

Supplementary Data

SUPPLEMENTARY TABLE S1. THE EXPRESSION OF NDRG4
IN TCGA'S GBM TISSUES COMPARED
TO NORMAL BRAIN TISSUES

<i>Participant</i>	<i>AgilentG4502A_07 log2 tumor/normal ratio</i>
TCGA-02-0001	-1.395
TCGA-02-0003	-1.692
TCGA-02-0004	-3.594
TCGA-02-0006	-2.596
TCGA-02-0007	-1.829
TCGA-02-0009	-2.826
TCGA-02-0010	-3.292
TCGA-02-0011	-1.876
TCGA-02-0014	-3.603
TCGA-02-0015	-3.385
TCGA-02-0016	-2.165
TCGA-02-0021	-2.61
TCGA-02-0023	-2.507
TCGA-02-0024	-2.409
TCGA-02-0025	-4.466
TCGA-02-0026	-2.3
TCGA-02-0027	-2.038
TCGA-02-0028	-2.449
TCGA-02-0033	-4.651
TCGA-02-0034	-2.625
TCGA-02-0037	-3.479
TCGA-02-0038	-2.03
TCGA-02-0039	-1.508
TCGA-02-0043	-3.174
TCGA-02-0046	-2.016
TCGA-02-0047	-1.231
TCGA-02-0048	-1.837
TCGA-02-0051	-4.307
TCGA-02-0052	-2.887
TCGA-02-0054	-0.52
TCGA-02-0055	-4.64
TCGA-02-0057	-1.795
TCGA-02-0058	-2.068
TCGA-02-0059	-4.345
TCGA-02-0060	-2.278
TCGA-02-0064	-1.975
TCGA-02-0068	-3.164
TCGA-02-0069	-1.518
TCGA-02-0070	-2.093
TCGA-02-0071	-2.294
TCGA-02-0074	-2.378
TCGA-02-0075	-2.81
TCGA-02-0079	-2.034
TCGA-02-0080	-0.849
TCGA-02-0083	-2.03
TCGA-02-0084	-2.098
TCGA-02-0085	-0.857
TCGA-02-0086	-1.111
TCGA-02-0087	-2.039
TCGA-02-0089	-1.106
TCGA-02-0099	-2.197
TCGA-02-0102	-1.27
TCGA-02-0104	-3.396
TCGA-02-0106	-3.412
TCGA-02-0107	-1.588
TCGA-02-0111	-3.247
TCGA-02-0114	-2.928

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07 log2 tumor/normal ratio</i>
TCGA-02-0115	-1.136
TCGA-02-0116	-0.839
TCGA-02-0258	-1.193
TCGA-02-0260	-2.828
TCGA-02-0266	-2.822
TCGA-02-0269	-2.352
TCGA-02-0271	-2.054
TCGA-02-0281	-2.517
TCGA-02-0285	-2.61
TCGA-02-0289	-0.619
TCGA-02-0290	-2.739
TCGA-02-0317	-2.473
TCGA-02-0321	-3.223
TCGA-02-0324	-2.41
TCGA-02-0325	-1.728
TCGA-02-0326	-2.226
TCGA-02-0330	-1.184
TCGA-02-0332	-3.339
TCGA-02-0333	-2.105
TCGA-02-0337	-3.376
TCGA-02-0338	-2.089
TCGA-02-0339	-1.967
TCGA-02-0422	-2.099
TCGA-02-0430	-2.215
TCGA-02-0432	-1.408
TCGA-02-0439	-1.767
TCGA-02-0440	-2.463
TCGA-02-0446	-2.044
TCGA-02-0451	-2.762
TCGA-02-0456	-4.821
TCGA-02-2466	-2.145
TCGA-02-2470	-0.875
TCGA-02-2483	-2.233
TCGA-02-2485	-1.448
TCGA-02-2486	-3.296
TCGA-06-0122	-2.24
TCGA-06-0124	-2.41
TCGA-06-0125	-1.072
TCGA-06-0126	-0.931
TCGA-06-0127	-1.502
TCGA-06-0128	-1.276
TCGA-06-0129	-1.821
TCGA-06-0130	-4.474
TCGA-06-0132	-1.65
TCGA-06-0133	-1.428
TCGA-06-0137	-1.852
TCGA-06-0138	-0.906
TCGA-06-0139	-4.54
TCGA-06-0143	-1.308
TCGA-06-0145	-2.64
TCGA-06-0146	-2.369
TCGA-06-0147	-2.837
TCGA-06-0148	-2.551
TCGA-06-0149	-2.787
TCGA-06-0152	-2.781
TCGA-06-0154	-3.396
TCGA-06-0155	-2.843
TCGA-06-0156	-3.033
TCGA-06-0157	-0.796

