1094.298	22.73148	0.020773	-5.58917	0.000241	0.021476
MYEF2	431.488	840.2445	22.73148	0.027053	-5.20805	0.000702	0.044178
PROM2	1081.013	2140.204	21.82222	0.010196	-6.61581	3.26E-05	0.005916
RASD1	1256.431	2491.039	21.82222	0.00876	-6.83481	2.46E-05	0.004927
PKIB	550.3613	1078.9	21.82222	0.020226	-5.62762	0.000228	0.02063
ADCY1	1633.661	3245.499	21.82222	0.006724	-7.2165	1.62E-05	0.004186
SLC39A8	584.5502	1148.188	20.91296	0.018214	-5.77882	0.000162	0.016588
CXCR7	4280.416	8539.92	20.91296	0.002449	-8.67368	6.51E-06	0.003071
EPPK1	1777.375	3534.746	20.0037	0.005659	-7.4652	1.15E-05	0.003511
GALNT3	624.8834	1230.672	19.09444	0.015515	-6.01015	9.98E-05	0.012192
DSP	4145.977	8273.769	18.18518	0.002198	-8.82964	4.81E-06	0.003071
CDH1	9689.501	19360.82	18.18518	0.000939	-10.0562	4.78E-06	0.003071
ELF3	826.8866	1636.497	17.27592	0.010557	-6.5657	3.22E-05	0.005916
S1PR3	449.6564	882.0368	17.27592	0.019586	-5.674	0.000288	0.024703
HOOK1	364.4221	711.5683	17.27592	0.024279	-5.36417	0.000785	0.04605
PRLR	2390.343	4764.318	16.36666	0.003435	-8.18537	5.04E-06	0.003071
TACSTD2	2076.351	4136.335	16.36666	0.003957	-7.98145	5.76E-06	0.003071
HIST2H4A	356.2689	696.1712	16.36666	0.02351	-5.41061	0.00077	0.046019
SCNN1A	459.1952	902.9329	15.45741	0.017119	-5.86825	0.000197	0.018691
ELOVL7	438.8489	862.2404	15.45741	0.017927	-5.80172	0.000243	0.021562
SLC16A6	555.9773	1096.497	15.45741	0.014097	-6.14846	8.77E-05	0.010925
C14orf132	434.4497	853.4421	15.45741	0.018112	-5.78692	0.000255	0.022312
KRT19	24041.03	48066.61	15.45741	0.000322	-11.6025	6.15E-06	0.003071
EPN3	435.5495	855.6417	15.45741	0.018065	-5.79064	0.000252	0.022194
FLVCR2	402.101	789.6539	14.54815	0.018423	-5.76231	0.000319	0.025735
KCNJ3	841.4697	1668.391	14.54815	0.00872	-6.84148	1.94E-05	0.004502
H2AFY2	341.6122	668.6763	14.54815	0.021757	-5.5224	0.000719	0.044576
ASS1	540.7706	1067.902	13.63889	0.012772	-6.29091	7.08E-05	0.00984
ATP8B1	671.6464	1329.654	13.63889	0.010257	-6.60718	3.18E-05	0.005916
SFN	883.9071	1754.175	13.63889	0.007775	-7.00692	1.45E-05	0.003988
RHOV	462.1352	910.6315	13.63889	0.014977	-6.06107	0.00014	0.015241
ESR1	2075.082	4137.434	12.72963	0.003077	-8.3444	3.13E-06	0.003071
ADCY5	651.3955	1290.061	12.72963	0.009867	-6.66311	2.94E-05	0.005632
TFF1	12485.21	24957.68	12.72963	0.00051	-10.9371	2.73E-06	0.003071
KCNK6	316.5074	620.2852	12.72963	0.020522	-5.60667	0.000777	0.046035
SLC6A14	2365.428	4718.127	12.72963	0.002698	-8.53388	2.79E-06	0.003071
COBL	327.5054	642.2812	12.72963	0.019819	-5.65694	0.000655	0.041752
CLSTN2	321.4565	630.1834	12.72963	0.0202	-5.62951	0.000719	0.044576
XIST	461.1307	909.5317	12.72963	0.013996	-6.15886	0.000119	0.013629
LINC00052	2592.536	5172.343	12.72963	0.002461	-8.66648	2.62E-06	0.003071
NPY1R	1622.611	3233.402	11.82037	0.003656	-8.09563	3.48E-06	0.003071
PAPSS2	1438.395	2864.97	11.82037	0.004126	-7.9211	4.11E-06	0.003071
MAP7	528.8634	1045.906	11.82037	0.011302	-6.46733	5.38E-05	0.008262

PXDN	773.0182	1534.216	11.82037	0.007705	-7.02008	1.42E-05	0.003988
NEBL	888.5921	1766.273	10.91111	0.006177	-7.33877	8.03E-06	0.003511
DCDC2	456.3721	901.8331	10.91111	0.012099	-6.36899	8.52E-05	0.010713
PPP2R2C	317.2479	623.5846	10.91111	0.017497	-5.83672	0.000546	0.037174
DENND2D	356.2906	701.6702	10.91111	0.01555	-6.00692	0.0003	0.025
BCAS4	408.0763	806.1508	10.00185	0.012407	-6.33271	0.000121	0.013724
C1orf233	321.1924	632.383	10.00185	0.015816	-5.98246	0.000424	0.031881
SPDEF	978.8707	1947.74	10.00185	0.005135	-7.60539	5.19E-06	0.003071
IGFBP4	3262.048	6514.095	10.00185	0.001535	-9.34715	1.37E-06	0.003071
PTPN6	315.1435	620.2852	10.00185	0.016125	-5.95459	0.000468	0.033204
ENPP1	321.7423	633.4828	10.00185	0.015789	-5.98497	0.00042	0.031881
MID2	445.4694	880.937	10.00185	0.011354	-6.4607	7.76E-05	0.0102
SIDT1	587.8931	1165.784	10.00185	0.00858	-6.86489	2.31E-05	0.004761
RET	1416.04	2822.078	10.00185	0.003544	-8.14035	2.79E-06	0.003071
MAL2	3730.012	7450.021	10.00185	0.001343	-9.54083	1.34E-06	0.003071