(continued)

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07</i> <i>log2 tumor/normal ratio</i>
TCGA-06-0158	-1.523
TCGA-06-0162	-1.609
TCGA-06-0164	-3.539
TCGA-06-0166	-2.014
TCGA-06-0168	-1.966
TCGA-06-0169	-2.322
TCGA-06-0171	-2.906
TCGA-06-0173	-2.103
TCGA-06-0174	-2
TCGA-06-0175	-2.375
TCGA-06-0176	-3.991
TCGA-06-0177	-2.355
TCGA-06-0179	-2.397
TCGA-06-0182	-2.672
TCGA-06-0184	-2.257
TCGA-06-0185	-1.942
TCGA-06-0187	-2.076
TCGA-06-0188	-1.28
TCGA-06-0189	-3.394
TCGA-06-0190	-3.45
TCGA-06-0192	-2.574
TCGA-06-0194	-2.5
TCGA-06-0195	-2.342
TCGA-06-0197	-4.308
TCGA-06-0201	-6.16
TCGA-06-0206	-4.577
TCGA-06-0209	-3.286
TCGA-06-0210	-2.748
TCGA-06-0211	-2.753
TCGA-06-0213	-3.459
TCGA-06-0214	-3.233
TCGA-06-0216	-2.118
TCGA-06-0219	-3.4
TCGA-06-0221	-2.297
TCGA-06-0237	-1.53
TCGA-06-0238	-2.533
TCGA-06-0241	-2.325
TCGA-06-0394	-2.725
TCGA-06-0397	-3.022
TCGA-06-0402	-3.487
TCGA-06-0409	-1.895
TCGA-06-0410	-2.412
TCGA-06-0412	-2.97
TCGA-06-0413	-2.308
TCGA-06-0414	-2.522
TCGA-06-0644	-3.299
TCGA-06-0645	-3.19
TCGA-06-0646	-2.399
TCGA-06-0648	-1.783
TCGA-06-0649	-2.133
TCGA-06-0686	-2.146
TCGA-06-0743	-1.534
TCGA-06-0744	-2.349
TCGA-06-0745	-2.574
TCGA-06-0747	-1.936
TCGA-06-0749	-1.589
TCGA-06-0750	-1.792
TCGA-06-0875	-2.565
TCGA-06-0876	-2.942
TCGA-06-0877	-1.904
TCGA-06-0878	-2.695
TCGA-06-0879	-2.134

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07</i> <i>log2 tumor/normal ratio</i>
TCGA-06-0881	-4.664
TCGA-06-0882	-2.176
TCGA-06-1084	-2.463
TCGA-06-1086	-1.289
TCGA-06-1087	-2.167
TCGA-06-1800	-1.558
TCGA-06-1802	-1.629
TCGA-06-1805	-1.31
TCGA-06-2557	-2.187
TCGA-06-2558	-1.201
TCGA-06-2559	-1.791
TCGA-06-2561	-0.649
TCGA-06-2562	-1.441
TCGA-06-2563	-1.711
TCGA-06-2564	-1.606
TCGA-06-2565	-2.177
TCGA-06-2566	-1.216
TCGA-06-2567	-1.938
TCGA-06-2569	-5.016
TCGA-06-2570	-1.716
TCGA-08-0244	-2.671
TCGA-08-0245	-2.356
TCGA-08-0246	-2.841
TCGA-08-0344	-2.808
TCGA-08-0345	-2.528
TCGA-08-0346	-2.841
TCGA-08-0347	-2.225
TCGA-08-0348	-2.81
TCGA-08-0349	-2.781
TCGA-08-0350	-3.155
TCGA-08-0351	-2.567
TCGA-08-0352	-1.58
TCGA-08-0353	-2.443
TCGA-08-0354	-3.355
TCGA-08-0355	-2.656
TCGA-08-0356	-2.303
TCGA-08-0357	-1.241
TCGA-08-0358	-2.799
TCGA-08-0359	-1.575
TCGA-08-0360	-3.832
TCGA-08-0373	-2.755
TCGA-08-0375	-2.414
TCGA-08-0380	-1.825
TCGA-08-0385	-3.023
TCGA-08-0386	-2.758
TCGA-08-0389	-2.99
TCGA-08-0390	-3.096
TCGA-08-0392	-4.411
TCGA-08-0509	-2.024
TCGA-08-0510	-1.691
TCGA-08-0511	-1.559
TCGA-08-0512	-3.694
TCGA-08-0514	-2.355
TCGA-08-0516	-1.787
TCGA-08-0517	-0.867
TCGA-08-0518	-1.941
TCGA-08-0520	-2.38
TCGA-08-0521	-2.26
TCGA-08-0522	-3.848
TCGA-08-0524	-3.303
TCGA-08-0525	-2.018

(continued)

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07 log2 tumor/normal ratio</i>
TCGA-08-0529	-2.382
TCGA-08-0531	-1.732
TCGA-12-0616	-3.095
TCGA-12-0618	-2.768
TCGA-12-0619	-3.57
TCGA-12-0620	-4.864
TCGA-12-0654	-3.425
TCGA-12-0656	-1.206
TCGA-12-0657	-2.924
TCGA-12-0670	-3.038
TCGA-12-0688	-2.781
TCGA-12-0692	-2.748
TCGA-12-0703	-1.456
TCGA-12-0707	-1.991
TCGA-12-0772	-2.474
TCGA-12-0773	-1.986
TCGA-12-0775	-2.294
TCGA-12-0776	-2.32
TCGA-12-0778	-2.343
TCGA-12-0780	-1.616
TCGA-12-0820	-1.119
TCGA-12-0821	-3.244
TCGA-12-0822	-3.644
TCGA-12-0826	-2.083
TCGA-12-0827	-3.732
TCGA-12-0828	-2.671
TCGA-12-0829	-2.582
TCGA-12-1088	-2.493
TCGA-12-1089	-0.531
TCGA-12-1090	-1.637
TCGA-12-1091	-2.66
TCGA-12-1092	-2.374
TCGA-12-1093	-0.654
TCGA-12-1094	-1.226
TCGA-12-1095	-1.398
TCGA-12-1096	-2.067
TCGA-12-1097	-1.555
TCGA-12-1099	-1.551
TCGA-12-1597	-1.78
TCGA-12-1598	-2.528
TCGA-12-1599	-0.713
TCGA-12-1600	-1.72
TCGA-12-1602	-1.302
TCGA-12-3644	-4.354
TCGA-12-3646	-3.021
TCGA-12-3648	-2.83
TCGA-12-3649	-0.993
TCGA-12-3650	-1.348
TCGA-12-3651	-1.505
TCGA-12-3652	-1.968
TCGA-12-3653	-3.149
TCGA-14-0736	-1.486
TCGA-14-0783	-3.354
TCGA-14-0786	-1.901
TCGA-14-0787	-2.585
TCGA-14-0789	-3.578
TCGA-14-0812	-1.872
TCGA-14-0813	-3.795
TCGA-14-0817	-3.128
TCGA-14-0865	-1.337
TCGA-14-0866	-1.888
TCGA-14-0867	-3.268

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07 log2 tumor/normal ratio</i>
TCGA-14-0871	-5.327
TCGA-14-1034	-1.577
TCGA-14-1037	-1.158
TCGA-14-1396	-2.084
TCGA-14-1401	-0.874
TCGA-14-1402	-1.443
TCGA-14-1451	-1.366
TCGA-14-1452	-2.019
TCGA-14-1453	-2.49
TCGA-14-1454	-1.854
TCGA-14-1455	-1.105
TCGA-14-1456	-1.951
TCGA-14-1459	-2.332
TCGA-14-1794	-2.442
TCGA-14-1795	-1.357
TCGA-14-1821	-1.897
TCGA-14-1823	-2.112
TCGA-14-1825	-2.351
TCGA-14-1827	-1.339
TCGA-14-1829	-2.524
TCGA-14-2554	-2.263
TCGA-14-2555	-3.397
TCGA-14-3477	-2.248
TCGA-15-0742	-2.191
TCGA-15-1446	-0.953
TCGA-15-1447	-1.355
TCGA-15-1449	-1.463
TCGA-16-0846	-1.43
TCGA-16-0848	-2.176
TCGA-16-0849	-2.094
TCGA-16-0850	-2.205
TCGA-16-0861	-1.321
TCGA-16-1045	-1.273
TCGA-16-1047	-1.93
TCGA-16-1055	-1.802
TCGA-16-1056	-1.182
TCGA-16-1060	-1.215
TCGA-16-1062	-2.231
TCGA-16-1063	-1.313
TCGA-16-1460	-1.499
TCGA-19-0955	-1.207
TCGA-19-0957	-1.942
TCGA-19-0960	-2.035
TCGA-19-0962	-1.375
TCGA-19-0963	-0.639
TCGA-19-0964	-1.486
TCGA-19-1385	-1.939
TCGA-19-1386	-0.502
TCGA-19-1387	-1.095
TCGA-19-1388	-1.209
TCGA-19-1389	-2.831
TCGA-19-1390	-2.127
TCGA-19-1392	-3.051
TCGA-19-1786	-1.083
TCGA-19-1787	-2.65
TCGA-19-1791	-1.185
TCGA-19-2620	-0.53
TCGA-19-2621	-1.324
TCGA-19-2623	-2.741
TCGA-19-2624	-1.068
TCGA-19-2625	-2.516

(continued)

SUPPLEMENTARY TABLE S1. (CONTINUED)

<i>Participant</i>	<i>AgilentG4502A_07</i> <i>log2 tumor/normal ratio</i>
TCGA-19-2629	-1.182
TCGA-26-1438	-2.263
TCGA-26-1440	-1.619
TCGA-26-1443	-1.937
TCGA-26-1799	-1.459
TCGA-27-1830	-1.309
TCGA-27-1831	-2.957
TCGA-27-1832	-1.734
TCGA-27-1833	-0.847
TCGA-27-1836	-1.092
TCGA-27-1837	-1.411
TCGA-27-1838	-2.312
TCGA-27-2518	-1.006
TCGA-27-2519	-2.892
TCGA-27-2521	-2.036
TCGA-27-2523	-1.819
TCGA-27-2524	-2.542
TCGA-27-2526	-1.387
TCGA-27-2527	-2.114
TCGA-27-2528	-1.394
TCGA-28-1745	-3.084
TCGA-28-1746	-0.695
TCGA-28-1747	-1.374
TCGA-28-1750	-1.563
TCGA-28-1751	-1.037
TCGA-28-1752	-0.537
TCGA-28-1753	-1.914
TCGA-28-1755	-2.891
TCGA-28-1756	-0.837
TCGA-28-1757	-0.506
TCGA-28-1760	-0.986
TCGA-28-2502	-1.854
TCGA-28-2509	-2.025
TCGA-28-2513	-1.689
TCGA-28-2514	-1.213
TCGA-32-1970	-2.006
TCGA-32-1976	-2.542
TCGA-32-1982	-2.543
TCGA-32-1986	-2.298
TCGA-32-2615	-1.825
TCGA-32-2616	-1.058
TCGA-32-2632	-2.521
TCGA-32-2634	-1.18
TCGA-32-2638	-2.483
TCGA-41-2571	-2.71
TCGA-41-2573	-0.658
TCGA-41-2575	-1.759
TCGA-41-3392	-0.906

ClustalW (v1.4) multiple sequence alignment

5 Sequences Aligned Alignment Score = 3511
Gaps Inserted = 5 Conserved Identities = 39

Pairwise Alignment Mode: Slow
Pairwise Alignment Parameters:
 Open Gap Penalty = 10.0 Extend Gap Penalty = 0.1
 Similarity Matrix: blosum

Multiple Alignment Parameters:
 Open Gap Penalty = 10.0 Extend Gap Penalty = 0.1
 Delay Divergent = 40% Gap Distance = 8
 Similarity Matrix: blosum

Processing time: 0.3 seconds

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sigma_immunogen 1 RQQIGNVVNQANLQLFWNMYNSRRDLINRPGTVPN---AKTLRCPVMLV 47
NDRG1           1 RQHIVNDMNPGLHLFINAYNSRRDLEIERPMPG---THTVTLQCPALLV 47
NDRG2           1 RNIITHAPNLDNIELYWNSYNRRDLNFER--GG-----DITLRCVMLV 43
NDRG3           1 RMHIAQDINQDNLQLFLNSYNGRRDLEIERPILGQNDNKSRTLKSTLLV 50
NDRG4           1 RQQIGNVVNQANLQLFWNMYNSRRDLINRPGTVPN---AKTLRCPVMLV 47
                * * * * . * * * * * * * * * * * * * * * * * *
sigma_immunogen 48 VGDNAPAEDGVVECNSKLDPTTTTFLKMADSGGLP 82
NDRG1           48 VGDSSPAVDVAVVECNSKLDPTKTTLLKMADCGGLP 82
NDRG2           44 VGDQAPHEDAVVECNSKLDPTQTSFLKMADSGGQP 78
NDRG3           51 VGDNSPAVEAVVECNSRLNPINTTLLKMADCGGLP 85
NDRG4           48 VGDNAPAEDGVVECNSKLDPTTTTFLKMADSGGLP 82
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SUPPLEMENTARY FIG. S1. A ClustalW alignment of the immunogen that sigma used for generating NDRG4 polyclonal antibodies with NDRG family members. Significant homologies (>60% AA identities) were noted.